

Scholars Portal

A Service of the Ontario Council of University Libraries

Report to the OCUL Directors APRIL 2017



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INTRODUCTION

The following report describes the activities of Scholars Portal over the period of May 2016 to April 2017. This annual report replaces the semi-annual reports presented previously at the Fall and Spring meetings of the OCUL Directors. The report is longer than usual, not only because of the change in frequency of production, but also because it has been a very active year, with many new projects initiated and many more underway and nearing completion. The report tries to cover all key services. The table of contents will allow users to narrow in on those services of most interest. We've also tried to pull out for special treatment a number of important themes that helped define the year's work for us. These themes, outlined below, suggest new strategic directions that OCUL may want to consider in planning for the coming years.

Theme 1: Building Partnerships

Scholars Portal was created based on the idea that some services work better when they are managed cooperatively. OCUL represents a long standing collaboration of academic libraries in Ontario, and Scholars Portal participates in and fosters that network of partnerships. Increasingly, we also look outside OCUL to build new provincial and national partnerships in areas that benefit from cross-sectoral or cross-regional cooperation.

Digital preservation is one such area. The scope of the work in this area is so broad and the effort involved so

immense that no single institution or consortia can hope to address it in whole. We have already established strong relationships with IT partners in Orion and with sister consortia such as COPPUL as well as international efforts such as the Keepers Registry and the PKP-PLN, each addressing different aspects of digital preservation. Over the coming years, Scholars Portal and OCUL will need to build new relationships with other libraries and consortia in Canada to address the technical and administrative challenges of digital preservation. Our work with CRKN and the Portage network will be central to that effort.

Theme 2: Innovation & Renewal

Few things stand still any longer. A service that meets the needs of users today may be inadequate to that task in two or three years. And as the volume of digital content that libraries manage grows, new solutions for data management and preservation that address scalability constantly will replace solutions that seem state of the art today. To remain relevant, then, Scholars Portal also needs to invest in and support innovation. With the resources available to us, we invest strategically in exploring new technologies and

new service models, partnering with others wherever we can. New technologies to support preservation and data management at scale, new software to improve the experience of users of our services, and new models of cooperation with national partners as represented in collaborations such as Dataverse North — these and other initiatives described in this report demonstrate the commitment of Scholars Portal and OCUL to innovation and renewal.

Theme 3: Supporting E-Learning

E-learning promises to become a key model for learning and instruction in Ontario universities. Students have new-found flexibility in taking courses online from different institutions and even traditional classroom and lab instruction is being transformed with the introduction of online learning modules. The Ask chat service is one example of how OCUL libraries have begun to design services to support these new learning models. But online reference is just one example of new library services that will be required to address the needs of online learners. Support for the development of Open Educational Resources

(OER) is critical for the success of online learning. An OCUL OER Working Group has been formed to survey and report on the landscape of open education in OCUL institutions. The report of this group, in the form of a whitepaper, will help set strategic directions for OCUL and Scholars Portal in this area. New partnerships with eCampus Ontario and with open learning projects on university and college campuses will allow OCUL and Scholars Portal to identify opportunities for building infrastructure support for the creation and dissemination of open educational resources.

Theme 4: Preservation & Access

Scholars Portal is mandated to preserve and provide access to the shared collections of OCUL member libraries. But those libraries also contain rich born-digital and digitized electronic collections as well as unique print collections that deserve the same kind of preservation and access that Scholars Portal is able to provide for OCUL's shared collections. Several projects described in this report provide examples of how Scholars Portal infrastructure can be used to foster access to local collections.

The collection of Canadian polling data contributed to ODESI by institutions like Laurier, Carleton and Ottawa; municipal GIS data collections contributed to

the GeoPortal by Western, York, Ryerson and Toronto; government documents digitized through collaborative effort by the OCUL Government Documents Community and made available through Books; and most recently, digitized topographical maps scanned and geocoded by the OCUL Geo Community and made available through the GeoPortal — all of these are examples of how content distributed across OCUL member libraries can be given new focus when brought together onto common platforms supported by Scholars Portal. Continuing to identify and support these collaborative opportunities will remain a priority for Scholars Portal in the coming years.

Theme 5: French Language Support

Scholars Portal is not mandated to provide services in both of Canada's official languages. We are increasingly aware, however, that in order to provide the best service possible to libraries in OCUL which serve bilingual communities and to support French-language institutions outside Ontario which pay to use our services, we need to enhance our ability to function in French as well as English.

Over the last several years, Scholars Portal has expanded our offerings to francophone users at bilingual institutions. This includes the introduction of Clavardez avec nos bibliothécaires, the French counterpart to Ask a Librarian; the internationalization of the Dataverse platform; and the translation of materials such as the Scholars Portal Books LibGuide and FAQ.

As part of this effort, we have also increased our capacity to support questions from libraries and researchers

in both official languages. Over the last two years, Scholars Portal has added three new staff members who are capable of responding to French-language queries and performing basic translation. The Ask a Librarian coordinator distributes all announcements and most operator training material in both official languages and regularly provides coordination and troubleshooting support in French. Other members of the team have responded to French-language questions about Books, Journals, ODESI, and OUR, participated as operators in the Clavardez virtual reference service, and provided the translations on various Scholars Portal pages, including the Journals platform and the OCUL Historical Topographic Maps website.

MEMBER SERVICES

Ask a Librarian & Clavardez avec nos bibliothécaires

In 2016, Ask celebrated its fifth birthday as well as the milestone of providing over 100,000 chat sessions and 1,000 Clavardez sessions. Ask also welcomed Saint Paul University, federated with the University of Ottawa, as a new member. They joined the service as a bilingual partner in September 2016, bringing the total number of participating libraries to fourteen. We are anticipating at least one more school joining in the fall of 2017.

The Ask service migrated software platforms twice in the last year. In late 2015, our chat software vendor LivePerson informed us they were ending support for the Agent Console and that we would need to migrate our account to their new chat platform called LiveEngage by summer 2016. Because of the short migration timeline, the Virtual Reference Steering Committee, the OCUL governance group for Ask, was not able to conduct a full assessment of the software landscape before the need to switch to LiveEngage became unavoidable. Therefore, throughout the summer of 2016 all 350 Ask operators were re-trained on LiveEngage through demos, instructional videos and guides, and 25 in-person and online training sessions.

Based on operator and coordinator feedback about LiveEngage's interface and functionality, and in response to concerns about the platform's privacy and accessibility, the Virtual Reference Steering Committee decided to review the market and to look for a new

chat tool to support Ask.

"This service is great! I was amazed that at 9pm from home I could speak with a librarian! As a full time employee and part time grad student, accessing the library can be difficult, particularly for those of us with family responsibilities... In just a few minutes, I was set on the path to success. 21 century, here we are! Thanks!" -Ask User

In consultation with a chat software working group, made up of individuals from across OCUL, and with the help of the procurement office at the University of Toronto Library, Scholars Portal conducted an evaluation of the chat software market. This process included a confidential RFQ (request for quotation) and a

series of software demos and led ultimately to LibraryH3lp being chosen as our new chat tool. Once again, Scholars Portal staff conducted extensive retraining on the new interface and LibraryH3lp was rolled out in January 2017.

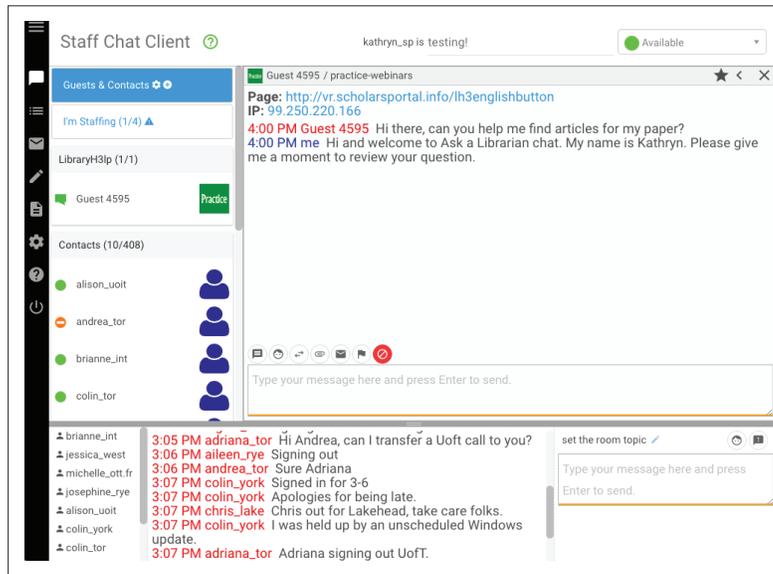
“I just wanted to report that my experience with LibraryH3lp on my first chat shift was EXCELLENT. What a wonderful interface! So easy and intuitive to use” -Ask Operator

The LibraryH3lp chat client has a simple, user-friendly interface that allows operators to pick up specific chats from their own patrons. It also has an integrated staff chat area for easy inter-operator communication, and it allows operators to access library profiles from within the chat interface, which makes it easier for operators to answer questions from other libraries’ patrons. Both features have made it possible for operators to access everything they need during their chat shifts from a single screen.

