

**New Brunswick Digital Library
A Proposal**

**Submitted to the New Brunswick Post-Secondary Education Commission
April 30, 2007**

John Teskey(UNB) with assistance from Francesca Holyoke(UNB), Alain Roberge(UdeM), and Bruno Gnassi(MTA)

**New Brunswick Post-Secondary Education Commission – 2007
New Brunswick Digital Library Submission**

Introduction:

Many briefs will be submitted from various post secondary institutions and others. Few will discuss the need of robust information services to support learning and research activities. Libraries have a fundamental role in support of a literate and educated population necessary to sustainable growth and innovation. The research libraries of the province participate in a number of collaborative initiatives to strengthen general access to information, but there is considerable work to do .

Developments in digital technologies and communications over the past decade have been nothing short of remarkable. The challenge for the educational infrastructure of the province is to be able to take full advantage of the possibilities. Deployment of computers in schools has become fairly routine, however, educators and students need access to high quality information resources to really be able to take advantage of the equipment and the networks.

Libraries have a unique and necessary role in life-long learning. The creation of a New Brunswick Digital Library would provide a missing piece of the current Provincial infrastructure to support a life-long learning model. We need to shift to “web time,” with ready access to the information needed by all of our communities, business, educational, or recreational.

Following is an example of how life and learning could be impacted if we choose to seize this opportunity.

**The New Brunswick Digital Library
A Scenario**

Professor Smith Discovers the New Brunswick Digital Library

Professor Smith gets up early on a Saturday morning, makes himself a cup of coffee and turns on his computer.¹ He has been teaching environmental technology at an NBCC campus for the past two years.

¹ Professor Smith teaches environmental technology at NBCC-Miramichi. He can now work from

¹ Adapted from: *Professor Ajax Discovers the Lois Hole Campus Alberta Digital Library*, in Lois Hole Campus Alberta Digital Library – Business and Implementation Plan (2005 or 2006), p. 5. Available at: http://www.thealbertalibrary.ab.ca/files/LHCADL_BusinessPlan.pdf

He enjoys the close contact with his students, but he also wants to continue his research into environmental technologies which promote salmon spawning.

He's just finishing up a research proposal with some colleagues at the University of New Brunswick. In his e-mail is a message from the principal investigator who has just found a new article written by a fisheries biologist from the Department of Fisheries and Oceans at the Bedford Institute of Oceanography. The principal investigator asks Smith if he thinks the approach used by this researcher is something they should incorporate into their proposal. Smith agrees and is interested enough that he links to the readings listed at the end of the article to see what other information he would like to include. Smith finishes up his part of the research proposal and posts it back to the lead researcher before lunch.

In the evening he sits in his living room and starts to review the student assignments from his class in water quality analysis. One of the students has done a review of the impact of agricultural land use on major river drainage areas. Smith is pleased with the assignment and hopes the student will take his advice and move on to University.

On Monday Smith goes into the college to teach his morning class on water quality management. For the next two sessions he's going to lecture on the relationship between agricultural practices and water quality. He's quite happy with the images he has incorporated into his PowerPoint presentation depicting historical and international examples of his topic. He finds the images help to convey the relevance of his points. Before the end of class he directs students to his web pages where he's created links to the images as well as the articles he has assigned as readings.

home because the NB-DL created a province wide authentication system

Smith has access to the article because the NB-DL purchased a license to the publisher's journal. Previously he would have driven to the University of New Brunswick library to access these articles. Smith can easily link to articles because Open URL software that finds articles in any of the licensed articles – a feature that was not previously available to his college.

The student could do this research because the NB-DL purchased access to statistical databases. She supplemented this with articles from other scientific and business databases purchased through the NB-DL that had not previously been available at the NBCC campus. The searching skill the student is developing will be important if she pursues further education at a university or throughout her career.

The use of the images is covered

At lunch Smith drops by the wireless lounge in the Library. He's arranged to meet some of his students there to talk about the field trip they're taking to look at some irrigation operations. The students are working on a team project to interview local river fishing tour operators to see how irrigation and other river management practices have affected them economically, and how they feel about environmental and societal effects.

Earlier in the term Smith had invited a sociology professor from a university into the class to discuss how to conduct and document interviews for later analysis. Smith is hoping that if the students do a good job, he'll be able to write a paper with them and deposit the interviews in a regional institutional repository^[1].

That evening Smith drops his daughter off at the hockey arena for her game. While he's waiting in the bleachers, he decides he's pretty happy he took the job at the college, he feels like he's found the best of all worlds, teaching small classes, setting creative assignments, and still participating in the research he loves.¹

under the terms of licenses negotiated by NB-DL covering historical material and image formats. Linking is made possible by the Open URL software which supports the creation of persistent URL's.

