



# Sustaining Repositories

newsletter of the APSR Project

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## In this issue:

- **ORCA**
- **New Fez+Fedora release**
- **Improving your ingestion**
- **RQF funding update**
- **APSR Technical Support Service**
- **Soldiering on**
- **UQ Interoperability function**
- **eResearch Australasia 2007**
- **Staffing news**
- **Cooking up a storm**
- **Hidden Heroes – Fiona Nelson-Campbell**
- **Upcoming events**
- **APSR in the news**
- **Supporting repository functions**
- **APSR out and about**
- **Open Source resource**
- **And the winner is...**
- **Around the Traps**

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## ■ **ORCA**

APSR has recently established Online Research Collections Australia (ORCA) with the twofold aims of developing an online registry of Australian research collections and a coordinating network to support researchers with the ongoing development of these collections. These are known as the ORCA Registry project and the ORCA Network.

The ORCA Registry project has been established to improve the capacity of institutional repositories, archives and data centres to create and share collection-level information and resources. Its aims are to develop a discovery portal for collections information (that is, information about research collections) and a services registry.

The main priority addressed by the ORCA Registry is to provide a better discovery environment for data collections produced by the wide range of individuals and institutions involved in the Australian innovation system. This includes all Australian higher education institutions; Government-funded research organisations (such as CSIRO); and commercial and not-for-profit organisations in sectors with research interests (such as archives, museums and libraries). It is planned to collaborate with similar registry services overseas at a later stage.

James Blanden has been employed at APSR head office to do the technical work underlying the project.

Coordination of support for online research collections is the job of the ORCA Network which includes all APSR partners. An ambitious program has been devised to include a distributed research collections consultancy service, a network of collections managers, a network of eResearch experts, a register of eResearch expertise, training, workshops, email lists and forums.

Technical support for research activities is probably best delivered at the level of the institution or research group. The ORCA Network aims to coordinate and foster these support activities for online research collections and provide some cohesion amongst such distributed support initiatives.

The human and social network provided by ORCA will bring together eResearchers, collection managers and “eResearch technologists” (data scientists and domain-specific informatics specialists).

The ORCA Network will have four areas of activity: communications forums, training, the development of an eResearch expertise register and consulting.

Dr Gavan McCarthy of the University of Melbourne has taken on the tricky task of chairing the Network, aided by Anna Shadbolt. The group meets monthly using the access grid. A major consideration for this month’s meeting is how best to meet the burgeoning training needs for successful research data management.

## ■ New Fez+Fedora release

The University of Queensland are continually working on their Fez+Fedora software, and after extensive release candidate testing, Fez 1.3 has been released onto SourceForge (see below). For those technically inclined, many of the changes are available on the Fez Wiki <http://dev-repo.library.uq.edu.au/wiki> (under Test Notes).

“Congratulations to the UQ team on the release of Fez 1.3.” said Adrian Burton, from APSR. “There are some really important updates in this version (for example support for MODS, Shibboleth, PREMIS). This is good responsive software development.”

Some of the major new features include:

- Primary XSDs for objects are based on MODS instead of DC (they can still handle your existing DC objects)
- Download statistics using apache logs and GeolP
- Object history logging (PREMIS events)
- Shibboleth support
- Full text indexing (pdf only)
- Import and Export of workflows and XSDs
- OAI provider that respects FezACML authorisation rules

The new version also includes sanity checking to help make sure required external dependencies are working.

Please note Fedora 2.2 is not yet supported, but we will issue a minor 1.3.1 point release for 2.2 support in the near future.

For Fez 1.3, go to: [http://sourceforge.net/project/showfiles.php?group\\_id=148409&package\\_id=163648](http://sourceforge.net/project/showfiles.php?group_id=148409&package_id=163648)



## *Fez Digital Repository*

## ■ Improving your ingestion

Scott Yeadon spent two days in April at the University of Queensland working with the Fez team on integrating the Repository Submission Service with Fez+Fedora. The Submission Service will provide a facility to which contributors and repository managers can submit digital objects in a variety of formats for storage in the repository. The Submission Service will execute any necessary transformations and translations on the object and associated metadata to format it for local storage, without the submitting author needing to know the internal structure of objects in that repository.



This work follows on from developments Scott has previously undertaken in conjunction with staff at the University of Sydney ePress to demonstrate the submission of content published via the Open Journal System (OJS) to their DSpace repository.