The LibraryH3lp chat software is also highly cus-

tomizable, which allows each participating library to handle incoming chats differently. For instance, some of our larger libraries have opted to route questions to their own operators first while others have chosen to send all questions to a shared queue. Choosing LibraryH3lp has also opened up partnership opportunities with other libraries and groups that are already using the platform, such as the Ontario Colleges Library Service (OCLS), which is exploring with us the possibility of joining Clavarez to provide bilingual service to OCLS members.

“I am an undergraduate student but a mature student. I have not used the library in many years and the system is very different when I was studying full time. The “Ask a Librarian” is a great service and very helpful.” -Ask User



LibraryH3lp’s chat client has a simple, clean interface that makes chatting with colleagues and patrons easy. Incoming chats appear in chat windows in the open space at the centre of the screen.

ACE

Accessible Content E-Portal

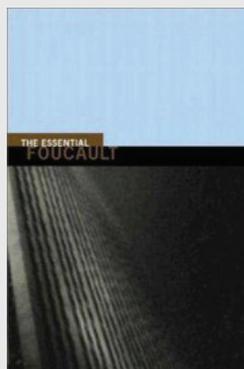
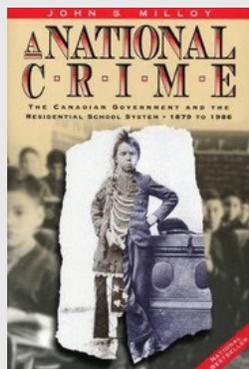
As of March 2017, the ACE portal contained more than 12,000 titles in accessible formats available to OCUL and OCLS users. These accessible titles have

been created for ACE by the Internet Archive Canada, ACE’s digitization partner. A plan to ingest materials digitized at partner libraries into the ACE

Portal, opening up new channels for sourcing accessible content, will significantly increase the size of the collection in future. A pilot began in 2016, and the ACE Working Group is considering processes and policies for ingesting this kind of content.

In the meantime, Internet Archive Canada is investigating how they can improve their process for creating alternate formats of digitized materials and generating more richly tagged PDFs, an important enhancement to make these documents more accessible. Members of the ACE Working Group tested these PDFs in their local adaptive technology labs and provided feedback which is being used to develop better and more accessible PDFs for ACE as well as the Internet Archive's other clients.

"The Ontario College Libraries are proud participants in and contributors to ACE - a service which removes barriers for patrons with print disabilities and enables participating institutions to meet their obligations under the Accessibility for Ontarians with Disabilities Act (AODA) ... ACE is an excellent example of the work being done in academic libraries to remove barriers, to advocate on behalf of accessibility, and to support library patrons of all abilities. The goal is to find solutions for everything; to go beyond the minimum requirements and to become fully inclusive." - **Corinne Abba, Chair of the HLLR-AODA Committee for Ontario College Libraries.**



One of the goals of the ACE project was to encourage the discovery and reuse of accessible content across OCUL. As the repository grows, we are seeing more instances of books being requested by one institution, and then subsequently accessed at others.

Two examples of this are *The Essential Foucault*, requested by a Toronto user, and downloaded additionally by users at Carleton, Wilfrid Laurier, and Queen's, and *A National Crime*, requested by a McMaster user, and also downloaded by users at Carleton, Queen's, and Toronto.

RACER

Rapid Access to Collections through Electronic Requesting

RACER is the oldest service of Scholars Portal, celebrating 15 years of collaboration this year. It is also still using VDX, though upgraded many times, as its core software. An upgrade of VDX, mostly involving bug fixes, is planned for summer 2017. The future of VDX, however, is time limited, with an announcement this year by OCLC that it has acquired the Relais D2D consortial ILL software and will be migrating VDX users to D2D, although a timeline has not yet been established.

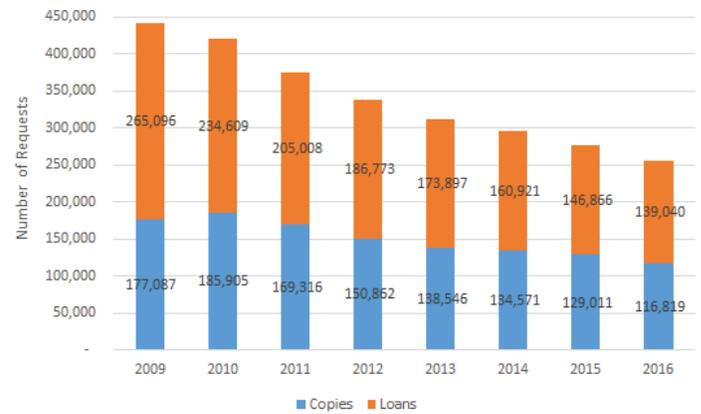
Scholars Portal staff continue to liaise with the OCUL Resource Sharing Community about the future of VDX while anticipating the possible implications on

ILL of the Collaborative Futures Initiative. How will a common library management system change the way book lending - especially for e-books - happens across OCUL libraries? How might the selection of a particular software vendor for Collaborative Futures influence the choice of a future ILL system for RACER?

There are also larger questions about the role of ILL outside of the selection of a new software platform. With year to year declines in the number of article and book lending transactions, what new roles might RACER play in the future? With a history of shared systems and staff collaboration, perhaps a

consortial resource sharing framework could provide opportunities in emerging areas such as open access (OA) and open educational resources? New on-demand acquisition models could also be explored, such as collective contributions towards paying to convert commercial content to OA (for example through [Knowledge Unlatched](#) or [unglue.it](#)) for identified high-demand ILL items across OCUL. These broader issues might be best considered in parallel with the question of software replacement for VDX.

RACER Activity Trend:



OUR

Online Usage Rights

Staff upgraded OUR in 2016, introducing text mining and local loading as usage rights and deploying a number of bug fixes and interface improvements. Ontario College Library Services (OCLS) also began using OUR, rebranded as CLEAR, for their 24 libraries. Scholars Portal hosts and provides technical support

to OCLS, which has also partnered with Ebsco to integrate CLEAR into the Ebsco Discovery Service (EDS). This work will also be available to OCUL libraries that use EDS and OUR. OUR records can now be displayed in SFX, Serials Solutions 360Link, and EDS.

James A. Gibson Library

Harvard Educational Review

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LIBRARY PUBLISHING SUPPORT SERVICES

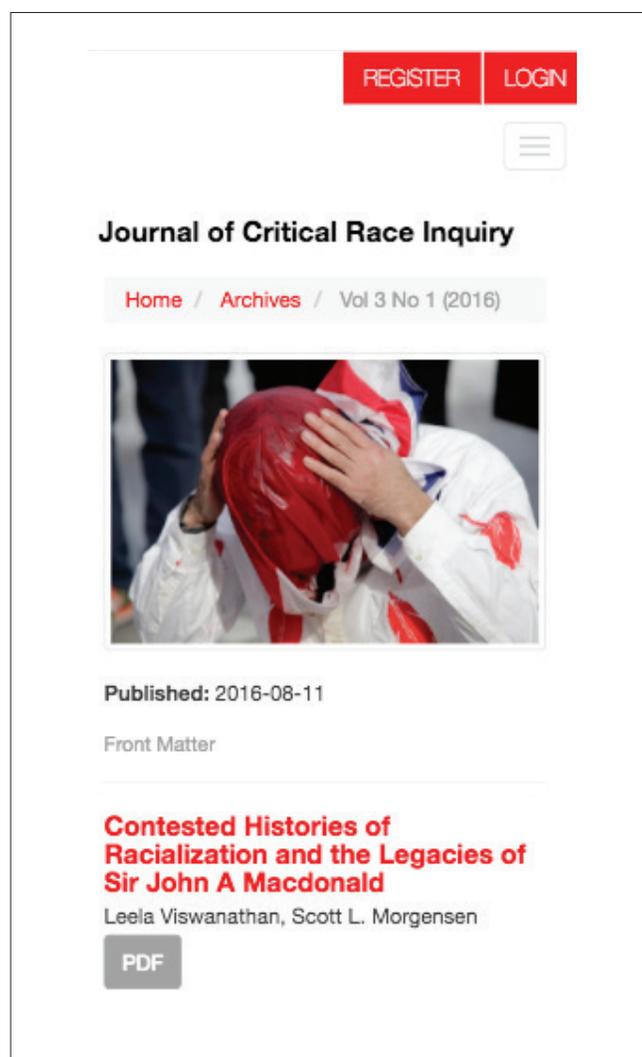
Open Journals System & Open Monograph Press

In spring 2016, Scholars Portal staff worked with library staff at the University of Guelph to migrate its local Open Journal Systems (OJS) instance to the hosted service offered by Scholars Portal. Staff also worked with Laurentian University to set up a new instance of OJS. This brings the total number of schools using the Scholars Portal hosting service for OJS to nine, with over 100 individual journals now online. Six schools are also testing or using the Open Monograph Press (OMP) service for book length publications.

Scholars Portal staff participated in remote usability testing for OJS version 3, organized by the Public Knowledge Project (PKP), and have recently begun the process of migrating our hosted sites to this new version of the software. OJS 3 includes an improved user interface, improved publisher workflows, a fully responsive (mobile-friendly) design, and enhanced theming options.

