LD4L Use Cases - Version 2 -- 9 Use Cases across 5 Clusters

Active Use Case Pages

LD4L Use Cases - *Describes Use Cases that are being addressed by LD4L.*
Use cases from beyond LD4L - *Describes potential Use Cases that may follow from the LD4L work, but are currently beyond the scope of LD4L.*
Use Cases - Next Steps for Implementation - *Describes active work on Use Cases for LD4L.*

Historical Document - no longer active

Building on and distilled from the preliminary use cases, this page represents a more refined set of use cases to guide the ontology and engineering work for the project. The use cases divide into five "clusters" reflecting the data available to research institutions and libraries, and the core LD4L mission of leveraging the intellectual input of librarians, domain experts and scholars as they produce, curate and use scholarly information resources. These five clusters and associated use cases are:

- Cluster 1: Bibliographic + curation data
  - Use Case: Build a virtual collection.
  - Use Case: Tag scholarly information resources from multiple institutions to support reuse in multiple systems.
- Cluster 2: Bibliographic + person data
  - Use Case: See / Search on works by people to discover more works, and better understand people.
- Cluster 3: Leveraging external authorities
  - Use Case: Search with External Authorities for Record Enrichment & Pivoting
  - Use Case: Authority-enhanced Forms Entry
- Cluster 4: Leveraging the deeper graph (via queries or patterns)
  - Use Case: Identifying related works
  - Use Case: Leverage the deeper graph to surface more relevant works
- Cluster 5: Leveraging usage data
  - Use Case: Research guided by community usage
  - Use Case: Be guided in collection building by usage

As a general principle, the use cases are meant to be

- narrow enough to guide work, yet broad enough to show its generalizability
- align with the focus and the goals of the project
- be feasible to implement (availability of data, within capabilities to link and engineer)
- be demonstrable

Template:

Cluster Name

Use Case: (optional label or title)

> As a _____, I want to _____, so that I can <realize this benefit>.

Potential Demonstrations:

> A. Demo 1
>
> B. Demo 2
>
> C. Demo 3

Implementation Notes:

> Data Sources Needed
>
> - list here

Engineering Work

- logical sequence of steps to support this...

Cluster 1: Bibliographic + curation data

Use Case: Build a virtual collection.

As a faculty member or librarian, I want to create a virtual collection containing information resources from multiple collections across multiple universities either by direct selection or by a set of resource characteristics, so that I can share a focused collection with a <class, set of researchers, set of students in a disciplinary area>.

Questions:

a. is "set of students in a disciplinary area" in scope? What would be source of data for that?
b. is share with "public" in scope?
c. what expectations are there for discovery of virtual collections?

Discussion:

It seems like "So that I can share a focused collection with" is being interpreted as "so that I can restrict visibility of and access to a focused collection to". Right now, LibGuides are created to expose a set of students in a disciplinary area or in a class to a specific set of focused resources, but the LibGuides themselves are fully public. The key question here is is there actually any use case for "non-public" virtual collections, or are all virtual collections publicly visible and shareable. I believe that the latter is the correct interpretation.

Potential Demonstrations

A. *Faculty member constructs a reading list to share with a set of students*: Faculty member at one institution browses local discovery system, finds item of interest for a class and creates a new virtual collection with this one item (where is link? when do they log in?). As part of creation process they give the collection a name and add a couple of sentences describing it. They then got back to the catalog, enter search terms resulting in a short result set, all of which they wish to include, they "select all" and add these to the collection. When their collection is complete they set the sharing permissions to allow sharing with the set of students in the seminar class. They cut and paste the collection link into an email to the students. When the students follow this link they are prompted to authenticate and then have access to the collection which show summary information and links to each item.

B. Extend A to allow selection of materials from other institutions

C. Extend A/B to allow ordering of items in the virtual collection and comments about each one

Implementation Notes

Data Sources Needed

- MARC records
- Digital collections metadata
- Subject area or class membership information (if sharing with sets of students in area or class are in scope). This information is not needed if the collection is public and other channels are used to share the existence of the collection (e.g., Blackboard)

Engineering Work

- Authentication as user in class allowed to create lists (at least librarian, faculty member)
- Model of user classes/groups/individuals and authentication of these in access system to see a particular virtual collection
- Method for selecting resources not only in local discovery system but also other university discovery system (or are resources from other university displayed locally for selection?)
- Bulk selection method to support selection by resource characteristics (could be "select all" for a set of search results)
- Authentication as user allowed to view virtual collection

Use Case: Tag scholarly information resources from multiple institutions to support reuse in multiple systems.

