THETA

The Higher Education Technology Agenda

DSpace-CRIS: an Open Source solution for Research

Introduction

The Research Area is a complex world to manage: collecting data on publications; supporting researchers in their daily activities; helping administrators to monitor results and to efficiently allocate resources; enhancing visibility and strengthening national and international collaborations; providing advanced reporting tools to evaluators. All those functionalities need to be managed by an integrated system that allows the players involved to always have the full picture of all the ongoing activities within their Institution.

If an Institution is only interested in managing publications (limited functionalities), there are several systems that might be used, many of them also available as Open Source Software (the most common one being DSpace).

On the contrary, if the aim of the Institution is to manage the complexity of Research (full functionalities), then the only option would be to use a very sophisticated CRIS (Current Research Information System) that usually requires a substantial economic investment.

There was nothing between the two options mentioned above.

Cineca, in collaboration with the Hong Kong University, has started working in 2009 to fill this gap. The result of such international cooperation has been the release of an open source solution (free download available at https://github.com/Cineca/DSpace) called DSpace-CRIS: a mixed repository-CRIS platform that combines the agile OA content management provided by DSpace with additional CERIF-compliant CRIS features built on top (such as persons, organisations and projects). This means that DSpace-CRIS allows an Institution to easily collect and disseminate data and information about researchers, which results in a better promotion of their activities and an enhancement in visibility for the Institution.

Cineca released its solution in open source to support the international research community

and allow institutions to freely and easily adopt CRIS systems.

History of DSpace-CRIS

In 2009 the Hong Kong University (HKU) wanted to extend the information exposed by their Hub, hosted in DSpace. The idea was to extend the data model of DSpace with new relational tables for people, grants, and other objects. HKU was running a DSpace institutional repository but was not interested in implementing a comprehensive and sophisticated CRIS system, so the University decided to enhance their repository platforms by adding specific CRIS features that turn it into a CRIS system at sustainable costs.

To start this project, the Hong Kong University chose Cineca among the 7 official Registered Service Providers of DSpace, and the history of DSpace-CRIS began.

Cineca has both a very long and extensive experience in information systems for Academic and Research institutions, and it is part of the academic world itself: a not-for-profit Italian Consortium made up of 69 Universities, the Ministry of Education, University and Research and 2 National Research Centers.

The Consortium provides its full CRIS System (IRIS: Institutional Research Information System) to more than 60 Italian universities and institutions. IRIS, developed in strong collaboration with the universities in order to better fulfill their needs, is partly based on DSpace as one of its main technological solutions. At the international level Cineca has been actively supporting the DSpace community for the last seven years and today the Consortium contributes to the enhancement of the solution with two DSpace Committers.

Due to the extensive experience and strong professionalism of the two organisations involved in the project, in 2012 the Hong Kong University and Cineca proudly announced the first release of the open source solution DSpace-CRIS.

DSpace-CRIS: main characteristics

While still keeping the DSpace working procedures, this mixed architecture allows the platform to deal with a much wider data model than the regular repository.

DSpace-CRIS is inspired and compatible with the CERIF technological standard promoted by euroCRIS: it is easy to implement a CERIF XML export feature in the DSpace-CRIS 4.x version upon the local adopted data model, and there is an ongoing project to provide a generic UI driven tool to manage the mapping from the internal datamodel and CERIF. Notably, key components of the CERIF data model are supported natively: UUID, timestamped relation, and semantic characterization. Furthermore, although DSpace-CRIS comes with a few predefined entities, the dynamic and flexible (not hardcoded) DSpace-CRIS data model makes it very easy to create new entities and configure them.

There are several advantages that DSpace-CRIS brings to IRs and to the DSpace community overall:

O Follow

- CRIS entities have authority control over an Item through metadata values;
- DSpace Items can be linked and displayed in the detail page of any CRIS entity;
- Ability to create and display "selected publications" (or a highlighted subset of any other related entity) in the researcher profile;
- Collect statistics about visualization for each CRIS entity;
- Explore and analyze network of collaboration/interaction;
- Global & Top related CERIF Entity views & downloads referencing the CRIS entity (projects for researchers, researchers for OrgUnits, etc.);
- Global & Top item views & downloads referencing the CRIS entity;
- Email and RSS alerts;
- Article level metrics forPubMed (extensible):
    - Cited-by count in the item page;
    - Number of articles for researcher;
- Total citations for researcher (only items in local DSpace database will be counted).

DSpace-CRIS helps Institutions to evolve their institutional repository concept beyond a publication-based approach and to start covering several aspects of the whole research lifecycle.

The adoption of an open-source solution, on the one hand allows an Institution to benefit from the work and expertise of the entire Community of experts, on the other hand permits the customization and enhancement of the source code according to the Universities and Institutions' needs. Cineca is willing to support any Institution that might be interested in entering this "open" path.

Michele Mennielli, Susanna Mornati and Andrea Bollini
Cineca (Italy)

SHARE THIS:

Twitter   Facebook   LinkedIn   Email   Print   More

Loading...

Follow