Crossref Membership

Recently, Scholars Portal became a sponsoring affiliate of Crossref, which allows us to sponsor the Crossref memberships of OCUL library publishing units at no cost to them and to mint DOIs on their behalf



The screenshot displays the front matter of the *Journal of Critical Race Inquiry*, Vol 3 No 1 (2016). The page features a clean, modern design with a white background and red accents. At the top right, there are red buttons for 'REGISTER' and 'LOGIN', and a hamburger menu icon. The journal title is prominently displayed in a bold, black font. Below the title, a breadcrumb trail shows 'Home / Archives / Vol 3 No 1 (2016)'. A central image shows a person in a white shirt with red splatters, holding a red helmet. Below the image, the publication date 'Published: 2016-08-11' is shown. The article title, 'Contested Histories of Racialization and the Legacies of Sir John A Macdonald', is in red, followed by the authors' names, Leela Viswanathan and Scott L. Morgensen. A 'PDF' button is located at the bottom of the article preview.

A Queen's University title displaying the new responsive template in OJS3.

through OJS. Cost-sharing for charges associated with minting DOIs through Crossref will be determined as part of a pilot implementation with Queen's University Library to run from April to June of this year. Several other OCUL libraries have indicated interest in using this new service for their own publishing support initiatives. We hope to bring them on board in the summer of 2017.

Open Educational Resources

During the fall of 2016, an OCUL OER White Paper Working Group was formed with the goals of reviewing OER activities in Ontario and beyond, and identifying opportunities and next steps for OCUL in this growing area.

The first phase of the OER white paper project was to raise awareness through the Scholars Portal Roadshow and presentations to the OCUL Publishing and Hosting Community and the OCUL-SP committee in October 2016. The Working Group also communicated with external groups such as the Council of Ontario Universities (COU), eCampus Ontario, Ontario Research and Innovation Optical Network (ORION), Orbis Cascade Alliance, the Heads of Libraries and Learning Resources (HLLR), and the Ontario Colleges Library Service (OCLS).

To conduct a thorough environmental scan, a survey was developed in consultation with eCampus Ontario and with input from the OCUL Executive and Directors. The group anticipates this survey being distributed to OCUL libraries via their Directors in the next month or so.

There has also been significant community engagement through eCampus sponsored events such as the Open Education Ontario Summit (OCADU, March 27), the OCUL Open Educational Resources: Current Landscape webinar (March 28), and the Ontario OER Librarian Day (Ryerson, March 30). The Creative Commons Global Summit (April 28-30) and ORION Think Open conference (May 24th) will provide additional resources to include in the white paper.

The white paper is slated for completion in mid-June 2017, with the exact date dependent on completion of

the OCUL library environmental scan and analysis. A draft of the white paper will be made available for comment to the OCUL directors at the Spring 2017 Meeting.

The OER Working Group membership includes:

Heather Martin

University of Guelph

Catherine Davidson

York University

Ann Ludbrook

Ryerson University

Scott Cowan

University of Windsor

Carole Moore

formerly of the University of Toronto

Katya Pereyaslavskaya

Scholars Portal

Anika Ervin-Ward

Ontario Council of University Libraries

Amy Greenberg

Scholars Portal

Scholars Portal Roadshow

Since 2003, Scholars Portal Day, an annual communication and networking event for OCUL member libraries, has been held each December in Toronto. Always well attended, this event has limited capacity, which means that information about Scholars Portal services does not always reach the broadest possible OCUL audience. It also does not provide Scholars Portal staff with an opportunity to meet with a broad range of staff at member libraries to better understand the priorities and emerging needs of individual OCUL institutions.

Early in 2016, Scholars Portal staff presented OCUL-SP, our governance group, with a proposal to reallocate the funds designated for Scholars Portal Day 2016 to an alternative form of member engagement: a “Scholars Portal Roadshow.” Instead of OCUL libraries coming to Toronto, Scholars Portal and OCUL staff would travel to member libraries across the province, providing updates on services tailored to the interests of individual libraries and listening to staff of those libraries as they talked about strategic interests and future directions.

There were three main goals for the Roadshow:

- Reach a larger / different audience than the usual Scholars Portal Day attendees
- Help build and strengthen relationships between Scholars Portal and staff at OCUL institutions
- Reduce the burden of travel for individuals from institutions outside of the Greater Toronto Area

Scholars Portal also sought the opportunity to solicit

feedback from individual libraries on current directions to help inform our planning priorities for 2017.

Eleven roadshow events were held between September 23 and December 2, 2016, with an additional two events held in February and March of 2017. In the process, we reached approximately 300 librarians and staff members at OCUL institutions. Twelve different staff members from OCUL and Scholars Portal presented, while others attended the Toronto-area events.

The response to the events was largely positive, especially at smaller and more distant schools that do not send many representatives to Scholars Portal Day. Based on responses to a feedback form sent to attendees, there is an appetite to have roadshows more regularly, perhaps on a three-year or a five-year basis.

Two reports were prepared for OCUL-SP: one on the Roadshow event itself and one on the trends and opportunities that were identified as part of the roundtables held at each event about institutional strategic directions.



Scholars Portal on the Road at York University, November 2016

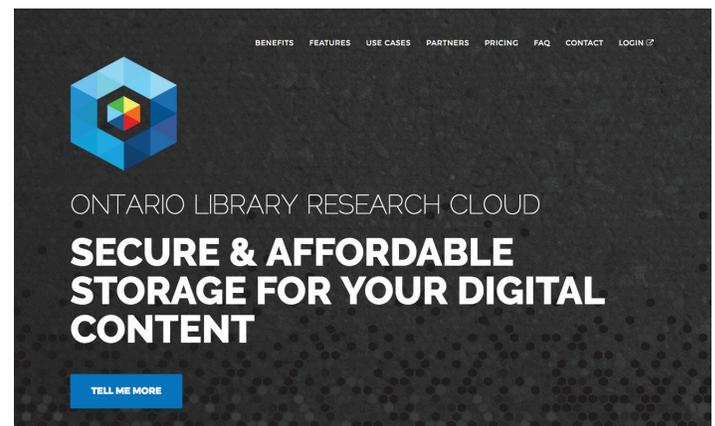
Promoting Scholars Portal Services

As the number of Scholars Portal services grows, it becomes difficult for new librarians and library staff in OCUL to keep track of what service offerings are available to them. Much of that information is locked up in the SPOT Docs WIKI and is not easily accessible to new users. Scholars Portal staff have been working with the OCUL Communications Officer to think about ways that information about our services can be made more readily available on the open web. Ongoing activities in this area include:

- Developing public-facing websites for new services, with a consistent visual identity and branding
- Curating a monthly Featured Collection / Featured Topic LibGuide to draw attention to the depth and breadth of Scholars Portal services and of OCUL's shared collections
- Increasing Twitter activity (in conjunction with communications surrounding OCUL's 50th Anniversary)
- Ensuring that LibGuides and "About" pages for all services are up to date

Scholars Portal will have a display booth at the Con-

gress 2017 Expo to be held at Ryerson University this summer. Staff will be using this event to speak to conference attendees about the Scholars Portal services available to them through their university libraries — services such as Dataverse, the GeoPortal, the Ontario Library Research Cloud (OLRC), and publishing support services such as OJS and OMP.



Screenshot of the public facing OLRC site.

Webinars

In the last year, Scholars Portal staff have hosted and contributed to several webinars for the OCUL library community and some external partners:

March 2017

Open Educational Resources: Current Landscape

Lauri Aesoph, *BC Campus*; Inba Kehoe, *University of Victoria*; Trish Weigel-Green, *Conestoga College* & Jennifer Peters, *Seneca College*, on behalf of OCLS-HLLR; Lena Patterson, *eCampus Ontario* and Katya Pereyaslavskaya & Amy Greenberg, *Scholars Portal*

Digital Preservation In Practice: Preserving Government Information

Margaret Wall & Sam-Chin Li, *University of Toronto*

November 2016

Q&A with Scholars Portal Dataverse

Amber Leahey & Kaitlin Newson, *Scholars Portal*

September 2016

Back to School with Scholars Portal

Sabina Pagotto, Kathryn Barrett, Kaitlin Newson & Amber Leahey, *Scholars Portal*

June 2016

Digital Preservation in Practice: Web and Twitter Archiving

Nich Worby, *University of Toronto* and Nick Ruest, *York University*

April 2016

Digital Preservation Policy

Jess Whyte & Steve Marks, *University of Toronto*, Wei Zhao, *Scholars Portal*

CONTENT SERVICES

Journals

As of March 2017, over 48 million articles from over 20,000 journals are hosted on the Scholars Portal Journals platform. This year, we added the “Annals of Internal Medicine” from the American College of Physicians, including backfiles to 1927, under a license that provides for full preservation in the Scholars Portal TDR. Negotiations are also in process with the American Association for the Advancement of Science to add its journal content, specifically the highly cited magazine, *Science*, to Journals and possibly to the TDR.

In addition to adding significant commercial content, we are constantly looking for well-used open access journal content that we can load and preserve. We are currently working on adding over 400 open access journals from DeGruyter Open and 1488 journals from PubMed Central including 8 PLOS journals to increase the number of open access articles to over 1 million and the number of OA journals to over 2,000.

To help users discover open access materials, the journals interface was updated this year to allow users to browse for and limit their searches to articles and journals published under an open access license.

For Canadian content, we have coverage now of the majority of journals from Érudit, Canadian Science Publishing, and the University of Toronto Press, three of the biggest publishers of Canadian serial content. This, along with the collections of ebooks from Canadian university presses and ejournal content from the Synergies project, makes Scholars Portal a world-leading aggregator of Canadian scholarly research.

