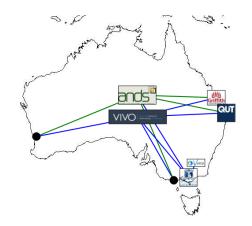
BUILDING AN AUSTRALIAN USER COMMUNITY FOR VIVO



QUT

Presenters: Robyn Rebollo (Information Management) University of Melbourne **Griffith University** r.rebollo@griffith.edu.au

1

Simon Porter eResearch Senior Specialist Information Manager, Research simon.porter@unimelb.edu.au

Lance DeVine **Research Support Specialist** THE UNIVERSITY OF Queensland University of Technology MELBOURNE l.devine@qut.edu.au



BUILDING AN AUSTRALIAN USER COMMUNITY FOR VIVO

- VIVO Adopters Project Team Members: (not exhaustive..)
- Malcolm Wolski, Project Stakeholder, Griffith Uni
- Jo Morris, Project Mgr, Griffith Uni
- Mark Fallu, Architecture, Griffith Uni
- Gerhard Weis, Program Developer & Ontology, Griffith U
- Arve Solland, Web Developer, Griffith Uni
- Robyn Rebollo, Ontology and Metadata Dev, Griffith Uni
- Lance DeVine, Architecture, Workflow, BA, QUT
- Joe Young, Project Stakeholder, QUT
- Simon Porter, Project Mgr / Architecture, Uni Melb
- Cyrus Keong, Program Developer, Versi





About US: Griffith University

• Griffith University:

- Established in 1971 and officially opened in 1975.
- We are home to about 40,000 students from all over the world.
- Our 5 campuses span 3 cities
- between Brisbane and the Gold
- Coast, each with distinct areas of
- teaching and research strength.
- Our five campus locations: Gold Coast,
- Logan, Mt Gravatt, Nathan and
- South Bank.



9/9/2010

About US: Griffith University

- Our research experts work in over 30 research centres developing new knowledge in the areas of medicine and healthcare, emerging technologies, social innovations, culture, learning and the arts, the environment, and governance and policy development.
- Our research centres include externally
- supported research centres and collaborations
- with external research institutions.



About US: University of Melbourne

- University of Melbourne:
- Established 1853
- 11 Faculties/Graduate Schools
- 45,569 Students (Aug 2009)
- 7,326 Staff

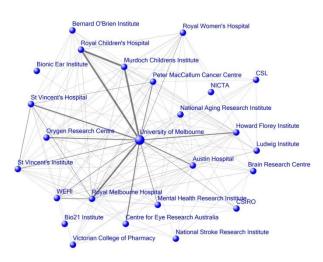


ABOUT US: UNIVERSITY OF MELBOURNE



- Research: Australia's leading research institution
- o 2010 audited research income of \$337 million
- National leader in publication outputs

Located within the Parkville Precinct: a world class biomedical research environment





 The Microlinu LHS Sciences Computation Institute 12. Pater Doalery Institute for Infection and Immunity 2. Parketile Compensational Career Centre 4. Contro for Neural Engineering and the Data Storage Centre 5. Parketile Research Links Centre Career Centre Career Centre Career Centre 4. Contro for Neural Engineering and the Data Storage Centre 5. Parketile Research Links Centre Centre Centre Career Centre Centre Centre Centre 4. Contro for Neural Engineering and the Data Storage Centre 5. The Regul Dental HoopEtal of Melbourne and The Melbourne Dental School 10. Alteenhead Centre for Medical Dictory 11, BioGrid Australia 12, National LA Datatralia Victorian Research Liboratory 13. BioEl Medical Science and BiotEchnologies Jistitute 14. Valider a Eliza kall Institute of Medical Bearch 16. University of Melbourne 2004 of Health Science 17. University of Melbourne Escutty of Science 18. University of Melbourne School of Engineering 19. University of Melbourne 2004 of Liborational Centre Centre

Institution Collaboration Pattern: 2008 publications (Thomson ISI)

About US: Queensland University of technology

• Queensland University of Technology:



QUT... 40,000 students 1,700 researchers Inner-city Brisbane, Queensland, Australia











QUT



WHAT BROUGHT US HERE ANDS



"More Australian researchers reusing research data more often."

