

The Proof is in the Pudding:

Building a Local Repository for Online Learning Objects

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NUTRITION INFORMATION

Libraries are increasingly building collections of learning materials in electronic formats. As the availability grows, it becomes necessary to consider the long-term discovery, access, management, and local ownership issues inherent in the development and distribution of such collections. To address these issues, the University of Waterloo Library slow-simmered a localized repository meant to house and make discoverable library-created online learning objects for broad distribution, discovery, and reuse.

LEARNING OUTCOMES

- Learn how instructional learning objects differ from other scholarly materials found in institutional repositories and how they present different functional requirements for repository development.
- In a library kitchen with a limited number of open source kitchen implements already supported and competing resourcing demands on their developer-chefs, learn how we evaluated our available options and negotiated access to a useful platform.

NUMBER SERVED

- Countless online learners

- 40–50 initial online learning objects across format types to begin baking
- Projects from multiple stakeholders within the library—in this case, around 15 librarians and staff members

COOKING TIME

1 to 2 years on a (s)low simmer, but baking time can be accelerated in case of a global pandemic!

DIETARY GUIDELINES

The recipe uses a great deal of the Information Has Value frame, identifying the need for learners to continuously, easily, and asynchronously leverage information as a means of negotiating with the world and within the expectations of their individual contexts. It allows learners, librarians, and instructors to easily identify, through Creative Commons licensing and clearly delineated metadata, the use and attribution of included materials. It also incorporates a dash of the Information Creation as a Process frame, providing content in a variety of formats to meet the needs of diverse learners, and the Research as Inquiry frame, allowing learners to take a nibble or a large bite of information at their own pace.

INGREDIENTS & EQUIPMENT

- Five instructional design team members
- Digital initiatives team. This included the head of digital initiatives, the digital repositories librarian, and one Drupal developer for the University of Waterloo.
- Lots of online learning objects in different places and formats, including infographics, video, and interactive tutorials in Articulate 360, stored on individual computers, a local network drive, and in the Articulate cloud, including formats not yet developed, like podcasts.
- Several existing repository solutions intended for different purposes and a highly customized, locked-down version of Drupal, an open source content management system, used to manage web content and maintain a consistent web presence across campus. As well, a library-specific Drupal instance used to power a small number of modules and databases on the library website.
- An existing metadata standard for learning objects (DC-LRMI)

PREPARATION

Identify user requirements.

- Can order for delivery on a phone! Responsive, platform-agnostic design and

high-quality search engine rankings are critical for learner access.

- Alternate/accessible formats can be offered through the menu.

Identify functional requirements.

- Capable of multimedia and interactive content stewardship, enabling the inline display and use of images, videos, handouts, and courses developed in Articulate.
- Content can be embedded in other contexts, so maintaining persistent filenames and paths to resources is critical.
- High-quality metadata and search engine optimization
- User-friendly content administration by a single librarian-manager
- Compliant with the Accessibility for Ontarians with Disabilities Act, 2020 or other applicable accessibility legislation (e.g., Americans with Disabilities Act).

COOKING METHOD

1. Evaluate already-supported platforms in the library pantry and throw out DSpace and Islandora! DSpace 5.x does not allow for content to be updated and embedded in different institutional contexts, and Islandora 7 requires a considerable investment in chef school to be able to upload content (“like using an excavator to eat your breakfast cereal”).
2. Catch a staffer in an on-campus information technology chat noting that the library is the one “permitted” user of the non-locked-down version of Drupal on

campus, which powers key functions on the library website. Ask developer-chefs nicely if we can hitch our snack wagon to their server.

3. Use a standard project proposal and intake process to identify and establish timelines for developing future content.
4. Write a collection policy. Determine what kinds of content are included and excluded and who manages the content and metadata and retention.
5. Prototype different content and media models envisioning future users, formats, and information retrieval behaviors.
6. Implement special file-handling requirements (e.g., ensuring .zip archives are unpacked and referenced properly and that bitstream filenames are overwritten so updated content can be referenced elsewhere on the web).
7. Icing the cake. Use CSS to match the look and feel of the existing library web presence.
8. Write documentation and provide training for content managers.
9. Taste test by soliciting input from students and library staff at public service points.
10. Advertise the repository through campus communities of practice, partner offices, and through library communication channels.

CLEAN-UP

Upon implementation, a focused collection serving the needs of academic librarians is recommended. As the project continues, exploring opportunities with faculty members

and campus partners to expand the nature and scope of the collection may enhance the use and campus integration of the repository.

CHEF’S NOTES

Sourcing the right ingredients can be difficult. Only experienced or extremely enthusiastic chefs need apply.

While our other institutional repositories (UWSpace and the Waterloo Digital Library) intend to house research and cultural heritage materials with an eye toward long-term discovery, preservation, and access to unchanging items, digital learning objects are researched, designed, deployed, and revisited according to the changing needs of learners. Adjust seasonings to taste.

ADDITIONAL RESOURCES

Calicott, B. B., Scherer, D., & Wesolek, A. (2015). *Making institutional repositories work*. West Lafayette, IN: Purdue.

Faulder, E., et al. (2018). *Cornell University Library repository principles and strategies handbook*. Ithaca, NY: Cornell University Library. <https://ecommons.cornell.edu/handle/1813/57034>

Nabe, J. A. (2009). *Starting, strengthening, and managing institutional repositories: A how-to-do-it manual*. Chicago, IL: American Library Association.

University of Waterloo Library Online Learning Objects Repository. https://lib.uwaterloo.ca/online_learning/