ORCID linking in the interface was added this year in response to increasing interest across Canada in the

use of ORCID as an identifier for university researchers. The green ORCID symbol appears next to author names where available, linking out to their ORCID profiles. While some publishers include ORCID id's in their metadata, the Scholars Portal staff have sup-

The screenshot shows the Scholars Portal Journals search interface. At the top, there are navigation links for 'Scholars Portal Journals', 'Français', 'Browse', and 'Contact'. The search area includes a search bar with 'zika virus' and a location dropdown set to 'Anywhere'. Below this, there's a second search bar with 'microcephaly' and another 'Anywhere' dropdown. There are filters for 'Date limit: 2016 - To' and 'Sort by: Relevance'. Checkboxes are present for 'Show only content I can access', 'Peer Reviewed', and 'Open Access Articles'. A 'Limit By Subject' field is also visible. A blue 'Search' button is prominent. Below the search results area, there's a section for 'Create an email alert for this search query.' with a text input field containing 'b.kawula@utoronto.ca'. A reCAPTCHA 'I'm not a robot' checkbox is checked. A 'Create alert' button is at the bottom left. A large black arrow points from the right towards the 'Alert Form' section, which is partially obscured by the arrow.

Alert creation in Journals.

Medical Journal Armed Forces India > 72(2)

Dengue, chikungunya ... and the missing entity – Zika fever: A new emerging threat

Rina Tilak , Sougat Ray, V.W. Tilak , Sandip Mukherji

April 2016, 72(2) p.157-163

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Abstract

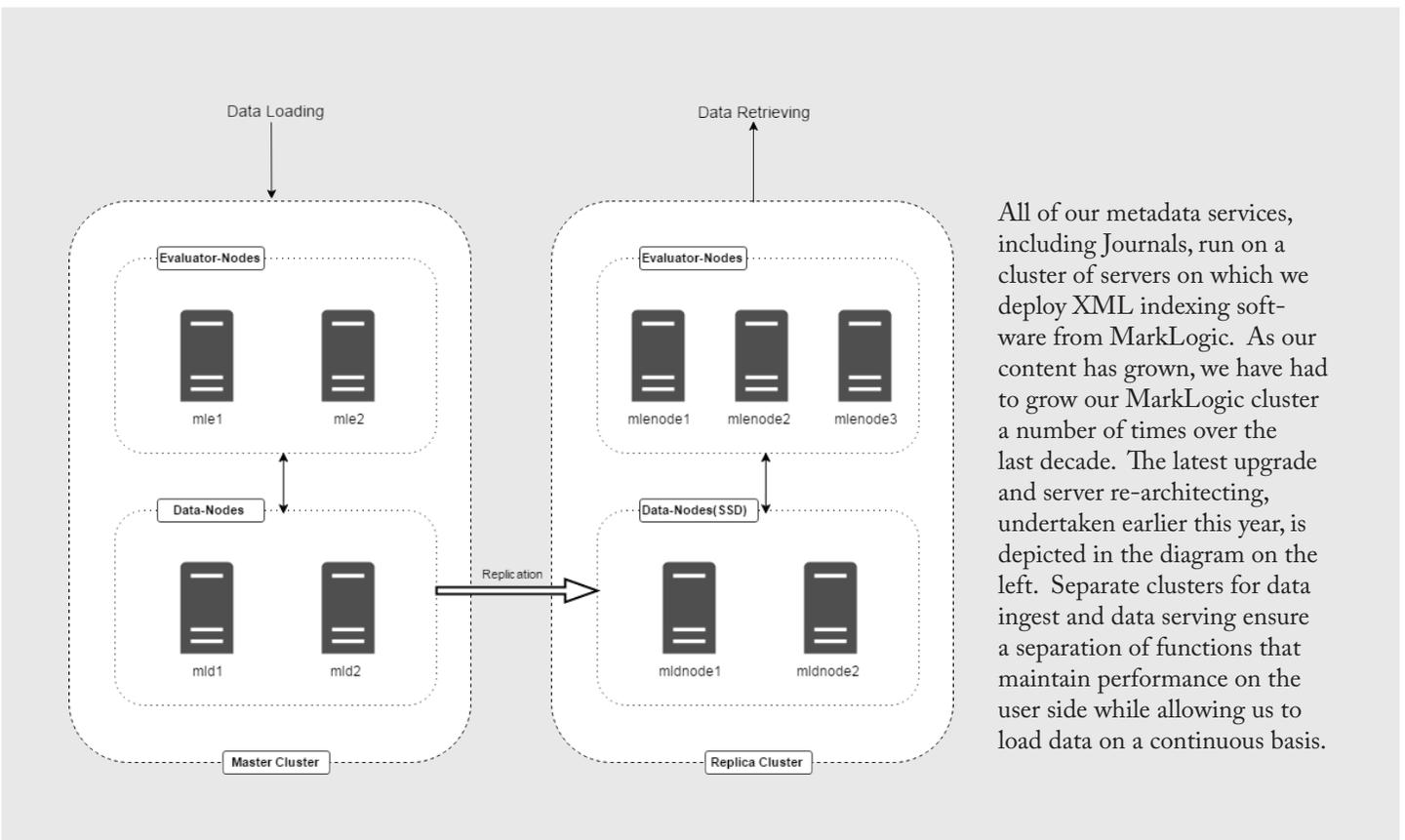
Zika virus (ZIKV), a relative newcomer from the flavivirus group that includes dengue, Japanese encephalitis and yellow fever, is one of the emerging pathogens that is fast transcending geographical boundaries. It is a vector-borne disease transmitted by the same *Aedes aegypti* and *Aedes albopictus*, which cause dengue and chikungunya. In addition to the vector-mediated transmission of Zika fever, probable human-to-human transmission through exchange of body fluids, including sexual and perinatal transmission and through blood transfusion, makes containment of this new entity more challenging. Moreover, a high index of suspicion by an astute physician is necessary for diagnosis of Zika fever in view of the similarity of symptoms with dengue and chikungunya, especially in areas, where these two diseases are already endemic.

ORCID links next to author names.

plemented this information by using Crossref metadata to enhance author records.

Funding information for articles has become an important piece of metadata for tracking institutional research output. Scholars Portal Journals now shows funding information at the article level when that is available from the publisher or Crossref. Future plans include making this information searchable to support analytics based on funding agency, author, and institution.

A new alerting services was added to Journals in 2016. With little promotion of the service, 80 users have added close to 100 alerts. These get matched to all new incoming articles as we ingest content from our publishing partners. A search API was also released this year to support integration of Scholars Portals journal content into other environments. Similar APIs exist for Books and the GeoPortal and are documented on the SPOT Docs Wiki.



All of our metadata services, including Journals, run on a cluster of servers on which we deploy XML indexing software from MarkLogic. As our content has grown, we have had to grow our MarkLogic cluster a number of times over the last decade. The latest upgrade and server re-architecting, undertaken earlier this year, is depicted in the diagram on the left. Separate clusters for data ingest and data serving ensure a separation of functions that maintain performance on the user side while allowing us to load data on a continuous basis.

Books

In the spring of 2016, we welcomed two new developers to assist with the task of redeveloping the Books platform, a project that has been underway since 2015. Features and functionality selected for development were drawn from the “Books Redevelopment Functional Requirements” analysis, produced by an OCUL-SP working group. The report highlighted a need for a more granular approach to entitlements to reflect current and future buying practices of libraries (e.g. single book purchases, purchase on demand).

A new “Admintool” developed for the Books platform will address this need for enhanced flexibility in managing entitlements and collections while allowing staff at member institutions to log in and view their own entitlements and collections, generate KBART files, MARC/MARCXML records, and usage reports for different collections and date ranges.

As well as enhancing the administrative features of Books, the new platform, scheduled for beta release in late May 2017, will include the following user-oriented features:

- Searching with optional limiters (author, title, ISBN) across a selection of collections
- Online reading of all texts
- Downloading PDFs, where allowed by license
- Bibliography and citation generation
- In-text searching

The data stored in the license record determines how an end user interacts with the content and complements the information presented by OUR. This information will be presented alongside bibliographic data so that usage rights are clear at the point of access.

Entitled	Pub	S1	S2	S3	Default License	Client License
	SPRINGER				DEFAULT	↳ Default
		2011			DEFAULT	↳ Default
Yes			Mathematics		DEFAULT	↳ Default

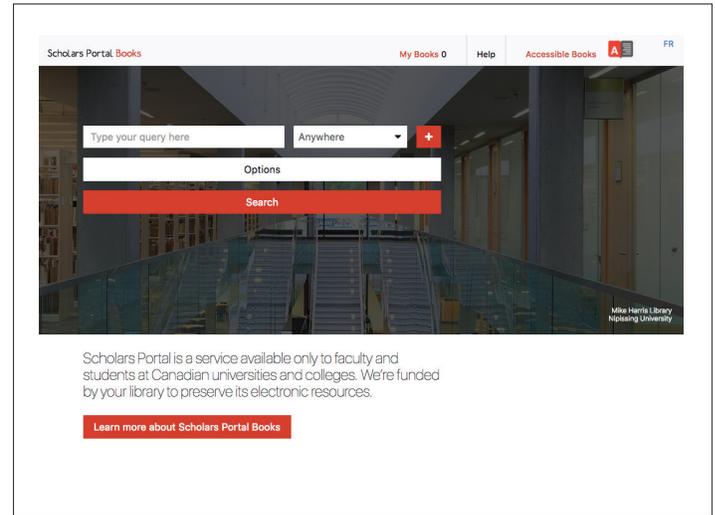
Client entitlements.