As a librarian,I would like to be able to 'tag' scholarly information resources from multiple institutions into curated lists, so that I can feed these these lists into subject guides, course reserves, or reference collections; I'd like these lists to be portable (into Drupal, into LibGuides, into Spotlight! or Omeka, into Sakai, e.g.) and durable; I'd like these lists to selectively feed back into the discovery environment without having to modify a MARC record..

Potential Demonstrations

A. Engineering librarians build virtual reference shelf: In moving from a physical engineering library to a virtual library the engineering librarians decide to replicate online the popular shelf of key engineering reference handbooks that used to in the physical engineering library. In collaboration with the team providing their local discovery and access system, they decide on a tag that will be used to create an "Engineering Handbooks" facet. As the different librarians are specialists in different subject areas they decide to work together to tag items in their respective areas. One librarian creates the tag. They each then tag items from the catalog. These tags are then used in the local discovery and access system to populate the "Engineering Handbooks" facet.

B. Identify "classic texts" in physics/astronomy/chemistry

C. Identify a "reference collection" for entomology.

Implementation Notes

Data Sources Needed

- MARC records
- Digital collections metadata
- Librarian<->library relationships (perhaps including editing permissions information)

Engineering Work

- Authentication as librarian or other user allowed to create/edit tags
- Support for controlled vocabularies of tags?
- Ability to tag item from remote system
- Need URI for each tag that provides machine readable (and perhaps human readable via conneg) data for integration into other systems
- Means for selection and manipulation of tag data to feed into discovery environment alongside MARC record or other controlled data (what happens to tags for remote items?)

Cluster 2: Bibliographic + person data

Use Case: See / Search on works by people to discover more works, and better understand people.

As a researcher, I'd like to see / search on works <by, about, cited by, collected, taught> by University faculty <in an OPAC, profiles system>, to discover works of interest based on connection to people, and to understand people based on their relation to works.

Potential Demonstrations

A1. A VIVO search results in a faculty list. Pivot by hitting a "see all publications by these researchers" link. This generates an OPAC results page or a VIVO results page with citations.

B1. An OPAC search results highlight any search results that have a <Cornell, Harvard, Stanford> author

B2. A facet in the OPAC search results page lets user refine results to just <Cornell, Harvard, Stanford> authors

B3. A check box or tab in the OPAC allows patrons to search for only <Cornell, Harvard, Stanford>-authored works, effectively producing an institutional faculty-works portal.

C1. A search on "Stephen J. Gould" (a Harvard professor with archival materials at Stanford) shows works by, about, owned by, cited by, used in his courses, or held in his archive.

Implementation Notes

Data Sources Needed

- MARC records
- Journal articles (HWP data)
- VIVO / Harvard Profiles / Stanford CAP
- ORCID / VIAF / person authorities
- Gould Archival Finding Aid (C1)
- ...

Engineering Work

- need URIs for all authors, researchers, people as subjects in MARC, article records, EAD
- relate URIs of all authors to VIAF, ORCID, etc.
- index affiliation data inot OPAC
- create bibliographic LD service for VIVO/CAP/Profiles to hit, return search results (use case A1)
- ...

Cluster 3: Leveraging external authorities

Use Case: Search with External Authorities for Record Enrichment & Pivoting

As a researcher, I'd like more context for my search results, and be able to pivot, extend or refine a search with a single click, in order to better assess foun resources, find related resources, and filter or expand search results to broaden or narrow a search on the fly.

Potential Demonstrations

A. <author,subject> searches in OPAC show a panel of related information for context

B1. <place> searches can be done w/ spatial search (bounding box on a map)

B2. Search results with spatial data can be shown on a map with points. (works about this place, published in this place, by authors born in this place)

C. Individual records with linked URIs get enriched displays by linking out to external services. (DBpedia, OCLC Works, MusicBrains, IMDB, Amazon...)

D. Intelligent term expansions / suggestions based on LD show up as

D1. type-ahead in a search box

D2. suggestions on a zero-results search page

Implementation Notes

Data Sources Needed

- ...