- The Australian National Data Service (ANDS) aims to:
- influence national policy in the area of data management in the Australian research community
- inform best practice for the curation of data
- transform the disparate collections of research data around Australia into a cohesive collection of research resources

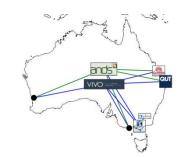




o Australian National Data Service

- Seeding the Commons Projects that create infrastructure within institutions to collect and transform metadata about collections, then publish it to the Australian Research Data Commons (ARDC).
- Data Capture Projects that create infrastructure within institutions to collect and manage data, and to improve the way metadata about it is managed.
- Metadata Stores (consolidating metadata about research data)
- Uni Melbourne, QUT and Griffith all received funding from ANDS to participate in Seeding the Commons and building infrastructure for metadata capture at each university.
- More information: <u>List of institutions with ANDS-funded ARDC</u> <u>projects</u>

INTERNAL DRIVERS



- Research Data Audit Interviewing researchers (included a comprehensive questionnaire) helped us identify the kinds of research data that was out there, and whether it was available for discovery purposes. (Griffith / QUT)
- Profiling Researchers The need to publically profile researchers via one gateway was evident after the NCRIS project. Also, there currently is no single staff profile system available that includes linked data between researchers, projects, collections and research publications. (Griffith)

INTERNAL DRIVERS CONTINUEI

- Research Data & Records Compliance (Uni Melb)
- To support the work of Seeding the Commons (Griffith / QUT) – Landing pages to display Research Data Australia records from each institution was required by ANDS.

CHOOSING A TECHNOLOGY: VITRO



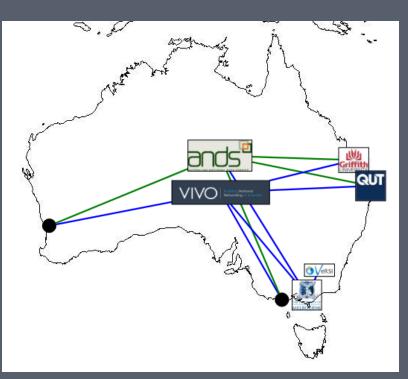
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* DataStaR		Cornell University	SEARCHI GO VIVO Comell
Home People Research Groups Data Sets Repositories For Data.	Authors Index Search	VIVO RESEARCH & EXPERTISE ACROSS CORNELL	
		Home People Academic Units Events & Seminars Research	Index About ContactUs
University: The purpose of Dat research process, i	taR, a Data Staging Repository hosted by <u>Albert R. Mann Library</u> , at Cornell taStaR is to support collaboration and data sharing among researchers during the and to promote publishing or archiving data and high-quality metadata to discipline- rs, and/or to Cornell's own digital repository (<u>eCommons@Cornel</u>). <u>Read more</u>	VIVO is a research-focused discovery tool Browse or search for information about Cornel faculty and start across all disciplines, departments and cot Search VIVO	eges. Faculty and Staff Log in new Is manage your page # Upcoming Seminars recent. Wedesday, Sep. 1 2010 S:30 PR Is to Nature Natural'A View Born Borns
Are you a Cornell re Contact us.	ssearcher with data you'd like to share with collaborators, or make publicly available?	Making Headlines www.seta Base of the set	rs 7-30 PM Wicked Plants-The precise Deficiously Dark Side of the Plant Kingdom

eatures: Pape Jean Willia

Standards Based

Semantic Web

Strategic Direction Strongly Aligned with ANDS agenda







METADATA EXCHANGE HUB

- The Education Investment Fund (EIF) project objective:
- The purpose of the data exchange hub is to collect appropriate metadata from research collections (at the content metadata level where possible) within the University with customised (and automated where possible) feeds from the various University content management systems. This hub will then act as a central University repository to feed information in a standard format to the Australian Research Data Commons, and university library discovery tools and other research federations where appropriate.
- The overall objective is to develop a sustainable solution to automate the collation of new research data held within the University and to populate Research Data Australia.
- Joint project implementation by QUT and Griffith Uni.