- Ability to add titles to a “My Books” list
- Rational and consistent presentation and implementation of Digital Rights Management (DRM)

reader, integrate Adobe Content Server, finish the Admintool, and continue to migrate collections to the new platform. The project should be complete by early 2018.

The frontend of the new platform draws on usability patterns similar to other Scholars Portal services and will feature a simplified search form that restricts results to entitled content by default. A significant enhancement will be a PDF reader that mimics the look and feel of the source PDF without exposing the actual file to the user. Each book will be pre-processed and converted into HTML, which will allow for infinite scrolling, reference and table of contents linking, text selection, and CSS manipulation such as page rotation and contrast.

After the beta release in May, and through the remainder of 2017, Scholars Portal staff will work to incorporate improved ACE functionality, add an XML book



Homepage

Browser reader for PDF books.

DATA & GIS SERVICES

ODESI Ontario Data Documentation Extraction Service & Infrastructure

Over the last year, we have seen significant additions to the collections available in ODESI via a number of partnerships with OCUL member libraries:

- Wilfrid Laurier University has secured the right to make IPSOS Canada polling data available through ODESI and Dataverse to anyone in the world. This content had previously been restricted to OCUL institutions. These opinion polls cover topics such as national and provincial politics, real estate buying habits, and Canadian heritage. Together they represent a gold mine for researchers looking for insights into the opinions of Canadians during key periods in the country's recent history.
- Queen's University has made available new national polling data from Angus Reid through ODESI and Dataverse to anyone in the world. Topics covered include Canadian identity, society, media, government, and politics.
- University of Toronto has been collaborating with a group of researchers in the Political Science Department to curate and archive public opinion datasets published by Forum.

Through these new collections, combined with existing collections of Gallup and Leger polling data provided

by, respectively, Carleton and Ottawa, ODESI is being transformed into a national and international portal for access to critical Canadian research data. As part of the OCUL@50 celebrations this year, the OCUL Data Community will be working to highlight these Canadian polling data collections and promote their use to researchers around the world.

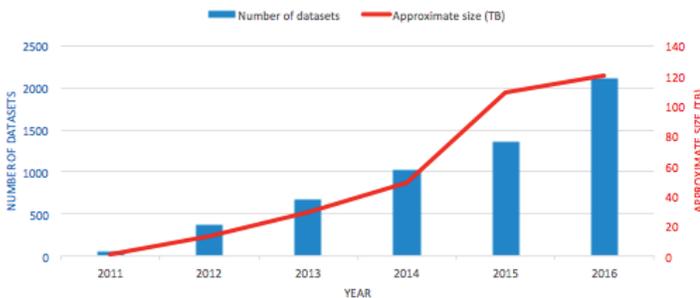
Over the last year, Scholars Portal staff upgraded many of the pieces of ODESI to enhance the user experience. A new interface for ODESI Search was released, offering federated searching of metadata from Statistics Canada's Research Data Centres (RDC), the Scholars Portal Dataverse, the Abacus Dataverse (UBC), and the University of Alberta Dataverse. In February 2017, ODESI's Nesstar Repository was upgraded to version 4.0.8.1, improving overall speed of the system on an updated operating system.



ODESI search is the first place for Ontario researchers and students to search for datasets located in an increasing number of data repositories, whether those are hosted by Scholars Portal or by other data agencies across Canada. The diagram above shows the different feeds now in place for ingesting data into ODESI.

Scholars GeoPortal

In the fall of 2016, Scholars Portal systems staff upgraded our ArcGIS server cluster to a current release of the Esri software. This process involved migrating all existing map services and content to an upgraded hardware cluster as well as redesigning that cluster architecture to improve the speed of geoprocessing tasks and the efficiency of data ingest. Development and systems staff focussed on automating data publishing for all datasets that needed to be migrated, as well as identifying areas for further automation as part of the regular publishing workflow. This has resulted in significant improvements to the data publishing workflow, including a reduction in the manual work required to upload, copy, publish, and cache datasets for release in the geoportal. After extensive testing of this workflow, it is now being used in production by our GIS Analyst.



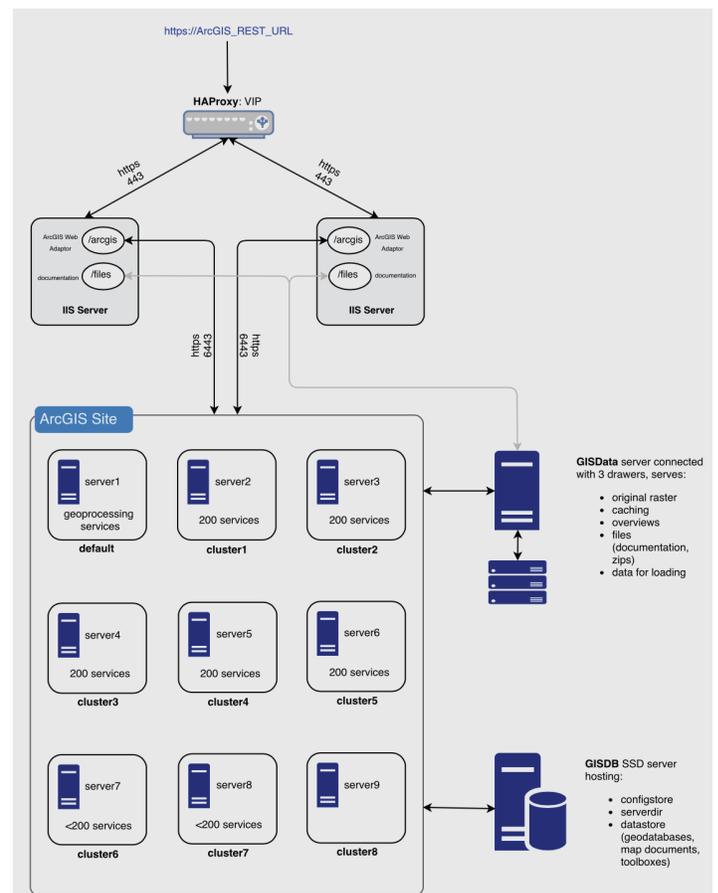
Datasets in the GeoPortal

These changes go a long way to addressing scalability requirements for the GeoPortal which, in terms of storage and computational needs, has become the most intensive application that Scholars Portal supports. Continuing investment in the GeoPortal will be necessary, however, to accommodate the large volume of GIS data that exists in OCUL libraries that would be more discoverable and useful if loaded onto the GeoPortal.

From the user perspective, the GeoPortal upgrade this summer resulted in a more effective display of dataset details (metadata). With the introduction of unique dataset linking, links can now be shared with anyone in the world and resolve to the dataset metadata in the GeoPortal. This has been welcomed by the community, who can now link to datasets through their own data webpages, catalogues, or by pushing links out to users

in online reference services such as Ask.

Five new years of DMTI data and four historical years of DLI Census data have been added to the GeoPortal over the course of the year. We have also been working with OCUL libraries to add important municipal collections to the GeoPortal, including data from the City of London (provided by Western) and the City of Mississauga (through a collaboration of York, Ryerson and Toronto). We have also loaded First Nations Treaty data from the Ministry of Indigenous Relations and Reconciliation and new SWOOP (South Western Ontario Orthoimagery Project) raster files.



The diagram above reflects the new server architecture put in place to support scaling of the GeoPortal to handle future growth. New ArcGIS servers can be added to the cluster as we grow our content.

Historical Topographic Maps

The extensive born-digital GIS collections held in OCU Libraries are complemented by vast holdings of print maps. Accessing these resources through the GeoPortal has been a long term goal for the project, driven by a growing interest in historical GIS among the Ontario research community.

The Historical Topographic Map Digitization project was initiated by the OCU Geo Community in 2014 with the goal of digitizing and georeferencing early-to-mid 20th century historical topographic maps produced as part of the National Topographic Survey (NTS). Topographic maps from this survey are heavily used by researchers interested in examining changes over time in the urban and rural environment of Canada. They are used, for example, to support research in areas such as urban sprawl, changing transportation patterns, woodlot preservation, and shoreline erosion.

Individual sheets covering Ontario, drawn from the collections of OCU Libraries and other memory institutions (Archives of Ontario, Library and Archives Canada), were scanned at high resolution for preservation and then georeferenced so that they can be used in GIS tools and in data repositories such as the GeoPortal. A project website was developed to showcase the collection to a wide audience: <http://ocul.on.ca/topomaps>. The site includes map samples and instructional support for new GeoPortal users. It also highlights the research value of the maps and addresses frequently asked questions about the collection as a whole. A French-language version of the website is also available:



Screenshot of ocul.on.ca/topomaps.

Map Preparation Process:

Print maps were digitized at 600 ppi resolution and 24-bit colour depth with Colortrac feed-through scanners (models SmartLF Gx+ T56 and SmartLF SG), using standardized colour normalization and stitch correction processes. Manual quality control methods were applied to each digitized sheet to ensure images were straightened and cropped appropriately. Images were also manually inspected for the presence of scanning artifacts; affected images were either corrected or the sheet was flagged for re-scanning.

