

10-1-2014

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Recommended Citation

Kent, Alex (2014) "PALS and Islandora: Building Bridges to a Brighter Digital Future," *MAC Newsletter*: Vol. 42 : No. 2 , Article 8.
Available at: <https://lib.dr.iastate.edu/macnewsletter/vol42/iss2/8>

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PALS and Islandora: Building Bridges to a Brighter Digital Future

By Alex Kent, Minnesota State Colleges and Universities System

PALS Background

PALS (Project for Automated Library Systems), “Your Library Solutions Partner,” is a program of the Minnesota State Colleges and Universities System that has been providing library services for over 35 years beginning in 1979. Services are also provided on a contract basis to private college and university libraries, state government libraries, public libraries, school libraries, and special libraries. Our organization currently operates and supports the Aleph automated library system from Ex Libris for a consortium of more than 60 libraries. PALS also provides services based on open source software including CUFTS serials management software, Evergreen library software, the VuFind discovery interface, and, most recently, the Islandora digital asset management system.

About Islandora

Based on best practice open source components, Islandora is a robust digital asset management system originally developed by the University of Prince Edward Island’s Robertson Library. Islandora’s core components are Solr, Fedora, and Drupal. Solr is used for fast indexing and searching, Fedora is the repository management system, and Drupal is the user interface. The name *Islandora* derives from combining the names “Fedora” and “University of Prince Edward Island.”

Islandora can be used by institutions wanting to host a digital repository for scholarly works like master’s theses and dissertations and also student publications. It also works well for specialized collections at university archives that contain materials like documents, photographs, audio, and video. The Islandora services by PALS include hosting content, planning for and assisting in the creation of metadata, creating customized ingest forms, and training and support.

Islandora uses what are called Solution Packs to support different formats. Solution Packs are sets of Drupal modules that enable content display of various materials and allow automatic processes to occur when objects are added to a repository. For example, the Video Solution Pack has Drupal modules that enable streaming video. JW Player is used as the display tool and comes with the Video Solution Pack. There are also a Newspaper Solution Pack, a PDF Solution Pack, a Large Image Solution Pack,

a Basic Image Solution Pack, a Book Solution Pack, a Compound Object Solution Pack, and more.

Solution Packs also include default ingest forms. Ingest forms are like data entry forms. They are used to describe objects and can be customized to local needs. The forms are built with an XML form builder that allows the user to set required metadata elements, set default text for common data (like copyright statements), create drop-down menus for controlled vocabulary, and create custom data entry instructions. For example, for Minnesota State University, Mankato, we built a form for photographs to follow Minnesota Digital Library metadata guidelines. On the form, we added special instructions to help students conform to the standard. In several instances, we used default text and drop-down menus for controlled vocabulary.

Another strength of Islandora is the automatic creation of technical metadata. This occurs within each Solution Pack when objects are added to the repository with the Islandora FITS module and Islandora PREMIS module.

First Steps

In 2011, we created our first repository, called the PALS Story, using the Islandora Basic Image Solution Pack used for JPEG images. Another Solution Pack, the Large Image Solution Pack, can be used for TIFF images. We sent staff member Linda Richter to an Islandora Camp to become more acquainted with the software and community so that PALS could provide digital asset management support using Islandora. To most effectively test and demonstrate the software, we created a test repository to store meeting minutes, agendas, reports, and similar documents from various events held by the MnPALS Consortium throughout the year. The beta repository uses the Islandora PDF Solution Pack. The PDF Solution Pack enables the easy upload of PDF files to the repository and includes display tools that allow access to PDF files in the repository the same way they are accessed on the web or on a computer. It comes with a default ingest form, and automatic processes occur (which include OCR) when a PDF is added.

Conducting Beta Tests

We offered members of our consortium a “beta test” implementation of Islandora so we could learn more about Islandora and our partners would have the opportunity to

put digital content online at no cost, except for staff time. Two sites agreed to participate: Southwest Minnesota State University (SMSU) and the Minneapolis College of Art and Design (MCAD).

SMSU digitized its alumni newsletter, *Focus*. SMSU used its own scanning equipment to create PDF files of *Focus* from 1980 to 2008. Adobe Acrobat Pro XI was used to convert the PDF files to TIFFs, because the Book Solution Pack requires them. One of our main support roles for SMSU was helping to choose which metadata standard to use, which elements would be required, and how to handle copyright. We settled on using MODS and copyrightMD (developed by the California Digital Library in 2009). SMSU also made the decision to keep descriptive metadata to a minimum.

Another major support function we provided was in the creation of ingest (data entry) forms used to describe digital objects. An XML form builder is used to create the form. Any metadata standard can be used with these forms, and they are highly customizable. It is possible to have unique data entry instructions on each form, controlled vocabulary in drop-down menus, and default text for common data such as copyright statements. Any of our Islandora sites can now use the form we created for SMSU.

MCAD tried several different formats to see how things worked in Islandora. MCAD's collections contain many different materials, from course catalogs to photographs to artists' books. We provided similar support to MCAD as we had to SMSU. Instead of digitizing a single, large project, however, MCAD did just a few items from different collections. We also built an ingest form for these and tested some videos.

SMSU and MCAD enjoyed the beta projects and appreciated the chance to try Islandora. For us, the beta projects were very fruitful, as they allowed us to determine that Islandora was indeed ready to put into production as a potential open source digital asset management system.

A New Partnership

In 2014, PALS and Minnesota State University, Mankato (MSU), began a new partnership: the implementation of Islandora as the new digital asset management system for MSU's photographs, newspapers, and (eventually) oral histories. This opportunity came as a direct result of the beta period and our connections with the Islandora community. We are approaching this project much as we did the beta projects. Our support for MSU has focused

on helping map metadata, researching standards and copyright as needed, building custom forms, testing, and communicating with the community. MSU wants to export objects to the Minnesota Digital Library (MDL). So we built the form for its photographs following the MDL guidelines for metadata and taking advantage of controlled vocabulary drop downs, default text, and other functionality to make the forms easy for staff and students to use.

Challenges

We have run into some challenges while working with the software. During testing for MSU's photographs, we realized quickly that our original strategy to upload them through the Islandora web interface (Drupal) was not going to work efficiently due to a size limit of 2 GBs, or 40 photographs, for the amount of data that could be sent over HTTP. For migrating around seven thousand photographs, we needed a new strategy and will now be importing the photographs directly into Fedora after modifying our migration scripts.

One other challenge was realizing that compressed TIFF images do not load properly and that we need them in uncompressed formats. Other challenges included metadata mapping and making sure the mapping works correctly in the ingest forms. These challenges have an upside, though. Whenever we encounter a problem and fix it, we become that much better at using the software.

Next Steps

We are currently migrating MSU's photographs from ContentDM to Islandora and will follow with uploading its newspapers. Southwest Minnesota State University will also load newspapers as its next project. In addition to working with MSU and SMSU, we have conducted several demonstrations for interested sites. From our perspective, it appears that many libraries and universities are beginning to look seriously at digital asset management systems. For PALS, it has become a priority to provide Islandora as a repository solution to interested parties. Our partnerships with MSU and SMSU show that open source software can provide a viable solution for the needs of digital repositories.

For more information related to the Islandora services provided by PALS, go to the Islandora section of the PALS website, www.mnpals.org/products/islandora. To access PALS public Islandora repositories, see islandora.mnpals.net.