Engineering Work

- ...

Use Case: Authority-enhanced Forms Entry

As a <cataloger,depositor into a repository,faculty entering profile data>, I'd like an authority-enhanced look-up service that suggests authorized forms of data when doing data entry, so that data entry is faster, easier, unambiguous and less prone to error.

Potential Demonstrations

A. Catalogers get...

B. IR form...

C. Faculty profiles...

Implementation Notes

Data Sources Needed

- ...

Engineering Work

- ...

Cluster 4: Leveraging the deeper graph (via queries or patterns)

Use Case: Identifying related works

As a scholar, I would like to find all costume photographs and scene illustrations for various stagings and performances of the plays of a particular author or the operas of a particular composer, so that I can see how the visual look of performances of the plays or operas have changed over time.

Potential Demonstrations

A. Given an author or composer, find images associated with the works of that author or composer.

B. Results that separate out classes of works: images associated with plays rather than novels or short stories; composed operas rather than songs or instrumental pieces.

Implementation Notes

Data Sources Needed

- MARC records
- GloPAC (http://www.glopad.org/pi/en/) database @ Cornell

Engineering Work

- Translation of GloPAC data into LD compatible with LD4L ontology
- Understanding of Works and Instances in catalog and GloPAC data

Use Case: Leverage the deeper graph to surface more relevant works

As a researcher, I would like to see resources in response to a search where the relevance ranking of the results reflects the "importance" of the works, based on how they have been used or selected by others, so that I can find important resources that might otherwise be "hidden" in a large set of results.

Potential Demonstrations

A. Do a "page-rank" style algorithm across the full linked data graph, assigning appropriate weights to certain kinds of annotations and relationships and reflecting those weights in the relevance ranking of search results for a set of common queries.

B. Boost the ranking of any resource that has external relationship links by a simple computation over those relationships.

Implementation Notes

Data Sources Needed

- ...

Engineering Work

- ...

Cluster 5: Leveraging usage data

Use Case: Research guided by community usage

As a researcher, I want to find what is being used (read, annotated, bought by libraries, etc.) by the scholarly communities not only at my institution but at others, and to find sources used elsewhere but not by my community

Potential Demonstrations

A1. In institutional and/or consortial catalog discovery UI, return search results in order of usage rank, and allow filtering on usage-rank ranges

A2. In catalog UI, use heat-mapping within virtual shelves of selected clusterings of catalog items (by subject, uniform title, author's works, etc.) to visualize usage rank

A3. In catalog UI, allow users to see raw component scores of scaled usage rank

A4. In catalog UI, have feature for exporting result sets in preferred format (CSV, JSON, XML, etc.)

A5. In consortial catalog UI, have feature to allow viewing comparative usage data across institutions

Implementation Notes

Data Sources Needed

- MARC bibliographic and holdings records
- Usage data (expressed as a scaled score) and including whichever of the following might be available at the local institution:
  - Circulation data (checkouts, checkins, renewals, recalls), transaction patrons described by status category (faculty, grad student, undergrad, etc.)
  - Course reserves data
  - Course text data
  - Acquisitions data (how many libraries acquired the resource)

Engineering Work

- A1, A2 and A3 prototyped at stacklife.harvard.edu
- Each institution would choose for its scaled score implementation its own data components and weighting and aggregation algorithms

Use Case: Be guided in collection building by usage

As a librarian, I would like help building my collection by seeing what is being used by students and faculty

Potential Demonstrations

A1. In institutional and/or consortial tool's UI, return search results organized by subject class and sub-class and scaled usage score

Implementation Notes

Data Sources Needed

- MARC bibliographic and holdings records
- LoC classification outline (650,000 records)
- Usage data (expressed as a scaled score) and including whichever of the following might be available at the local institution:
  - Circulation data (checkouts, checkins, renewals, recalls), transaction patrons described by status category (faculty, grad student, undergrad, etc.)
  - Course reserves data
  - Course text data
  - Acquisitions data (how many libraries acquired the resource)

Engineering Work

- Prototyped at http://hlslwebtest.law.harvard.edu/analytics-dash/sketches/final/
- LoC classification classes and sub-classes need to be expressed in all-inclusive top-down hiearchy
- LoC class numbers need to be assigned to each resource -- either natively by cataloger or algorithmically