ImageMagick software was used within a custom script to generate three different-sized derivative images for each digitized sheet in JPEG format. A 'large' JPEG derivative was generated by scaling the original TIFF image by 50%; a 'medium' JPEG derivative was generated by scaling the original TIFF to a 2000 pixel-wide image; and, a 'small' JPEG derivative was generated by scaling the original TIFF to a 204 pixel-wide image.

A total of 8 to 12 ground control points (GCPs) were established for each digitized map using ArcMap software (versions 10.1 to 10.5). Georeferencing and re-projection for each map was carried out using the Geospatial Data Abstraction Library (GDAL) functions `gdal_translate` and `gdalwarp`, respectively. A custom script was used to automate the conversion of ArcMap GCP files to GDAL format, as well as the georeferencing and warping processes. As part of the warping process, geotiffs were projected to the NAD83 datum, and into the appropriate UTM zone.

Each georectified image was transformed into a collection of tiled web maps using the `gdal2tiles` library within a custom script. Tiles were generated in Web Mercator projection (EPSG: 3857) for zoom levels 6 through 16.

All processing scripts may be accessed through the project Github repository. For more details about the process, see:

<http://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1049&context=wpub>

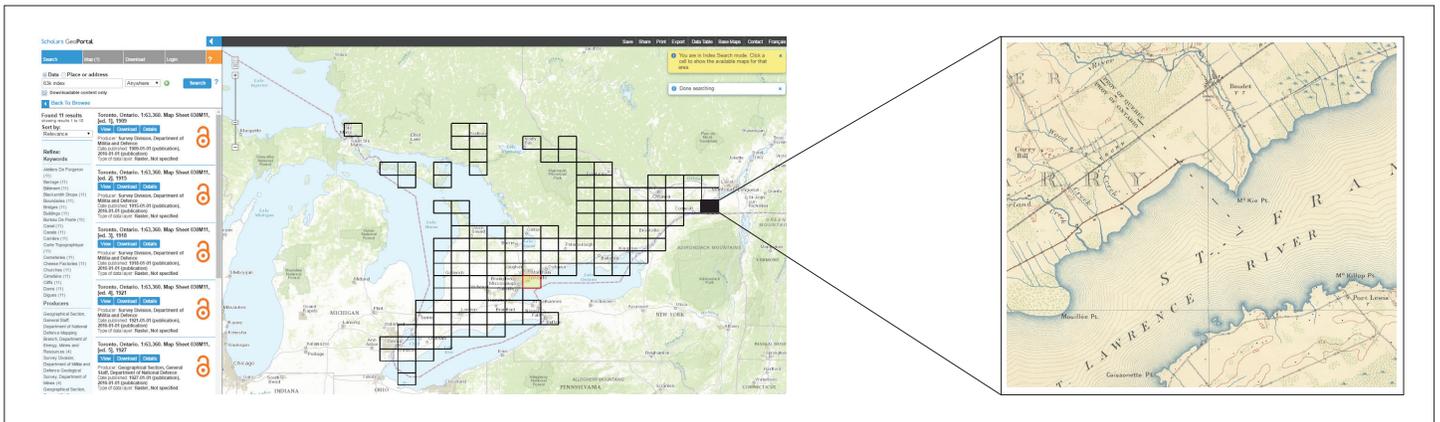
Credit for developing this workflow goes to Jay Brodeur (McMaster), Sarah Simpkin (Ottawa), Cheryl Woods (Western), Colleen Beard (Brock)

<http://ocul.on.ca/topomaps/fr/>.

As of the first week of April 2017, over 1,000 of these scanned maps, published between 1906 and 1977, are now available in the GeoPortal. Because these maps are in the public domain, we are able to offer them to researchers not only in Ontario but around the world. In order to help users discover and explore these maps as easily as possible, Scholars Portal staff created detailed metadata records for each map and introduced enhancements to the GeoPortal to support viewing and downloading as well as overlaying of the maps with other GIS data.



Promotional materials.



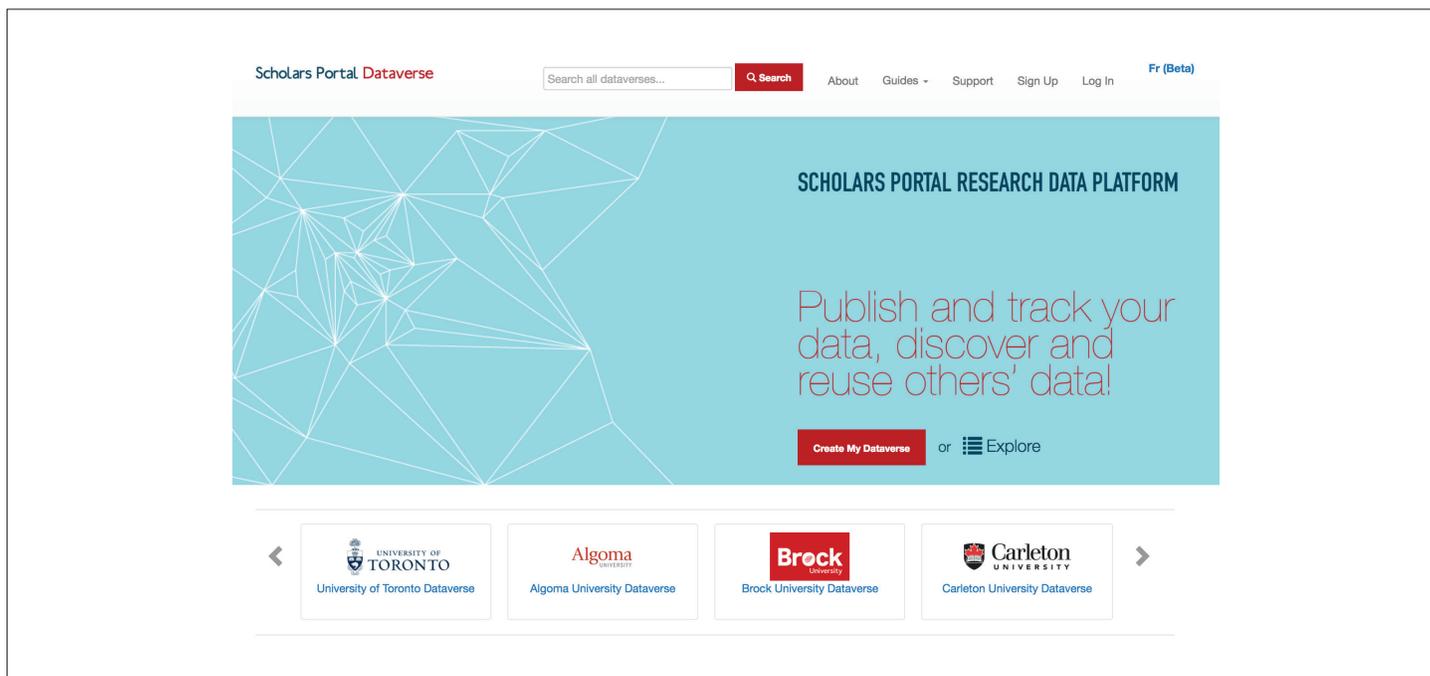
Historical topographic maps inside of the GeoPortal.

Dataverse

Over the summer of 2016, the Scholars Portal team worked with the Dataverse development group at the Institute for Quantitative Social Studies (IQSS) at Harvard University to upgrade our local Dataverse instance to the newest version of the software, version 4.6. This was a challenging upgrade, the first outside of Harvard's own instance, which included local development work to implement internationalization and a French-language version of the software. The internationalization work was done in partnership with the Université de Montréal. Among the many changes available in version 4 are integration with DataCite Canada to support DOI minting upon deposit and enhancements to the visualization and exploration of tabular data in the system, including the ability to chart variables and view data frequencies. The upgrade also allowed us to reorganize the way data is stored and so allowed us to offer institutionally branded and managed dataverses to OCUL member libraries for the first time. We hope this will make Dataverse a more attractive option for those libraries looking for a

repository service to support their local research data management programs. All OCUL libraries have been set up with a top level dataverse that they can offer as an institutional repository to their communities. A user who identifies herself with an OCUL institution when she signs up for a Dataverse account will be encouraged to create her new dataverse within her institutional site, aggregating content for researchers from that institution into a central location.

A future enhancement for Dataverse under development at IQSS that we are tracking closely is integration with Swift storage clouds, such as the one that supports the Ontario Library Research Cloud. This should allow Dataverse to support very large collections and very large data files while allowing researchers to access that content more easily for computational analysis. Scholars Portal will be testing this integration, which is being sponsored by the Massachusetts [Open Cloud](#) project when it is released in 2017 or 2018.



dataverse.scholarsportal.info

Dataverse North & Portage

Dataverse is being used, or is under consideration for use, by a dozen libraries across Canada. Scholars Portal participated in a number of calls with staff from several of these libraries over the last year to explore ideas for a more coordinated approach to offering Dataverse hosting services and to providing support for researchers looking to manage and share their datasets through Dataverse. Those conversations led to the idea of establishing a Dataverse North consortium as a voluntary collaboration under the sponsorship of the Portage Network of CARL.

From the terms of reference for the group:

Dataverse North supports Canadian researchers' use of Dataverse for data management, data deposit, and open sharing of research data. Dataverse North, through its institutional library members, aims to promote adoption, provide training resources, and build key infrastructure to support preservation of research data across a wide range of scholarly disciplines.