This work is part of the Repository Interoperability Framework (RIFF) projects for 2007, and involves adapting open-source software environments typically used for research and scholarly publishing, such as the OJS, so that digital content can be automatically transferred to DSpace and Fez+Fedora collections.

(More information:  
<http://www.apsr.edu.au/currentprojects/index.htm#riff>)

From left to right: The Fez Development Team @ UQ (Lachlan Kuhn, Christiaan Kortekaas, Matthew Smith) and Scott Yeadon.

## ■ RQF funding update

One of the concerns about the introduction of the RQF is the cost of implementation. This issue is being addressed by the Australian Government and those in the higher education sector have had an opportunity to contribute to the debate.

The Higher Education Legislation Amendment (2007 Measures No.1) Bill 2007 (<http://www.aph.gov.au/library/pubs/BD/2006-07/07bd118.pdf>) was introduced into the House of Representatives by Minister Bishop on 28 February. The Bill amends the Higher Education Support Act 2003 to provide funding to support the implementation of the Research Quality Framework (RQF).

In a speech to Parliament, the Minister stated that the bill “provides around \$41 million for two programs to assist universities and other higher education providers with the implementation of the Research Quality Framework”. The Australian Scheme for Higher Education Repositories (ASHER) supports the establishment of digital repositories, and new administrative and information systems for the RQF will be supported by the Implementation Assistance Program.

The Member for Moreton, the Hon Gary Hardgrave MP, said in his speech “This bill ... will support activities and systems required for participating institutions to engage effectively and efficiently with the Research Quality Framework. It will help with the establishment of digital storage systems which become repositories for institutions throughout Australia.”

The provisions of the Bill have been referred to the Senate Employment, Workplace Relations and Education Committee for examination. Submissions were due by 13 April 2007, and these will determine the need for a public hearing. If there is a hearing, the date will be notified on the Committee’s website: [http://www.aph.gov.au/Senate/committee/eet\\_cte/highered07/info.htm](http://www.aph.gov.au/Senate/committee/eet_cte/highered07/info.htm)

The report is due on 1 May 2007.



## ■ APSR Technical Support Service

For those people considering travelling down the open source road, help is at hand. APSR offers a technical support service for both DSpace and Fez+Fedora. The Repository Technical Support Service is for education and research institutions that have implemented or are considering implementing a repository service. It ensures reliable technical support for the initial wave of repository adoption and configuration for the RQF.

Support for open source software differs from commercial software in that there is no designated vendor to speak to. Mature open source software projects do, however, have active technical discussion lists and tend to form supportive communities in the higher education sector. For most adopters of open source software, this kind of support is more than enough, especially once the system is up and running.

During 2007, APSR is continuing to fill the gap for those who do need more assistance during those initial stages. The Repository Technical Support Service will help institutions with the flurry of set-up and configuration activity leading up to RQF. This is a free service subsidised by APSR’s funding under the Systemic Information Infrastructure. Extensive customisation and consultation are not within the scope of the APSR service, but may be available commercially from experienced repository services. Assistance for that kind of support could fall under DEST’s ASHER scheme, details of which are forthcoming.

Into the future, users of open source repositories will receive support from their community or from service providers at normal market rates. This will be a step towards sustainable support for DSpace and Fez+Fedora open source repository software. Hosted services are already available for both Fez+Fedora and DSpace.

The tertiary sector is increasingly using open source software, particularly in areas where ideas, requirements and (consequently) systems are still evolving rapidly. The open source option allows flexibility of low initial capital investment in unknown waters. If customisations are not required, open source software can be used “out of the box”, and the only major costs involved are the system administrators (who are likely to be already maintaining other enterprise systems anyway). System administrators are required for commercial software too, unless a hosting solution is offered.

Other support options include service providers that offer commercially-based support services for open source software. Another popular hybrid model is for a service provider to offer hosted services for open source software.

This provides a turn-key solution, with a great exit strategy, as the digital assets and the software are all open. Some open source projects even offer central support in return for membership fees.

If you want to find out more about the service go to: <http://www.apsr.edu.au/currentprojects/index.htm#support>, or contact Margaret Henty ([Margaret.Henty@anu.edu.au](mailto:Margaret.Henty@anu.edu.au)).

