Open Source
Institutional Repository Collaboration:
Providing Flexibility and Affordability
for ETD with Hyku

Gretchen Gueguen, PALCI Digital Projects Manager
Amanda Hurford, PALNI Scholarly Communications Director
Co-Project Leads, Hyku for Consortia

USETDA 2020
Preview

- Our Needs: A flexible, affordable, user friendly multi-tenant IR platform
- Closer Look at IRs
- What is Hyku?
- The Hyku for Consortia Project
- Opportunities and Challenges
- Next Steps and Conclusion
Our Needs
PALNI Needs

- 24 small private institutions
- Survey
  - 70% no IR
  - 65% interested in a shared solution
  - Barriers:
    - Budget constraints
    - Staffing limitations
    - Lack of technological support
- Landscape Scan of Collaborative IRs
  - DSpace, Digital Commons, Islandora, CONTENTdm
  - Hyku = promising
IR Vision

Functional Levels
PALNI IR Administration Team
Institution
Exhibit
IR: Institutional Repository
C: Collection(s)
W: Work(s)
PALCI Needs

- Large consortium centered on resource sharing and purchasing
- Heterogeneous mix of institution types (public, private, small, large)
- Inquiries from members about repository services
- Part of HykuDirect pilot project (Hyku offered as a service through Duraspace)

2017
IR Values

- Offer a **sustainable and controllable cost structure** for development, infrastructure, install, maintenance, storage, and support
- Function as a **true IR**, offering as close as possible to parity with Digital Commons’ features
- Allow for a **multi-tenant environment**, with individual branding and theming by institution and consortium
- Be **open source** and promote open access to information
- Be **collaborative** and can allow cooperative management across teams
- Be **supported** by service providers and/or community developers
- Be **future-facing** and not rooted in old technology structures
- Be **interoperable** and allow free-flow of data. Easy import and export of metadata and objects
- Be **user-centered and user-friendly** to users of all types (librarian, faculty, student)
- Be **flexible** and scalable in design and workflow
- Be **improvable** and customizable based on user needs, and developments shared back to the community
Closer Look at IRs
Building Blocks of a Repository

- Metadata
- Digital objects
- Index
- User Interface
- Admin Interface

Web Layer
IR Features

- Self-submit
- Licensing and embargo support
- Customizations for scholarly communications
  - Support for grey literature
  - Minting DOIs or other universal identifiers
  - Integration with ORCID and other standards
  - Data Management
- ETD management
Repository Landscape

- DSpace: 2004
- Digital Commons/Proquest: 2002
- Islandora: 2007
- Digital Commons/BePress: 2009
- Sufia/Hyrax: 2013
- Hyku: 2017
- Digital Commons/Elsevier: 2020
What is Hyku?
Samvera

- Stack of open source software tools that can be combined to make a repository
- Community of users dedicated to building and maintaining these tools
Hyku is an open source, multi-tenant repository platform.

Hyku has a predetermined set of functions, types of objects and metadata out of the box, but we can develop additional material templates.

Hyku can be installed and configured as a single application. Creating new repositories for libraries is simple, and each can be customized to some degree.
Multi-Tenant
Worktype

Files + Metadata + Relationships (workflows)
How does Hyku support ETD?

- Easy for us to create and host a new repository
- Can create a customized filetype, with customized metadata for ETD
- Has built-in support for embargoes and licensing
- Can configure complex workflows for various institutions
- Adapt to new kinds of content
- OA-friendly and integrated with shareable standards
- Open Source and new technology
- Controllable costs
Hyku for Consortia
PALCI and PALNI were awarded $172k from IMLS in June 2019 to support a second development phase (the first was funded by PALNI) to establish a multi-tenant, consortial IR application, and to explore the potential for supporting shared IR services infrastructure across two consortia.
Staffing the Project

In addition to us:

Jill Morris, PALCI and Kirsten Leonard, PALNI: Project Directors

Notch8: Software Development

Product Management Team: Design and Requirements
New Features

- Collaborative workflow support
- Design templates
- ETD and OER worktypes
- DOI integration
- Cross-tenant searching
- Multi-tenant shared works

★ Sharing with the Hyku community
Collaborative Workflows

- Feedback from Product Management group
- Scenarios include ETD
- Highlighted the need for more granular role definitions and permissions for those roles
- Ability to administer them consortially
- Project documentation for role development

Project Documentation

Requirements
Feature: Collaborative Workflows
- User List
- User Permission Matrix
- Tenant/User Permissions Diagram
- Workflow Examples
ETD Worktype Development

- Store and provide access to a number of formats
- Supplemental materials will also be supported (images, datasets, a/v)
- NDLTD metadata model
- Ability to self-submit
- Upload singly or in bulk
Opportunities and Challenges
Benefits of Cross-Consortial Collaboration

- Sharing cost
- Grant-funding opportunities
- Economies of scale
- Sharing expertise
- Sharing risk
- Expanded leverage
- It’s fun!
Challenges of Cross-Consortial Collaboration

- Governance and expectation setting
- Varying processes
- Communication
- Decision-making
- Time and competing schedules
Opportunities and Challenges with Open Source

Opportunities:
- Community centered
- Address diminished product choice
- Cultivate agency
- Shape a product to specifically suit needs
- Ripple effects in repository landscape

Challenges:
- Additional expertise needed
- Sponsors/partners needed to invest energy and funds
Next Steps and Conclusion
Pilot Repositories

- PALNI and PALCI both supporting Hyku IR pilots now
- Several schools have ETD use cases
- Test workflows for submission, description, and access
- Provide valuable feedback on our development
- Each project defining their own parameters of success
Development Plan

- Developing until spring/summer 2021
  - Contract partner Notch8
- Grant closeout in July 2021
- Phase III grant application for 21-23
  - potentially more work on worktypes, metadata sharing, and UI
Interested in Hyku?

- The IR landscape has a new player - Hyku has reached a state of viability
- Hyku Web page: [https://hyku.samvera.org/](https://hyku.samvera.org/)
- Hyku Interest Group meets monthly: [https://wiki.lyrasis.org/display/samvera/Samvera+Hyku+Interest+Group](https://wiki.lyrasis.org/display/samvera/Samvera+Hyku+Interest+Group)
  - PALNI/PALCI
  - Notch8
  - University of Virginia
  - British Library
  - Ubiquity Press
- The roadmap for Hyku will incorporate our developments and others
- We are still learning... your feedback is welcome: [https://www.hykuforconsortia.org/](https://www.hykuforconsortia.org/)
THANK YOU!

Questions?

Visit: hykuforconsortia.org

Twitter: @hyku4consortia

Email: gretchen@palci.org, amanda@palni.edu