In Support of Digital Collections:
The APSR Development Agenda

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Australian Partnership for Sustainable Repositories (APSR)

CNI Spring Taskforce Briefing
Phoenix, 17 April 2007
APSR Partners

The Australian National University
The University of Sydney
The University of Queensland
The National Library of Australia
The Australian Partnership for Advanced Computing

Supported by:

An Innovative Action Plan for the Future
The Systemic Infrastructure Initiative
APSR Activities
APSR Activities

- Development
- National Services
APSR Activities

- Development
- National Services
  - Education
  - Support
APSR Activities

Development

National Services

Tools & Systems
APSR Activities

- Development
  - Tools & Systems
  - Infrastructure for Digital Collections

- National Services
APSR Activities

Development

Tools & Systems

Infrastructure for Digital Collections

Repository Interoperability Framework

National Services
DEVELOPMENT

Tools & Systems

Fez+Fedora Repository

FieldHelper

iSpheres

Infrastructure for Digital Collections

Repository Interoperability Framework
DEVELOPMENT

Tools & Systems

Infrastructure for Digital Collections

- Collections Registry
- Obsolescence Notification
- Benchmark Statistics

Repository Interoperability Framework
DEVELOPMENT

Tools & Systems

Infrastructure for Digital Collections

Repository Interoperability Framework

Fez+Fedora Repository

FieldHelper

iSpheres
Fez+Fedora

**Aim:** To make it easier to use Fedora as part of an institutional repository service

Fez provides a front end for Fedora that
  • enables the typical IR workflows
  • allows easy modeling of scholarly content
  • grants and controls access to digital assets
**UQ eSpace News**

Former ePrintsUQ Users - Fri, 15 Dec 2006, 12:59:07 EST - *Belinda Weaver*

**ePrintsUQ** has now closed for submission purposes. The material in ePrintsUQ is currently being migrated to this repository, **UQ eSpace**. UQ staff can deposit material in UQ eSpace now. Material goes into **collections** under specific **communities**. In most cases, your school or centre will be your community. (One exception: UQ schools or centres involved in current research assessment tasks; the community for their material is **RQA 2007**. RQA 2007 data entry instructions are [here](link). For non-RQA materials, please deposit work in the Publications of the ... collection for your school or centre. (Instructions on deposit are [here](link). If you cannot locate a collection for your school or centre, please email espaced@clibrary.uq.edu.au)

**UQ eSpace** is The University of Queensland’s institutional digital repository for publications, research, and teaching materials. Deposited material covers all disciplines. The repository holds the full text of many peer-reviewed published articles and conference papers, as well as book chapters, theses and other forms of written research from UQ academic staff and postgraduate students. It contains working and discussion papers, technical reports and preprints, research datasets, sound and image collections, multimedia software and other forms of research data are also held. Learning objects and other course-related materials are welcome.

**UQ eSpace** provides free, searchable access to openly available UQ research publications and teaching materials and manages their long-term archiving. UQ staff and students must log in to deposit materials.

**UQ eSpace** is running on **Fedora 2.1.1** digital repository software. **Fedora** is part of a wider project entitled **eScholar@UQ**, which is the local testbed for the Australian Partnership for Sustainable Repositories. The aim of this **DESI**-funded project is to make all of UQ's opensly available research accessible, accessible and usable over the long term. The project also aims to make UQ's research accessible through a global network of interlinked services such as **OAIster** and **ARROW**. See the **Fedora** [Wiki](link) for more information. Check publishers' copyright policies at **SHERPA**.

Fedora is running on [Fedora 2.1.1](link) digital repository software. The Fedora digital repository software is available for free at [http://sourceforge.net/projects/fedora/](link). Information and background on Fedora initiatives is available from [http://www.library.uq.edu.au/escholarship](link).
**View Digitlib Image: Ayr_702.tif**

*Collection: Queensland Country Towns*

**Attached Files**

<table>
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<tr>
<th>Name</th>
<th>Description</th>
<th>MIMEType</th>
<th>Size</th>
<th>Downloads</th>
</tr>
</thead>
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</tr>
</tbody>
</table>

**NOTE: This record is not published.**

**Title:** Ayr_702.tif  
**Date of construction:** 2006-01-01  
**Date photo taken:** 2006  
**Date scanned:** 2006-10-26  
**Publisher:** The University of Queensland Library  
**Photographer(s):** Michael Kamper  
**Rights:** Research and private study only. Not to be reproduced without prior written permission.