## ■ Soldiering on

Canberra was hit by its biggest storm in recorded history on February 27 just as our last newsletter went to print. The ANU was particularly badly damaged by the freak storm which cut a swathe from Belconnen (north of the city) to Civic late on Tuesday 27 February, pelting the area with large hailstones and heavy rain.

Nearly 60 buildings across campus received major damage with a thick layer of hail still carpeting the campus the following day (see the image of the buried car below).

The university was officially closed for assessment for one day and students were asked to stay away for the remainder of the week.



APSR is housed in the Hancock Library on the ANU campus, and the offices suffered water damage (as seen in image above). The gutters were blocked by hail so rain seeped in to the ceiling, dripping onto computers and desks.

Thankfully the damage was not as extensive as in Chifley Library (pictured) where ceilings collapsed.

Margaret's commitment to the job of ensuring the February newsletter went out meant she was forced to brave the dank and sludgy carpets to retrieve her computer and finish her work from home. Adrian Burton awarded her the "APSR Cecil B de Mille – The Show Must Go On" Award.



(Photo of car and Chifley Library: Neal McCracken, ANU)

## ■ UQ Interoperability function

Interoperability between different open source repository software is moving closer to reality with work undertaken at the University of Queensland. A report about the work, *Migrating ePrints.org data to a Fez repository*, by Belinda Weaver, is now available on the APSR website (<http://www.apsr.edu.au/publications/projects.htm>).

The report records the process of migrating eprints.org data to a Fez repository. Fez is a Web-based digital repository and workflow management system based on Fedora (<http://www.fedora.info/>).

At the time of migration, the University of Queensland Library was using EPrints 2.2.1 [pepper] for its ePrintsUQ repository. Once the library began to develop Fez, it did not upgrade to later versions of eprints.org software because the data would be migrated from ePrintsUQ to the Fez-based UQ eSpace (<http://espace.uq.edu.au/>).

Moving UQ publication data from an eprints.org repository into UQ eSpace was part of a plan to integrate metadata (and, in some cases, full texts) about all UQ research outputs, including theses, images, multimedia and datasets, in a single repository. This tied in with the plan to identify and capture the research output of a single institution, the main task of the eScholarshipUQ testbed for the APSR project (<http://www.apsr.edu.au/>).

The migration could not occur at UQ until the functionality in Fez was at least equal to that of the existing ePrintsUQ repository. Accordingly, as Fez development occurred throughout 2006, a list of eprints.org functionality not currently supported in Fez was created so that programming of such development could be planned for and implemented.

## ■ eResearch Australasia 2007

Registrations are now being taken for eResearch Australasia 2007 to be held at the University of Queensland on June 27-28, with workshops on June 29. The program offers opportunities to learn about policy and practice and to attend plenary sessions, discipline based streams and technical streams dealing with common aspects of eResearch support. Disciplinary streams include materials and chemical sciences, social sciences, arts and humanities and life sciences. Other sessions include collaborations environments, data management, access management and more. There is a wide choice of workshops to choose from: The Australian Access Federation, Using the Grid, Cultural informatics, Using administrative data as a basis to communicate university research identity, Persistent identifiers, The researcher/librarian nexus, and Secure Virtual Organisations.

Visit <http://www.eresearch.edu.au/> for further information and register soon!

## ■ Staffing news

UQ eSpace (<http://espace.library.uq.edu.au/>) has a new front page thanks to a new developer who recently joined the team at The University of Queensland. Lachlan Kuhn has been working as a Senior Web Developer with the group since February.

Lachlan is currently incorporating ResearchMaster functionality into Fez so that the University of Queensland can use UQ eSpace for non-RQF DEST reporting beyond 2007. He has also reconfigured the new front page and he's doing other programming with Christiaan and Matt.

Lachlan's previous job was at The National Forum where he was predominantly working on web-based publication and content aggregation systems. And despite his "'unhealthy" obsession with B-grade movies', he is contracted until the end of this year.



## ■ Cooking up a storm



EduCause attendees are in for a treat when Margaret Henty and Danny Kingsley take the stage for their talk on 1 May 2007. Entitled "Readiness and responsibility for managing research data: The Institutional Perspective", the talk is using an analogy of a pantry for repositories.

(<http://www.caudit.edu.au/educauseaustralasia07/>)

Items in repositories on their own are like the basic ingredients in a pantry - potentially useful, if bland. But when they are put together in different ways the results can be spectacular.