^[1]The repository is one of the many sponsored by the University of New Brunswick's Electronic Text Centre.

The illustration, demonstrates how the digital environment is able to transcend barriers and allow the various post-secondary institutions in New Brunswick to develop effective partnerships. It is no flight of fancy, but a very real possibility that the Government of Alberta for one is already pursuing with the Lois Hole Digital Library.

The aspirations of Alberta's Lois Hole Digital Library are no different than this proposal for New Brunswick; however, the Lois Hole Digital Library has been funded. Many Provinces have now created multi-type libraries with the mandate to create integrated access to digital information. Saskatchewan, Ontario, British Columbia have or are launching similar initiatives, so why not New Brunswick?

Libraries are the information engines that provide the foundation to support life-long learning in the continuum of educational opportunities. The evolution of digital technologies over the past decade have created an environment that allows a distributed network of services to deliver the appropriate information to citizens at the place and time that such information is needed. The New Brunswick Digital Library could deliver such services if there was a thoughtful infusion of funds. It will be necessary to build upon current investments to bring such collaboration into fruition. I believe that the New

Brunswick Digital Library would provide an enabling response to many of the questions raised in your “Check-list of Questions”.

Library collaboration in New Brunswick:

The University and Public Libraries of New Brunswick have a history of collaboration. The list of projects is not necessarily long, but when opportunities have arisen the parties have not had any difficulty in supporting collaborative initiatives.

In the mid-1990’s TeleEducation New Brunswick funded the acquisition of a server to deliver databases over the web to libraries in New Brunswick. Staff at UNB Libraries used software from the SilverPlatter Company to load a variety of bibliographic databases such as Wilson’s General Science, Humanities, and Social Science indexes and deliver the information to any library in the Province. In actual fact we mounted databases on behalf of most university libraries in the Atlantic region, three hospitals in New Brunswick and Holland College in PEI. The missing piece from this experiment and continuing development has been the absence of the New Brunswick Community Colleges.

The growth of digital resources has led to many licensing initiatives. Within the Atlantic region the University Libraries are all members of the Council of Atlantic University Libraries. Jocelyne Thompson from UNB is responsible for all regional licensing negotiations. In addition to licensing resources, the Atlantic libraries have a collaborative document delivery system called the East Coast Relais Consortium. This project was initiated by Memorial, Dalhousie and UNB and now supports all New Brunswick university libraries.

In 2006 UNB Libraries staff negotiated a Provincial License for the Cochrane Database which is an evidence based research database to support Nursing information. Access to the database is available through all of New Brunswick’s Regional Hospitals, the Universities and the New Brunswick Public Libraries. Provincial access would not have been possible without the participation of the New Brunswick Public Libraries. The Public Library network allows the delivery of this database to any New Brunswicker with a Public Library Card. This Network will be critical in the evolution of the New Brunswick Digital Library. New Brunswick is ready to launch a provincial digital library if the mandate and funding were put in place.

Regional Challenges:

Every region of Canada except the Atlantic has one or more research libraries that are members of the Association of Research Libraries². If we combined the acquisition budgets of Memorial, Dalhousie and UNB, the result would not equal that of the University of British Columbia or the University of Alberta. Due to our limited resources, collaboration is the only way that we can deliver a similar level of service to

² The Association of Research Libraries (ARL) is the largest 120 research libraries in North America. There are 13 Canadian Members.

our students and faculty as other much larger institutions. The Atlantic region has three medium sized research libraries and fourteen smaller libraries. In New Brunswick, the University of New Brunswick is the research library member of the Canadian Association of Research Libraries, and has the responsibility of providing information services to a national university.

The transition from print to electronic journals provided an opportunity for UNB and other smaller libraries to provide access to a range of research journals well beyond what was possible in the print world. In 1997 UNB negotiated access to the Elsevier's Electronic Library and went from 92 journal titles to over 1200. The number of titles in the Elsevier file has grown to some 1800 and in addition to Elsevier, UNB Libraries provides access to all the journals published by the other major commercial publishers and the major society publishers such as the American Chemical Society.

The growth of access to the academic journal universe has been a result of the success of a CFI (Canadian Foundation of Innovation) grant known as the Canadian National Site Licensing Project. The CFI funds as well as regional matching funding were crucial in moving from print to digital. The funding support for this project totaled \$50,000,000. Last year the content licensing expenditure that flowed through CRKN was almost \$50,000,000, the equal of the first 3 year project! Licensing of digital resources has become the major acquisition expenditure of all Canadian University Libraries.