• VIVO in Action! - Home Page

http://vitro-dev.rcs.gri	ffith.edu.au:8080/vitro/	
.atest Headlines 📄 Cus	tomize Links	
	Griffith	Campuses Contact us search website
		Research Activity HUB
		Log in Ab
	Research Hub	Home
	» Home	Welcome to the Research Activity Hub, a public web site that connects Griffith University researchers, collaborators,
	» Researchers	organisations and data resources.
	» Collections	
	» Groups	Specific data about collections, research projects (e.g. grant activities), researchers and services will be published to
	» Projects	Research Data Australia, a set of web pages describing data collections produced by or relevant to Australian
	» Services	researchers. Research Data Australia is designed to promote visibility of research data collections in search discove
		engines su ch as Google and Yahoo, to encourage their re-use.
	Search	The Research Activity Hub project is currently in pilot release and may be missing content or relationships.
		Please help us out by providing any necessary corrections and suggestions for additional content (people,
		departments, activities, events, prog rams, research services, etc.) that you would like to see represented by
		completing the feedback form , or by contacting eResearch-Services@griffith.edu.au.
		Related Links
		Research Data Australia

Feedback | Privacy policy | Copyright matters | CRICOS Provider - 00233E



• VIVO in Action! - Researchers in the Hub

		Campuses Contact us	search website
UNIVERSITY	Research Activity	HUB	
			Log in Abi
Research Hub	Researchers		
> Home			
Researchers	A researcher is a person at Griffith University that		, service or group in the Hub.
	Researchers represented in the Hub include Griffit	th faculty and researchers.	
» Collections	Search researchers		
> Groups	Name search: Hero		
» Projects	Mrs Carolyn Cichero		
> Services			
	A B C D APro Jean-Marc Hero M Ms Kathleen Protheroe	NOPQRSTUV	w x Y Z
	 Hafenstein,Tanja Ann Hagiwara,Kazuhiko Hagiwara,Sachiko Halins,Robert James Halford,Graeme Halford,Graeme Sydney Halford,Kim Hall,Anthony Hall,Christopher Ian Hall,Maree Patrice Hall,Maree Stewart Hall,Randall John 		
	 Hall, Wayne Halliday, Lucy Georgina Hamidin, Nasrul Hamilton, John Hamilton, Peter Maxwell Hamilton, Steven 		



• VIVO in Action! - Researcher Profile

	Research Hub	APro Jean-Mare	Hero	
	> Home	Contact Details		
	Researchers	contact p ctano		-
	> Collections	Title	APro	
	* Groups	First Name	Jean-Marc	
	> Projects	Last Name Work Phone	Hero 5552 8661	
	> Services	Work Email	m.hero@griffith.edu.au	
	- 30 10.00	Location	Environmental Futures Centre (EFC)	
			Parklands Drive Southport 4222 QLD	
	Search		Australia	
		Affiliations		-
		1	I Futures Centre Group	
			I of Environment Group	
		Karawatha Fo	rest Park - Terrestrial Plots Collection	
		Associated Project	te.	
		Associated Project	.1.5	-
		Manages		
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		PPBio Au	istralasia - Karawatha	
		Associated Collec	tions	_
		Manages		-
		1	to Frank Bade - Terrestelal Man	
			ha Forest Park - Terrestrial Plots	
		List of Publicatio	ns	_
		http://www98	.griffith.edu.au/dspace/items-by-author?author=Hero%2C+Jean-Marc 8*	
		Related Links		-
		a hundrid and a	riffith.edu.au/cgi-bin/phone_search.pl?string=Jean-Marc+Hero&format=search &	
		http://www.g	riffith.edu.au/environment-planning-architecture/environmental-futures-centre/staff	
			ofessor-jean-marc-hero	
		 nttp://nla.gov 	au/nla.party-493185 12*	