Thinking about repositories in this way shows how repositories can be reconceptualised as service demands change. This will also require some serious reconsideration of issues like funding, finding necessary skills, determining responsibility and developing technologies.

This way of thinking offers a significant part of the solution to the eResearch challenge, as Danny and Margaret will be arguing in their talk.

Margaret is presenting a summary of the results of the Australian Institutional Repositories Survey (AIRS) recently accepted for publication by *DLib Magazine*.

Replete with images of pantry moths, cooking pictures and a few gingerbread men treats at the end, the talk promises to liven things up!

## Hidden heroes – Fiona Nelson-Campbell



This issue's hidden hero(ine) is Fiona Nelson-Campbell.

As all APSR members know, our events would not happen without Fiona's hard work and dedication. It is Fiona's face that welcomes people attending APSR events, and she works tirelessly behind the scenes organising venues, meals, and collating information packs. For those people presenting at events, Fiona organises flights and taxis and handles all the small and very necessary details to make things go smoothly. She is visible around the office in her bright clothes and colourful jewellery.

Fiona joined APSR in 2005, having previously worked with the HR section of the ANU Division of Information for several years. Fiona previously worked in Sydney where she developed all kinds of skills in various occupations. At one stage she managed a book shop and her love of books has not deserted her.

## Upcoming events

*Long-Lived Collections* will be held on 19-20 September at the National Library of Australia, as a follow up from the successful event in 2006. Details: [http://www.apsr.edu.au/long\\_lived\\_collections/](http://www.apsr.edu.au/long_lived_collections/).

Our final event of the year will be held in the last week of November. In association with the DART Project, APSR will host a workshop in Melbourne called *Clever Collections: a national showcase of technical innovations for digital collections*. The meeting will revisit the repository integration and interoperability theme. Mark the date, and we will include details in the next newsletter.

## APSR in the news

APSR has featured twice in the media recently. Adrian Burton wrote a one page opinion piece for the April issue of Australian magazine *R&D Review* (<http://www.coretext.com.au/R&D/index.html>) entitled "Avoiding a digital Dark Age". In the piece, Adrian is arguing that we are on the threshold of a new era in information management, but we need to be aware of the risks, or we may end up in a digital dark age.

"High recognition for digital data program" appeared in ANU's publication *On Campus* on 20 February 2007. It comments on the praise given to APSR in the Prime Minister's Science, Engineering and Innovation Council (PMSEIC) Report Data for Science. ([http://info.anu.edu.au/mac/Newsletters\\_and\\_Journals/On\\_Campus/096PP\\_2007/03PP\\_February2/index.asp](http://info.anu.edu.au/mac/Newsletters_and_Journals/On_Campus/096PP_2007/03PP_February2/index.asp))



## Supporting repository functions

An APSR funded report will be the topic of a talk to JTS2007 ([www.jts2\\_007.org/program.htm](http://www.jts2_007.org/program.htm)). The Joint Technical Symposium is the international meeting for organisations and individuals involved in the preservation and restoration of original image and sound materials.

Kevin Bradley, Curator of Oral History and Folklore and Director of Sound Preservation at the National Library of Australia will present "Open Source Archival Repositories and Preservation Systems" to the meeting in Toronto, Canada at the end of June.

Repositories need certain functions - defined in the Reference Model for an Open Archival Information System (OAIS) as; Data Management, Ingest, Access, Administration, Preservation Planning and Archival Storage. Affordable hardware and open source software exist to support many of these, but not all of them, and it is piecemeal.

A report was commissioned by the UNESCO Memory of the World Sub Committee on Technology (MoW SCoT) to look into this situation and identify development gaps. The report was jointly funded by the Australian Partnership for Sustainable Repositories (APSR) and was submitted to UNESCO in April 2007.

## ■ APSR out and about



As this newsletter goes to press, Adrian Burton is in the USA, attending two conferences, the Spring 2007 CNI Task Force Meeting (<http://www.cni.org/tfms/2007a.spring/>) in Phoenix Arizona and *DigCCurr2007: An International Symposium on Digital Curation* (<http://www.ils.unc.edu/digccurr/>) in North Carolina. Full reports will be in the next newsletter.

Associate Professor Linda Barwick has had her paper about the FieldHelper Tool accepted for the *5th International Conference on New Directions in the Humanities* (<http://humanitiesconference.com/>). She will be heading to Paris for the conference in July this year.