The initial CFI award called for a three year sustainability period which ended in 2006. The initial project focused on medical, technical and scientific information which covers only a portion of the material to which our researchers needed access. Therefore, CRKN developed a continuing role negotiating national licenses to other content.

The first principle of the national site licensing project was to level the playing field for Canadian researchers. With the development of various research programs encouraging partnerships and interdisciplinary research among Canadian institutions to increase research activity, access to published research information is a fundamental piece of the national research infrastructure. It is critical that researchers at any of our universities have access to the same information as their research partners at the University of Toronto or anywhere else.

The first round of national licensing achieved that goal. All participating institutions had the same level of access to the same files. As we moved into a "self-funded" round of national licensing, national took on a different meaning. With no external funding the continuation of national licensing resulted in a "pick and choose" approach and "national licensing" was defined in terms of "participation from all regions." I must admit my disappointment at the emergence this digital divide.

The fact is within New Brunswick UNB licensed the largest number of the digital collections available, but only a portion of what was available. New Brunswick students and faculty should not be left behind the rest of Canada. If we are unable to sustain digital collections comparable to other regions, the recruitment and retention of faculty

and outstanding students will become increasingly difficult. Indeed this type of divide will impact on all sectors. It will be imperative that the New Brunswick Digital Library be able to reach out and meet the needs of our professional and business communities.

Today New Brunswick Universities are still waiting to learn how matching funds will be provided for participation in the second CFI supported round of National Licensing. Without matching funds of some \$470.021, there is a real possibility of New Brunswick University Libraries falling far behind the rest of Canada.

Potential collaboration:

New Brunswick University Libraries are member of the Council of Atlantic University Libraries (CAUL). There are collaborative agreements in place to maximize access to our collections through a shared the document delivery system using software from Relais International. We have discovered that a regional approach combining all of our collections provides a research library of sufficient scale to meet most of our needs. It is clear that a robust document delivery system will continue to be one of the fundamental building blocks of any information delivery collaboration.

Since the mid 90's the Public Libraries, UNB, MTA and UdeM have all moved to the same integrated library system to support the "back-office" activities that are needed to deliver effective and efficient information services. UNB purchased the Sirsi Unicorn system in 1994 and since that time the Sirsi system has been acquired and implemented by Mount Allison University, the Universtite de Moncton, and the Public Library Services of New Brunswick. The schools and the Community Colleges use different systems however, Web applications allow cross system collaboration. All this to say that there is a common base from which to build the networked infrastructure necessary to support a New Brunswick Digital Library.

In addition to regular library activities UNB Libraries created the Electronic Text Centre (ETC) in 1996. The ETC provided a new foundation to experiment with the presentation of manuscript material, the electronic publishing of journals, presentation of images and many other projects. In the past 10 years the ETC has been very successful in all of its endeavors and experiments. The ETC has been the Atlantic node of a number of Canadian Foundation for Innovation grants including the TextAnalysis Portal project (TAPor) which was led by McMaster University with Universities of Victoria, Alberta, Toronto, Montreal and New Brunswick as partners. Currently the University of New Brunswick is the Atlantic node in the **Synergies** CFI project which is led by University of Montreal and includes Simon Fraser University, University of Calgary, and the University of Toronto as partners. The ETC has involved other Atlantic institutions in various projects related to manuscript digitization, the Saint John Free Public Library, Memorial University, and Dalhousie to mention but a few.

There is a great need to digitize local material which will distinguish individual participants in the evolution of the worldwide Digital Library. Digitization of material related to the cultural heritage of New Brunswick is a cornerstone of the New Brunswick

Digital Library. The power of these tools and processes can leverage the capacity to build a strong local knowledge base and community environment to help foster and support community development and action. Communities could use the technology to document their stories and lessons learned and allow them to redefine the ties that make them important as cultural, social, and economic centers. It will equip us to discover ourselves and to tell our stories to the world.

Future Possibilities:

The goals of the New Brunswick Digital Library will include:

- Common development in cases where cooperation is more beneficial than working in isolation, and thereby better exploiting of libraries resources.
- Continual development of appropriate resources for a common network
- Collective mediation of information resources to users.
- Robust document delivery system to support resource sharing.
- Common staff development initiatives to promote and facilitate professional development.
- Digitization of current and retrospective materials to preserve the cultural heritage of New Brunswick.
- Foster the use of new technologies to expand New Brunswick's capacity and abilities to disseminate content.