**Access Statistics:** 8 Abstract Views, 0 File Downloads [Detailed Statistics]

**Created:** Wed, 28 Oct 2006, 23:02:12 EST by Christaan Kortekaas [Detailed History]
Noticias e-Spacio

e-Spacio en la red internacional del conocimiento científico - 2006-06-21 19:39:26 - [Alejandra López]
e-Spacio forma parte de la red internacional de archivos de acceso abierto a la información científica. Su artículo será recuperable por los buscadores de la web (Google Scholar, por ejemplo).

- Spacio: La UMED ofrece a los profesores, departamentos e facultades un servicio para guardar, organizar y dar mayor difusión a sus trabajos en formato digital.

Si desea incorporar sus contenidos digitales a este servicio, es necesario que antes se pongan en contacto con nosotros ya que es preciso que esté sea adaptado a sus necesidades.

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- Spacio se ejecuta sobre Fedora 2.1, software libre y utiliza como interfaz web el programa Fez, también software libre.

Fez
Fez+Fedora

On top of the Fedora framework, Fez offers

- **Dynamic** and easily **configurable** workflows and content models
- MODS and METS…
- Role-based authorisation
- Shibboleth authentication
- Powerful search index
- Preservation services (PREMIS, AONS)
Fez Technologies

Linux
Apache
MySQL
PHP
Fez Contributors

• University of Queensland (Australia)
• Colorado Alliance of Research Libraries ADR (USA)
• Ministry of Education and Research (Norway)
• Emory University (USA)
• Universidad Nacional de Educación, (Spain)
• NSDL Materials Digital Library (USA)
• Catalyst IT Ltd (NZ)
• FVT Servicios Telemáticos S.A. (Chile)

http://sourceforge.net/projects/fez
DEVELOPMENT

Tools & Systems

Infrastructure for Digital Collections

Repository Interoperability Framework

Fez+Fedora Repository

FieldHelper

iSpheres
Field Helper

**Aim:** To make it easy for fieldwork researchers to provide the repository with richly marked-up data

**FieldHelper** is a simple desktop tool for:
- organising fieldwork files
- enriching them with metadata
- creating ingest packages for repositories
Gather data

Digital images taken in field – could be movies, sound recordings, etc..
Define project name, folder and field work period.
Gather data -> New Project -> Import Data

Project folder scanned for all files – results laid out on a time line

New values can be added at any time

Tabs represent elements in target schema/s – Dublin Core illustrated

Values defined by user with a right click on target area

Can be inherited by default from root project or user defined with right click on tab area
User drags and drops files onto "target" areas to add value to file metadata.

User scrolls timeline to expose other files for tagging.

Files can be dragged from other desktop applications.

Different targets can be selected and filters can be defined and applied to enable easier tagging.
User selects output menu option

These can be mapped to XSL transforms by way of "stylesheets.xml" config file for advanced users

METS file created for each object

User has chosen a batch transform that creates METS wrappers for each object for Fedora ingest

Full object description plus recently added tags described in METS document for each file

Food projects gather data and import data. Drag n Tag™ is used to output data.
- Repository ingest tools take over from this point
- Newly created PIDs for repository objects returned to Field Helper and appended to local object metadata
- Very fast and accurate metadata enrichment and ingest for untrained users
Current developments

- Intelligent format identification (metadata, thumbnails etc)
- Geospatial target pane in the form of maps/satellite images
- Improvements to interface and backend
- Current development round completed by early May (new fieldwork season)

Developed by the Architecture Computing Lab (ACL) Sydney University. Collaboration welcome.
Software: http://acl.arts.usyd.edu.au/fieldhelper/
Obsolescence notification
Automated Obsolescence Notification System (AONS)

**Aim:** To make collection managers aware of files in their collections that require preservation action
AONS

AONS is a loosely-coupled group of services to identify, notify, and evaluate the risk of file format obsolescence in large repositories that are

• Long-lived

• Heterogeneous

• Where creators are not responsible for stewardship

• Without options for preservation on ingest
AONS Core Functions

- Format Information
- Repository Information
- Notification
- Risk Analysis
Project: www.apsr.edu.au/aons

Related Projects:

- Global Digital Format Registry
- PRONOM
- DROID
- DCC’s RIR
- CRIB
- PRESERV
DEVELOPMENT

