

Building a Fedora repository for architectural content

Session on “Acquiring and processing digital archives in repositories”

The Centre for Flemish Architectural Archives (CVAa) [1] was founded in November 2003 as a centre of expertise on architectural archives. Its establishment was part of new legislation regarding private cultural archives at the Flemish level. The Centre is a part of the Flemish Architectural Institute (VAi) [2], whose aim is to increase awareness of high-quality architecture among both the general public and professionals, researchers, the media and the authorities.

The CVAa does not act as a repository and does not administer an archival collection of its own. The CVAa's mission is primarily concerned with accumulating and distributing knowledge, best practises and international expertise on architectural archives. Nowadays digital archives are becoming a hot issue. Whether they are digitally born or digital 'clones' of their analogical parents, the question stays how we can save them for the future. The CVAa too concentrates on this topic and gains expertise about digital repositories and digital archival management. The architectural archives of the future are made today, mostly in a digital context.

The central question CVAa was confronted with, was how the centre could fulfil its role as a coordinating organ that initiates a platform for archival institutions, distributes expertise and has a good knowledge on international best practices in the digital world. It was clear that CVAa needed a case-study that would be developed in an efficient way in order to avoid the risk of endless reading theoretical reports and of keeping looking at what others are doing, staying paralysed in the meantime.

As a use case for the development of its digital repository, the CVAa focused on the digital collection of its mother institution, the Flemish Architecture Institute (VAi). The digital collection of the VAI consists of a collection of several thousands digital objects of architectural projects in Flanders. CVAa saw two main arguments to start the development of a digital repository to manage, host and preserve these digital architectural objects. First, the collection is manageable but at the same time consists of complex objects that give the opportunity of developing knowledge on the preservation of digital architectural objects. Second, the cultural value of the collection is considerably high, since it represents the contemporary architectural production in Flanders.

VAi collects this data for the publication of the Flemish Architecture Yearbook [3], a series that is published biennial and which features a selection of recent projects selected by an expert panel of guest editors. Every two years the VAI launches a call for projects. Where VAI used to receive documents on paper and

cd's until the edition of 2005-2004, architects can upload digital information about their projects (texts, photographs, CAD-files, ...) on a ftp-server for the edition of 2006-2007 and the edition of 2008-2009 (to be published 2010).

While this collection of Yearbook-files is rather small (limited to several thousands of objects), in many cases, the delivered objects are 'complex' in the sense that they consist of multiple individual datastreams that form a single logical unit. For example, an object may be delivered as a bundle that consists of metadata describing the architectural project, images of the project in a variety of formats, a PDF document, and so on. The complex nature of the objects led to an investigation regarding existing approaches to represent, store, access and manage these architectural objects, which resulted in the selection of the Fedora software [4] as the underlying architecture for the repository system.

In this session, the authors will demonstrate that Fedora, as a repository platform, is a feasible and attractive option to store architectural collections. The software is general-purpose, and has been successfully adopted in a wide set of complex repository use cases, including eScience, eLearning, digital libraries, and museum and cultural heritage projects.

From a strategic perspective, Fedora is available as open-source software, providing the foundation for a variety of end-user applications. This should not only result in significant time saving for the development, but also allows further improvement of code and active participation in a strong and experienced community.

From a functional perspective, a Fedora repository system defines several public interfaces for obtaining digital objects and constituent datastreams from the repository. In addition, the Fedora software supports both the OAI-PMH [5] and the ORE (Objects ReUse and Exchange) [6] standards. Such a standardized way to access digital objects from digital repositories is essential to easily allow for the emergence of rich and meaningful cross-repository services and repository federations [7].

It goes without saying that hosting, archiving and making accessible a heterogeneous collection of architectural objects in a consistent and sustainable manner is a challenge that touches on many areas of digital repository practice and research, including the identification of objects, the expression of relationships between objects (and collections), the representation of objects by means of complex object models, methods to ingest and access stored assets, and so on.

Functioning as a coordinating centre that initiates a platform between different architectural archives in Flanders, CVAa seizes the opportunity of this repository use case to get fully acquainted with various issues surrounding digital repository building and seek close alignment with experts in the field. The expertise gained

from this use case will be shared with other archival centers that have to cope with the influx of digital records.

- [1] Centrum Vlaamse Architectuurarchieven. Retrieved from <http://www.cvaa.be/>
- [2] Vlaams Architectuur Instituut. Retrieved from <http://www.vai.be/>
- [3] Vlaams Architectuurinstituut, *Jaarboek Architectuur Vlaanderen*, Antwerpen, editions 2007-2006, 2005-2004, 2003-2002. See: http://www.vai.be/nl/dossier/dossier_detail.asp?id=15; Flemish Architecture Institute, *Yearbook Architecture Flanders*, Antwerp, editions 2007-2006, 2005-2004, 2003-2002. See: http://www.vai.be/en/hetvai/vai_publi_detail.asp?id=72
- [4] Fedora Commons. Retrieved from <http://www.fedora.info>; Lagoze, C., Payette, S., Shin, E., & Wilper, C. (2005) Fedora: An Architecture for Complex Objects and their Relationships, In *Journal of Digital Libraries, Special Issue on Complex Objects*, Springer 2005.
- [5] Lagoze, C., Van de Sompel, H., Nelson, M. L., & Warner, S. (Eds.). (2003b, February 21). *The Open Archives Initiative protocol for metadata harvesting* (2nd ed.). Retrieved from <http://www.openarchives.org/OAI/2.0/openarchivesprotocol.htm>
- [6] Lagoze, C., & Van de Sompel, H. (Eds.). (2008, October 17). *Open Archives Initiative, Object Reuse and Exchange*. Retrieved from <http://www.openarchives.org/ore/>
- [7] Bekaert, J. (2006). Standards-Based Interfaces for Harvesting and Obtaining Assets from Digital Repositories. Doctoral dissertation. Available at <http://hdl.handle.net/1854/4833>