One of the goals for the group will be to explore integration of Dataverse with the emerging set of data management services being coordinated through Portage, from data management planning to data preservation and data sharing and reuse. As with other Portage initiatives, the scope of participation in Dataverse North extends beyond CARL member libraries. All OCUL libraries that use Dataverse, whether or not they are members of CARL, are encouraged to participate in the Dataverse North collaboration. At the same time, Scholars Portal will continue to provide support for all OCUL libraries using Dataverse, whether or not they participate in Dataverse North.

Project Canopus

Project Canopus (pronounced Can-NOPE-us), from the ancient Egyptian practice of using canopic jars to preserve mummified remains, is a joint project between OCUL and the University of Toronto Library to develop a next-generation digital asset management system (DAMS) to support the curation of large volumes of digital objects, including research data. The goal of the project is to build infrastructure and a service that would be available to any OCUL library, and through Portage to libraries nationally, to manage digital objects for long-term access whether these are stored in the OLRC, regional or local preservation storage, or on a national storage platform. Through projects such as Permafrost and the OLRC, Scholars Portal works with OCUL member libraries to build important pieces of shared infrastructure that together aim to form a complete stack of preservation services. Canopus represents an important missing link in the current service stack.

The project consist of three key elements:

- Creation of a Digital Asset Management System (DAMS) – This is a “third generation” digital repository which is flexible and accessible, heterogeneous and storable. It will hold things safely and

give us better awareness of what we are holding to enable more effective long-term planning around preservation.

- Preservation Pipeline Development – This is a normalization of digital assets to create standard Archival Information Packages. Archivematica software is currently being used but other options are also being considered for this preservation pipeline.
- OwnCloud Pilot – It is already in production and is an open source version of Dropbox for file sharing and storage. It will be used to transfer electronic archival records and help research groups share data.

Funding for the project has been approved for two years, with OCUL contributing the equivalent of 1.5 FTE towards software development and systems support. UTL will be contributing 2.0 FTE to the project as well as in kind contributions. Steve Marks, the Digital Preservation Librarian for UTL, is serving as the project manager.



A limestone canopic jar used to preserve the organs of a mummified Egyptian body.

PRESERVATION SERVICES

Journals TDR

Scaling the processes of digital preservation is an area of active research. The growth in the volume of data to be considered for preservation is outstripping our abilities, using current practices and tools, to assess and process that content for preservation.

To speed up processing in the Scholars Portal TDR, staff implemented a new workflow that makes better use of threaded programming. The ability to have fixity checks, file identification and other processes execute concurrently on multiple threads has allowed us to dramatically increase the speed at which content can be ingested into TDR. To date, there are 31.2 million full-text articles from almost 15,000 journals in the TDR, with a total of 28 publishers represented, accounting for over 800 individual publisher imprints.

With the help of collections staff at the University of Toronto Library, a local loading and archiving agreement was finalized with Taylor and Francis for their journal content, which is now being processed into the TDR.

A “why do we archive” information sheet and website are in development to facilitate communication with new publishing partners about our TDR services. These will be released in 2017.

TDR for CRKN

At the end of March 2017, a task group was approved by the CRKN Board to work with CRKN members, OCUL, the University of Toronto Library, and Scholars Portal to explore options for extending the scope of the Scholars Portal TDR to encompass CRKN libraries and content licensed by CRKN. The group

will explore issues related to licensing, governance, and finances and report back to the CRKN Board in the fall. OCUL directors, likewise, will be presented with the recommendations of the working group for discussion at their Fall 2017 meeting in Toronto. A call for nominations was issued by CRKN on April 5.

Keepers Registry

As a preservation agency in the international Keepers Registry, Scholars Portal, on behalf of OCUL, endorsed the 2016 Keepers Registry statement, “Working Together to Ensure the Future of the Digital Scholarly Record”. This statement, endorsed by all of the steward agencies of the Keepers Registry, explains the importance of institutional cooperation in preservation of the scholarly record, identifying activities that need to occur at the international, national and institutional levels. The Statement emphasized the

importance of identifying at-risk national publications not well preserved in large international preservation services. Scholars Portal was an early contributor to the Keepers Registry, which maintains a directory of all electronic serial publications and of preservation agencies holdings of these titles. The full statement is available here:

<http://thekeepers.blogs.edina.ac.uk/keepers-extra/ensuringthefuture/>

PKP PLN

As part of OCUL’s commitment to the mission of the Public Knowledge Project (PKP), expressed through the generous annual financial contributions of OCUL member libraries to PKP, Scholars Portal took on responsibility for hosting a LOCKSS node of the new international PKP Public LOCKSS Network (PLN). The PKP PLN provides an easy preservation option for journals published on the OJS platform, allowing journal editors to activate automated harvesting of new issues into the PLN by consenting to the terms of an online deposit form.



Map of PKP PLN nodes.

Permafrost

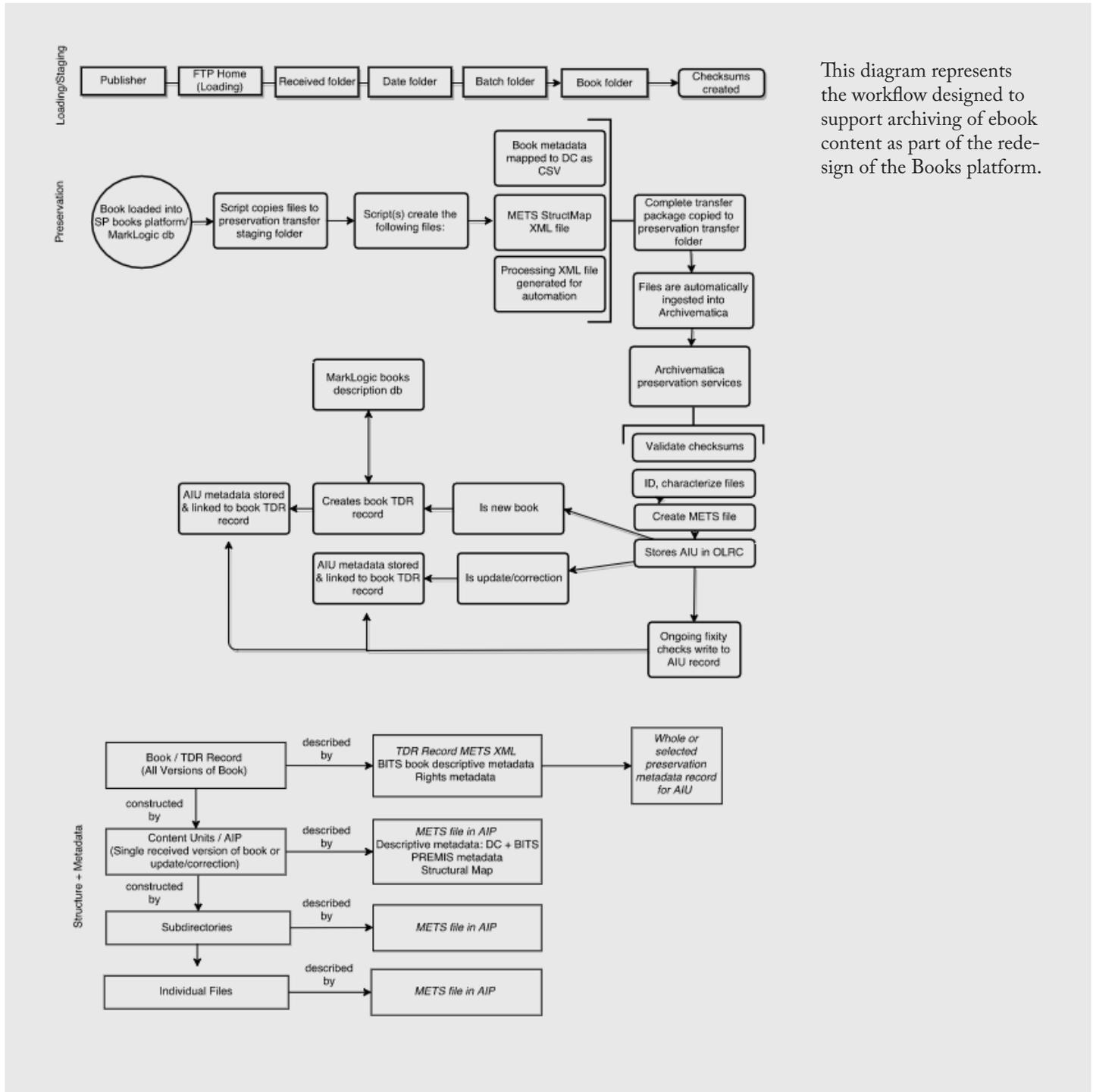
Now in pilot testing, Permafrost will make use of the OCUL’s OLRC storage infrastructure, systems resources, and staff expertise to provide accessible digital preservation services to OCUL members. A call for interest for pilot participants was sent to the Digital Curation Community in the fall of 2016. Lakehead University Library was selected as the initial pilot site to help design and develop the service model. A project charter was signed in January 2017, and initial assessment has been conducted with Lakehead, as well four additional OCUL members (Laurier, Ottawa, UOIT, and Toronto). Assessment involved discussions of local activities, policies, and practices supporting digitization and preservation. Respondents were also asked to fill out a digital content inventory to help identify what types of materials, and in what formats and quantities, might be suitable for digital preservation with Permafrost.