## ■ Open Source resource

For those considering using open source for their repository (or for other applications) a new publication is available to help. The Open Source Software Advisory Service have released *Benefits of Open Source Code*, which covers the topics - What is source code?, Why is open source code useful?, and Is open source useful for you? There is also a Further Reading section with links.

The article is available at: <http://www.oss-watch.ac.uk/resources/whoneedssource.xml>

## ■ And the winner is...

We had some excellent entries in the Caption Competition from the front page of the last newsletter

- The brains behind APSR's RIFF projects with friend Chris Blackall.
- Pictured: The perfect male specimen - strong, well-built, hard-working, domesticated and useful around the house Also pictured: Chris Blackall of APSR.
- After being told to get stuffed (again!), Chris decides to investigate how best to go about it.
- Chris Blackall touting twice as much bull as usual.
- Chris Blackall confronts his inner demon.
- You decide - which one talks the most bull?
- Chris Blackall of APSR took the bull by the horns at Open Repositories in Texas (well, he would have if the museum hadn't threatened to call the police).
- Chris finally finds a friend conversant with his bull.
- I knew they served steaks big in Texas, but this is ridiculous!
- He didn't believe in "Long Term Preservation" either.... and look what happened to him.
- The only attendant who understood Chris's PowerPoint humour...
- Say... do you Fez?
- When recruiting for APSR goes too far...



After a big discussion in the APSR office, the winner is:

"Long-term sustainability? Stuff it!"

A prize is on its way to Scott Yeadon at ANU.

■ **Around the Traps**... Send your suggestions to [contact@apsr.edu.au](mailto:contact@apsr.edu.au)

### **Conferences and events**

**2007 2-8 June, Digital Humanities 2007, Illinois, USA**

<http://www.digitalhumanities.org/dh2007/>

**2007 17-23 June, Joint Conference on Digital Libraries: *Building and Sustaining the Digital Environment*, Vancouver Canada**

<http://www.jcdl2007.org/>

**2007 27-31 August, International Conference on Dublin Core and Metadata Applications, Singapore**

<http://conferences.nlb.gov.sg/dc2007/>

**2007 8-12 October, APAC 07: *Advanced Computing, Grid Applications and eResearch*, Perth Australia**

<http://www.apac.edu.au/apac07/>

**2007 12-13 December, Curating our Digital Scientific Heritage: a Global Collaborative Challenge: *3rd International Digital Curation Conference*, Washington DC, USA.**

<http://www.dcc.ac.uk/events/dcc-2007/>

### **Publications (reading)**

■ Belinda Weaver, **Migrating ePrints.org data to a Fez repository**, University of Queensland, March 2007  
This document records the process of migrating eprints.org data to a Fez repository. Fez is a Web-based digital repository and workflow management system based on Fedora (<http://www.fedora.info/>). At the time of migration, the University of Queensland Library was using EPrints 2.2.1 [pepper] for its ePrintsUQ repository.  
Downloadable from: <http://www.apsr.edu.au/publications/projects.htm> as a pdf (331Kb)

■ Jane Hunter, **AONS - An Obsolescence Detection and Notification Service for Web Archives and Digital Repositories**, has been accepted for publication in the *New Review of Hypermedia and Multimedia: Special Issue on Web Archiving*: (<http://www.informatik.uni-trier.de/~ley/db/journals/hml/>)

■ Margaret Henty, **Ten major issues in providing a repository service in Australian universities**. Accepted for Publication in *DLib Magazine* (<http://www.dlib.org/>) and will appear in the May/June 2007 issue.

■ RLG-NARA Task Force on Digital Repository Certification, **Trustworthy Repositories Audit & Certification (TRAC): Criteria and Checklist**, Version 1.0 February 2007. The 93-page report is available as a pdf from the Center for Research Libraries: <http://bibpurl.oclc.org/web/16712>.

### **Next issue?**

Be the first to know ... join the APSR Announcements email service at:  
[http://mailman.anu.edu.au/mailman/listinfo/apsr\\_announcements](http://mailman.anu.edu.au/mailman/listinfo/apsr_announcements)

*Contributors to this newsletter were Danny Kingsley, Margaret Henty, Chris Blackall, Clare McLaughlin, Belinda Weaver and Andrew Bennet.*

### **The APSR partners**



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