• VIVO in Action! - Groups in the Hub

	Research Activity HUB
	Log in
Research Hub	Groups
» Home	A group describes an organisational unit at Griffith University that has a relation to a collection, project, service (
» Researchers	researcher in the Hub. Groups represented in the Hub include Griffith faculties, schools, centres and research ce
» Collections	
» Groups	Search groups Group name search:
» Projects	Group name search:
» Services	ABCDEFGHIKMNOPQRS
	» Atmospheric Environment Research Centre
Searc	h » Australian Centre for Intellectual Property in Agriculture
Search	h Australian Centre for Intellectual Property in Agriculture Australian Institute for Suicide Research and Prevention
Search	h » Australian Centre for Intellectual Property in Agriculture



• VIVO in Action! - Group Profile

Research Hub Home Research Hub Home Researchers Collections Groups Projects Services Manages * Karawatha Forest Park - Terrestrial Plots Collection
Research Hub Environmental Futures Centre Home Details Researchers Group Name Collections Group Name By Order Participation 3735 7021 Work Phone 3735 7021 Work Fax Webpage Services Manages
Ome Details esearchers Group Name Environmental Futures Centre ollections Group Name 3735 7021 Work Phone 3735 7021 Work Fax Webpage ervices Manages
Details Collections Group Name Environmental Futures Centre Groups Work Phone 3735 7021 Work Fax Webpage griffith.edu.au № Services Manages
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Manages
Search Search Members
 Cousin, Jarrad Freeman, Amanda Nancy Diane Johnson, Gayle Patricia Hero, Jean-Marc

9/9/2010 VIVO Conference August 2010



VIVO in Action! - Projects in the Hub • search website GO Campuses | Contact us Research Activity HUB Log in About Projects Research Hub » Home A project is any piece of research work that is undertaken or attempted, with a start and end date and defined » Researchers objectives. Projects represented in the Hub include, but are not limited to, Australian Research Council, National Health and Medical Research Council and other federal or state funded grants. » Collections » Groups Search projects » Projects Project name search: » Services NOP OR D м » "Learning through (e-)sharing: a corpus-based approach to the pragmatics of English" Creating the Griffith Corpus of Spoken Australian English (GCSAusE) Search » "Understanding the mechanism of Wolbachia mediated antiviral protection" » 2x Basler digital (DCAM) colour cameras (100 frames per second at 656x492 resolution) with lens, cables and tripod for use with exisiting Vicon motion capture system » A Colonial and Conceptual History of Asymmetric Warfare and Security » A Comparative Analysis of Gambling Regulation in Australian States and Territories » A Comparative Study of an Education Intervention to Promote Family Involvement in Residential Dementia Care » A Comparison of Anticipated Benefits and the Personal, Educational and Social Outcomes of Cochlear Implantation in Deaf Children » A Cultural History of Information: Lessons from the Enlightenment » A Focussed Ion Beam-Scanning Electron Microscope for Advanced Analytical and Nanotechnology Research » A High Resolution Analytical Scanning Electron Microscope for South-East Queensland » A High-Throughput Neutron Spectrometer for the Study of Atomic and Molecular Motion at ANSTO » A National T-ray Facility

