

The Catmandu/LibreCat Software Development Project

An Open Collaboration

Scenario

Institutional repositories and academic bibliographies have traditionally been thought of as integrated systems with cataloging workflows, file management, user management and a powerful search engine frontend for end-users.

This integration provided users with one common look and feel, but system implementers often ended up with monolithic systems capable only of very specialized tasks. Libraries often find themselves creating and installing separate cataloging projects with some of the same workflows as institutional repositories, but with different end results.

As an example: Lund University has a publication-publishing platform providing an open access repository to researchers. Within the same environment, they need to manage students' papers with different data input concerns. Each of these systems has its own notion of cataloging of publication metadata, providing a search interface and providing record import and export. They differ in user base, metadata storage, indexing and editing rules.

At Ghent University, the management of scanned books and articles requires the same metadata and file upload concerns as for the institutional repository, but the databases here also differ in workflows, access management, and user management.

Bielefeld, Lund and Ghent University each have lively development communities where many library-related services are created with common toolsets. The institutions share the basic toolsets to provide database interactions, creating web applications and file storage. It should be observed, however, that these tools all work on very low-level services: storage of data and writing web applications. Library applications also have higher-level code or building blocks, in addition to low-level functionality, that can be reused/shared in different applications. Examples are:

- User management (Authentication/Authorization)
- Import/Export tools (Data cleaning tools, Import data sources)
- Metadata management (Cataloging tools, indexes, lookup lists)
- File management (Storage, Versioning, Fixation, ...)

In 2010, the decision was taken to make a major redesign of the existing software platform and to make it open source. The aim of the redesign is to enhance the flexibility of the software, and to add new functionalities as plug-ins to a core framework.

1. What is it?

Catmandu/LibreCat is an open collaboration to provide freely available tools for library and research services. The software is available as open source (<http://librecat.org/>). The applications should be perceived as supplementary tools to serve your unique local need without losing interoperability and standardisation already achieved.

2. How does it work?

The project aims to create a high-level system of building blocks that can be reused when creating repository-like applications: a) Project Catmandu and b) a next-generation repository service based on these building blocks: Project LibreCat. With Project Catmandu we create tools any of us can use when developing digital libraries. With Project LibreCat we build example application you can use (repositories, citation engines, search engines and much more).

3. Who's doing it?

Currently the three Universities of Lund, Gent and Bielefeld are developing the software.

4. Why is it significant?

The basic idea is to break down common library/repository services tasks to the data warehouse processes called ETL, Extract, Transform, Load. Many tools currently exist for ETL processing but none address typical library data models and services.

5. What are the downsides?

It still needs serious programming skills to set up.

6. Where is it going?

Today there are operational services in Lund, Ghent and Bielefeld (see <http://librecat.org> for links and <http://librecat.org/tutorial/index.html> for examples of other applications), new application plug-ins are developed and the core system is rewritten in Catmandu style programming.

7. What are the implications for Institutional Repositories?

Catmandu/LibreCat will offer a flexible core system, a growing number of plug-in applications and easy ways to combine, add or re-write applications based on the need of each repository.

Contact information

Patrick Hochstenbach, Ghent (patrick.hochstenbach (at) ugent.be)

Najko Jahn, Bielefeld (najko.jahn (at) uni-bielefeld.de)

Jörgen Eriksson, Lund (jorgen.eriksson (at) lub.lu.se)

Existing operational services can be found at:

- [Ghent](#)
- [Bielefeld](#)
- [Lund](#)