At the core of the Permafrost service will be hosted instances of Archivematica, with processing pipelines tailored to the needs of each participating library or archive. As part of the pilot with Lakehead, Scholars Portal systems staff have installed two instances of Archivematica for testing. The Scholars Portal Digital Preservation Librarian has been working with these instances, in turn, to explore integration with the OLRC, including documenting the use of the OLRC as a transfer source for Archivematica. Staff have also developed Archivematica-specific training materials to supplement public documentation and are planning in-person Archivematica training for Permafrost participants. The testing and validation of digital objects processed for storage using Archivematica is underway, and an Archivematica sandbox instance is now available to Lakehead staff.

Book Preservation Workflow

As part of the redesign of the Books platform, the Scholars Portal Digital Preservation Librarian has been developing a new preservation workflow to deal with the specific needs of ebook content. We are exploring the use of Archivematica to support this workflow, with preservation packages being stored in the OLRC. While the current Books platform provides basic preservation services, the new workflow will

allow us to deal with updates and corrections, which are common features of ebook publishing. Testing of the workflow will begin this summer.



This diagram represents the workflow designed to support archiving of ebook content as part of the redesign of the Books platform.

CLOUD SERVICES

Ontario Library Research Cloud

The Ontario Library Research Cloud (OLRC), a distributed network of storage nodes across the province, has been available for use by OCUL libraries since the fall of 2016. Starting in May 2017, subscribing libraries will be charged for use of the OLRC based on the storage fee schedule recommended by the OCUL Cloud Steering Committee and approved by the OCUL Executive. (See <https://cloud.scholarsportal.info/> for current pricing)

Usage of the OLRC is growing, though a number of libraries are still sorting out workflows and policies for use of the Cloud. McMaster is the largest user so far, at 14TB, with Carleton coming in second at 11TB and Windsor, third, at 10TB. OCUL libraries that were not part of the original MTCU Partnership have also started testing and using the Cloud. Algoma, for instance, has adopted the Cloud for storage of archival images totalling just over 3TB.

Over 50TB is currently in use by OCUL libraries out of a total available of about 350TB, so there is room to fill before we will need to upgrade the service. The revenue from subscription charges will be kept in a storage reserve fund and will be used to replace equipment as it fails and to grow the network as the need arises.

New features planned for the coming year include implementation of the option to encrypt files automatically as they are copied to a container. Currently, all data “on-the-wire” to and from the OLRC is encrypted. This option would allow the data stored on disk to be encrypted as well. Storing encrypted files is possible now, but the process of encryption occurs at the client level rather than on the server. The new option for encryption-at-rest would simplify this process and enhance the security of data deposited in the OLRC.

In order to explore the technical issues involved in managing an object storage network like the OLRC on a national scale, Scholars Portal staff, over the coming year, will be working with library and IT staff at the University of Victoria and network staff at CANARIE, ORION, BCNet and GTANet to set up a pilot storage network with nodes located at the University of Victoria campus data center and the University of Toronto Library data center. This is a joint initiative with the University of Victoria, sponsored by Corey Davis, the COPPUL Digital Preservation Manager. The University of Victoria library will be covering the costs of hosting and connecting a storage node to the UVic campus network and on through to BCNet. Scholars Portal will be supplying storage

hardware for the pilot and working with ORION and CANARIE to connect out to BCNet.

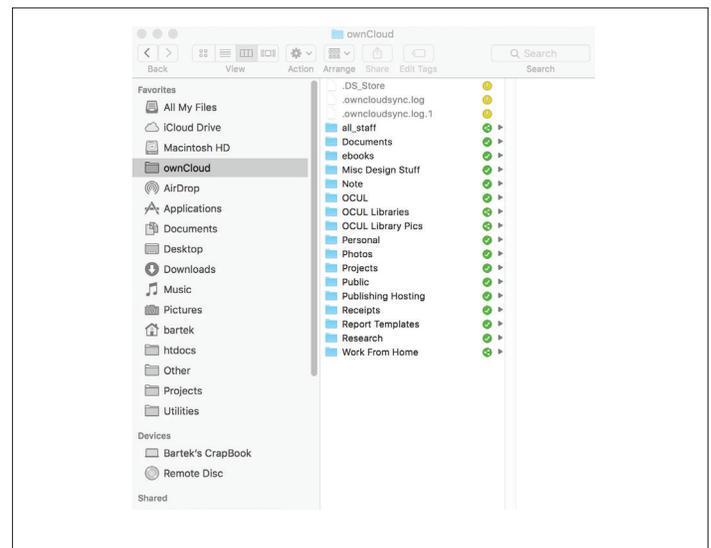
The lessons we hope to learn from this pilot include technical requirements for replicating data over a national backbone network as well as governance related matters that might arise in managing a national preservation storage network. The goal of the pilot is not to create such a network, but to gather data that would help assess its feasibility. This will be of interest not only to OCUL but to COPPUL and other library consortia in Canada and may help guide future funding requests.



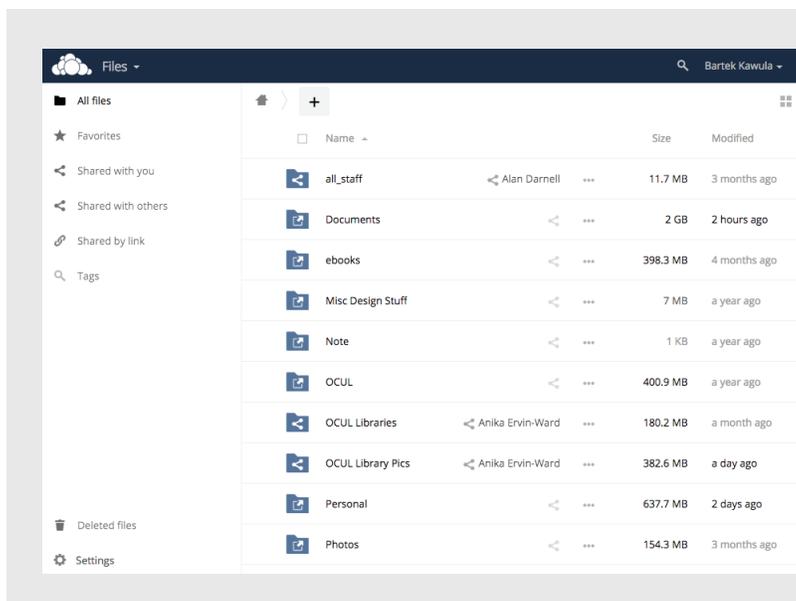
ONTARIO LIBRARY RESEARCH CLOUD

ownCloud

As a front-end to the OLRC, ownCloud provides users with a drag-and-drop desktop oriented interface to using the OLRC Cloud, allowing desktop folders to be synchronized with cloud containers. Scholars Portal is exploring use cases for ownCloud now, including support for specialized archival workflows and as an alternative to commercial personal storage services such as DropBox. A call for interest in piloting ownCloud will go out to OCUL libraries this summer. By working with one or two OCUL libraries to test ownCloud, we hope to better understand issues and costs related to supporting this as a Scholars Portal service. Based on that feedback, a service proposal will be developed for review by OCUL-SP and OCUL-PA in the fall of 2017.



ownCloud desktop integration.



The screenshot to the left shows the ownCloud web view, which displays the same folders as the desktop view (shown above).

PRESENTATIONS

Scholars Portal staff actively contribute to the library community through service to external working groups and associations, through research and publications, and by presenting at a wide variety of library and technical conferences.

Scholars Portal staff have presented at the following conferences and meetings over the last year:

May 2016	Toronto-Ryerson-York conference (Sabina Pagotto & Kathryn Barrett)
June 2016	NASIG (Wei Zhao)
June 2016	Association of Canadian Map Libraries and Archives (Amber Leahey)
July 2016	Dataverse User Conference (Alan Darnell)
August 2016	Archivemata Camp (Wei Zhao)
August 2016	IFLA Satellite Meeting (Ravit David)
September 2016	APTrust Meeting (Amaz Taufique)
October 2016	North American Cartographic Information Society (Jo Ashley)
October 2016	Trust and Transparency in E-Government International Conference (Grant Hurley)
October 2016	CRKN Annual General Meeting (Alan Darnell)
October 2016	PASIG Conference (Alan Darnell)
October 2016	Internet Archive Library Leaders Forum (Katya Pereyaslavska)
November 2016	Library Assessment Conference (Katya Pereyaslavska, Sabina Pagotto & Kathryn Barrett)
November 2016	Charleston Conference (Ravit David)
December 2016	DLI Training (Amber Leahey & Kevin Worthington)
December 2016	InterPARES Trust International Symposium (Grant Hurley)
December 2016	CNI Fall Meeting (Alan Darnell)
January 2017	OLA Superconference (Katya Pereyaslavska)
February 2017	International Digital Curation Conference (Amber Leahey)
February 2017	Code4Lib (Kaitlin Newson)
March 2017	eBookCraft (Jacqueline Whyte Appleby)
March 2017	The Charlotte Initiative Open Conference on eBooks in Academic Libraries (Grant Hurley & Kate Davis)
April 2017	TechKnowFile (Kevin Worthington)
April 2017	North American DDI Conference (Kevin Worthington)