What would be the benefits:

- Increased access to necessary content
- Responds to the new generation of learners who have grown up digital
- Provides remote access to needed information which will improve access for those living in smaller communities and first nations.
- Enhances learning opportunities which will facilitate preparedness to take advantage of post secondary opportunities.
- Finds opportunities to take advantage of economies of scale through collaboration.
- Will take advantage of the diversity of expertise throughout the system

Checklist of Questions to which a digital library could respond:

“3. Can you suggest ways to improve accessibility, particularly in rural areas?”

The New Brunswick Digital Library would be available through the distributed Library system, and to any individual with an internet connection. This would allow access to the information resources needed to successfully complete any course of studies or to pursue individual research or study. We are already aware of the benefits for distance students studying within the Miramichi first year at home program.

“5. Can you suggest initiatives that would help decrease the drop-out rate?”

Learners need to be able to use the information resources available in an effective manner. The digital environment has moved information from a scarcity to a flood. However, the fact that a Google search will retrieve 10's if not 100's of thousands of web-pages does not simplify an individual's need for the 'right' piece of information. Recent research has shown that “Information literacy increasingly should not be considered a given. Contrary to the conventional wisdom, the information literacy skills of new students are not improving as the post-1993 Internet boomlet enters college. At the same time, in a sea of user-created content, collaborative work, and instant access to information of varying quality, the skills of critical thinking, research, and evaluation are increasingly required to make sense of the world.”³ This is where the expertise of New Brunswick librarians can collaborate to provide the support features necessary to allow our learners to obtain the information skills⁴ and confidence they need to be active life-long learners. The University of Teesside, Middlesbrough, UK developed a degree program for Adult Learners called the Negotiated Learning Scheme. What they found with this non-traditional learning group was that a module on “information literacy” was necessary. “The need for such a module had arisen in part because of the amount and complexity of information sources now available. Helping students develop their critical thinking skills was a key component of the course, since the growth of the World Wide Web in particular requires students to evaluate the authenticity and quality of web sources...”⁵

“6. Is New Brunswick's post-secondary system meeting the needs of students and employers?”

New Brunswick's digital collections fall far short of what is available in other regions of Canada. This does point to a “digital divide” that needs to be bridged. As reported earlier the national digital licensing agency, the Canadian Research Knowledge Network has offered a number of digital files in the past year that institutions in New Brunswick have failed to acquire. In order for our students to be able to compete with students graduating from other areas of Canada, the New Brunswick Digital Library must keep pace with all other regions of Canada, and the world.

“8. What do you think should be done to improve the quality and quantity of research in New Brunswick's post-secondary institutions?”

We need to leverage the ability of every scholar in New Brunswick; one of the crucial pieces of infrastructure will be the New Brunswick Digital Library that needs to be fully available to all of our scholars. This will require a continuing investment to ensure that the appropriate digital content is available to our learners at the various stages of

³ The 2007 Horizon Report; The new media consortium; www.nmc.org page 4

⁴ Information Literacy is a set of abilities allowing individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. – ALA Information Competency Standards for Higher Education

⁵ Sonley, V et al; *Information literacy assessment by portfolio: a case study*; **Reference Services Review**; vol 35 number 1 2007 page 43

development and that the research files are available to faculty and researchers across the province.

“9. What do you think should be the relationship between community colleges and universities?”

The relationship between the colleges and the universities needs to be strengthened. At present the examples of leveraging investments are few and far between. In terms of the New Brunswick Digital Library the colleges are starting from a serious deficit in access, however, building an appropriate digital library is easily within our grasp but needs the will and the investment to make it a reality.

Conclusion:

The creation of the New Brunswick Digital Library does not have to be a new organization with totally new staff. Rather, I would envision the NB Digital Library to be a new collaboration of existing partners with new resources to provide an appropriate range of information to New Brunswick, with a cost of less than \$5million per year.

Current expenditures for digital content –

UNB- \$2,200,000

MTA- \$300,000

UdeM-\$550,000

CC's - \$50,000

Public Libraries--\$120,000

Total current annual expenditure \$3,220,000

The cost of digital files from CRKN which were not taken by NB institutions - \$500,000

The matching funds needed for NB institutions to participate in the current CFI project –

The funds necessary to put a digital conversion centre into full production – \$400,000

A selection of general files to support Schools, Colleges, Universities and Public

Libraries - \$250,975 (proposal from EBSCO Publishing)

To move into the future:

Current expenditure	\$3,220,000
Funding for missing files	\$ 500,000
Digital conversion	\$ 400,000
General Access files	\$ 250,000
CFI Matching funds	\$ 470,021
Annual funding requirement	\$4,840,021 ⁶

⁶ The cost of Digital resources increase at about 5% annually and this level of inflation protection would be necessary