

# Reusing repository technology for Cultural Heritage and Special Collections

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## Abstract

The University of Auckland and the University of Edinburgh will provide insights regarding the re-use of repository technology for cultural heritage and special collections. With examples of collections and observations on development and deployment of the Skylight application.

The University of Auckland Library maintains a variety of digital collections, including metadata indices, bibliographies and cultural heritage collections. These collections are managed and curated in a single DSpace repository.

The requirement for each collection to have its own distinct look, feel and functionality, loosely coupled to the backend repository, resulted in the development of a new application called Skylight.

The University of Edinburgh's Library and University Collections holds a diverse range of special collections from Anatomy to Zithers. The desire to adopt one solution to make disparate collections available on a managed platform with their own online identities, led to the adoption of Skylight.

Reusing existing repository technology in these institutions means that staff can continue to use their current repositories, yet apply them to new and expanding numbers of collections. Utilising Solr as both a discovery layer and a metadata source means the dependencies between the UIs and backend repositories are minimised, allowing either technology to be replaced by another.

## Audience

This talk is intended to appeal to both repository managers and developers who have many diverse collections to make available online through individually branded user interfaces. The paper will contain technical information regarding the technologies used to develop Skylight as well as the problems encountered.

## **Background**

This approach delivers repository-like services in a new way using established repository technology as a private administrative tool with a new public user interface which is read only.

The aggregation of information is at the back-end for cataloguers, developers and repository managers and not for the end-users who want a specialist view of a subset of the repository data. One size fits all for the technology but not the user experience. Instead of lots of different project based websites for collections, projects and exhibitions these are all delivered through skylight to make these websites and their content more manageable and sustainable long term than lots of different websites. Even if the user interface is no longer required the metadata and items are still maintained within the private repository.

## **Presentation content**

### ***Skylight - background and overview***

- A configurable frontend for repository collections or result sets based on Apache Solr.
- Faceting, filtering, highlighting, suggestions, autocomplete and other features baked into Solr.
- Simplicity of access, visibility and other UI business rules using technical and descriptive metadata.
- Current challenges and future plans.

### ***Apache Solr - where it fits in and why***

- Overview of Solr, Lucene, and their current use by DSpace, Fedora and EPrints repositories and similar systems, LUNA and ArchivesSpace.
- Ability to replace traditional “structured” collections with filtered sets of records across one or more collections (“virtual collections”).
- Advantages of use as a data source for AJAX / PHP user interfaces, using existing repository indices.
- Using replication to achieve performance, scalability and redundancy across load-balanced application servers.

### ***Cultural Heritage Collections***

Differences encountered with cultural heritage collections:

- More “interactive”-style exhibitions, users want to browse and view/listen, not use records to help locate items or cite them in research

- Greater focus on visual elements in the collections so far produced at the University of Auckland, and the collections are created in parallel to physical exhibitions at the library.
- Challenges with displaying content for casual users as well as domain experts.
- Different systems and schemas are used for capturing metadata.

### ***Example Collections***

Examples of collections in Skylight at both institutions and the differences in configuration and display dependent on the content type.

University of Auckland:

- The New Zealand Asia Information Service <http://nzais.auckland.ac.nz>
- New Zealand Earth Science Theses <http://nzest.auckland.ac.nz>
- Special Collections Bookplates Exhibition  
<http://www.specialcollections.auckland.ac.nz/bookplates-exhibition/>
- Special Collections Musgrove Exhibition  
<http://www.specialcollections.auckland.ac.nz/musgrove-exhibition/>
- New Zealand Business Case Collection <http://nzbcc.auckland.ac.nz>

University of Edinburgh:

- Musical Instruments Museums Edinburgh
- Edinburgh University Art Collection
- Collection Level Descriptions
- Exam Papers
- Cockburn Geological Museum

N.B. The University of Edinburgh's examples are currently (January 2014) only available on a closed test system.

### ***“Gotchas and solutions”***

- What about our persistent URIs?
- What about OAI and OAI identifiers?
- What versions of DSpace/x/y/z does this work with?
- What about content that has been already harvested?
- Non Dublin Core metadata?

### **Conclusion**

- Re-use of existing repository technology for special collections, exhibitions and other project based websites.
- That “loosely coupled” front-end solutions like Skylight can remove the need for user interfaces to mirror structured repository collections, and offer unique advantages in customisation and configuration of special collections and cultural heritage sites

## References

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Diggory, M. (2010). *DSpace Discovery: Unifying DSpace Search and Browse with Solr*. Presented at The 5th International Conference on Open Repositories (OR2010). Madrid, Spain, 6-9 July 2010.

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### Software References

Apache Solr: <http://lucene.apache.org/solr/>

Apache Lucene: <http://lucene.apache.org/>

Skylight: <https://github.com/skylightui/skylight>

DSpace <https://github.com/DSpace/DSpace/>

DSpace Discovery: <https://wiki.duraspace.org/display/DSPACE/DSpace+Discovery>

Fedora GSearch: <https://github.com/fcrepo/gsearch>

EPrints Solr Plugin: <http://bazaar.eprints.org/273/>

Vernon System <http://www.vernonsystems.com/>