Tools & Systems

Infrastructure for Digital Collections

Repository Interoperability Framework

- Online Journals
- Image Collections
- Field Work Data
- Word Processing
- Geo-spatial
- Online Conferences
Repository Interoperability Framework

Aims:

- To integrate the business of the repository with the business of scholarship
- To enable meaningful cross repository workflows
Ecozones Workshop, Kabulwarnamyo, Foreground l. to r. Jeremy Russell-Smith, Murray Garde and Bardayal Nadjamerrek
Kabulwarnamyo, l. to r. Maath Marralngurra and Ray Nadjamerrek
Kabulwarnamyo Creek west of camp

Title: Kabulwarnamyo Creek west of camp
Description: Kabulwarnamyo Creek west of camp
Date Taken: 9/04/2005
Date entered: 20/11/2006 9:57:03 AM
Location: Kabulwarnamyo

MovieSet: movie://LoLwksphPhotos/MANBERRK/
Bidwern

Community home page

Bidwern is an ARC eResearch project developing processes and tools to manage digital data associated with multidisciplinary projects.

A pilot project (through 2006) collected visual and audio resources from social and physical scientists working with Indigenous communities on a major land management project across the western Arnhem Land Plateau in order to demonstrate the utility of digital repositories.

Collections in this community

- 2005 Ecozones Workshop [3]
  - Digital recordings taken at the 2005 Ecozones Workshop, Kabulwarnamyo

- Cartographic and GIS resources [1]
  - Cartography and GIS data generated for the Bidwern Project

Sub-communities within this community

- Bidwern Investigators [4]
  - Archive of Bidwern Project related documents and files

Recent Submissions

- Bidwern data workflow diagram v.01 [Discontinued]
- Bidwern Functional Architecture
- Summary of the Bidwern Project
- 2005 Ecozones Workshop, Kabulwarnamyo, NT
- 2005 Ecozones Workshop, Kabulwarnamyo, NT
Bidwern

Managing Multi-formatted Digital Data Across Disciplines on the Western Arnhem Land Plateau

Bidwern is the name of an [ARC eResearch Project](http://dspace-dev.anu.edu.au/dspace-xmlui/handle/1030.58/19507/) funded through 2005-6 that will develop processes and tools to manage digital data associated with multidisciplinary projects in remote locations in Northern Australia.

A pilot project will use a selection of visual and audio data created by social and environmental scientists working with Indigenous communities on a major land management project across the western [Arnhem Land Plateau](http://dspace-dev.anu.edu.au/dspace-xmlui/handle/1030.58/19507/).

The key innovations of the research will be to develop new methods for cataloging and preparing digital data for uploading to the DSpace [digital repository](http://dspace-dev.anu.edu.au/dspace-xmlui/handle/1030.58/19507/) at the [Australian National University](http://dspace-dev.anu.edu.au/dspace-xmlui/handle/1030.58/19507/). Once in the repository, the data will be preserved for long term access by researchers and Indigenous communities in the western Arnhem Land Plateau.

A wide range of stakeholders, including researchers, the general public and remote communities, will benefit from the outcomes of the research.
Bidwern
Managing Multi-formatted Digital Data Across Disciplines on the Western Arnhem Land Plateau

EcoTerms    Places    google Earth    Search

The Australian National University

Title: Kundjoromdjorom
Subject: Ka-waadja-warka
Description: Shelter at Kundjoromdjorom where Bardayal camped when young
Etc
Word Processors
Music Albums
Conference
Image Albums
Field work
Journal Editing

E-press, research reporting, maps, Sakai….
Interoperability Framework

Software\textsuperscript{n} → Submission Service → Repository\textsuperscript{n} → Dissemination Service
According to the OAIS Reference Model

eSubmission: Repository + METS (XML & Files) → Repository

Submission Service

Producer

Repository

AIP

Management

Dissemination Service

Consumer

Dissemination: Repository → XSLT (Manakin) → e-Journal
Repository Interoperability Framework

1. Scholarly workflows and genres
2. A community supported interchange profile
3. Repository submission service
4. Repository dissemination service
5. Repository API
Musing on the Partnership

An eclectic partnership funded to do outreach and development has resulted in:

• Cross-platform development
• Network level services
• Partnerships between library and e-science
• Highly collaborative activities