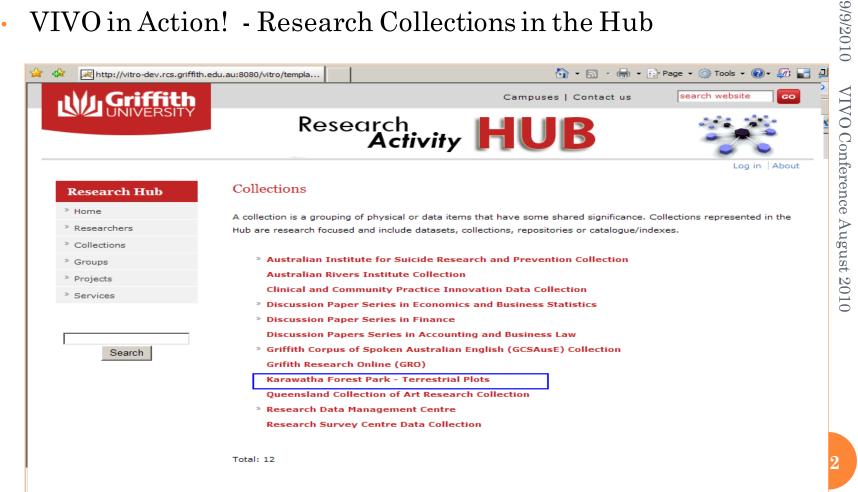


• VIVO in Action! - Project Record

Home	Details		
[®] Researchers			
© Collections	Project Name Short Description	PPBio Australasia - Karawatha	
Groups	Start Year-Month	2010-07	
Projects	End Year-Month	2010-07	
Services	Work Email	m.hero@griffith.edu.au	
	Location	Griffith School of Environment (ENV) 170 Kessels Road	
		Nathan 4111 QLD Australia	
Creat		Australia	
Search			
	Subject Areas		
	Field Of Resear	rch	
	» Ecologi	ical Applications	
		ical Applications nmental Science and Management	
	> Enviror		
	> Enviror	nmental Science and Management	
	> Environ	nmental Science and Management	
	 Enviror Managed by Hero,Jean-1 	nmental Science and Management	
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	 Enviror Managed by Hero,Jean-1 Relations 	nmental Science and Management Marc	
	 Enviror Managed by Hero,Jean-1 Relations 	nmental Science and Management Marc	
	 Enviror Managed by Hero.Jean-1 Relations Griffith School 	nmental Science and Management Marc	
	 Enviror Managed by Hero.Jean-1 Relations Griffith School 	mental Science and Management Marc ool of Environment Group	
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VIVO in Action! - Research Collections in the Hub •





• VIVO in Action! - Research Collection Record

lesearch Hub	Karawatha Fore	est Park - Terrestrial Plots
Home	Details	
Researchers	Dettails	
Collections	Collection Name Collection Type	Karawatha Forest Park - Terrestrial Plots Dataset
Groups Projects Services	Short Description	PPBio LTER program: Terrestrial plot data for Karawatha Forest Park, Southeast Queensland, PPBio research grid with 33 plots has been established in Karawatha Forest Park, Brisbane. Data collected include: (i) mesoscale variation of flora and fauna communities in response to factors such as soil, topography and fire history; and (ii) associations between fauna species composition and vegetation.
Search	Collection Rights	Access to this dataset is supplied on condition that the principal investigators responsible for collecting data in the dataset are credited in any publications that use the data. It is recommended that persons interested in using the data contact the collection owner.
	Webpage	http://equella.rcs.griffith.edu.au/research/items/389a7b06-f719-1963-54ff- 99044e36b0ef /1/?tempwn.b=access%2Fsearch.do%3Fpg.e%3Dtrue%26pg_pp%3D10%26pg_pg%3 d9cf-71c7-2503-a220be660714%26qs.tq%3D%26qs.iq %3D%26sort_s%3DRANK%26she_ca &
	Coverage	Calamvale Drewvale Dr
	Subject Areas	
	Field Of Research	
	 Ecological Ap Environmenta Managed by 	oplications Il Science and Management
	Hero,Jean-M	larc al Futures Centre

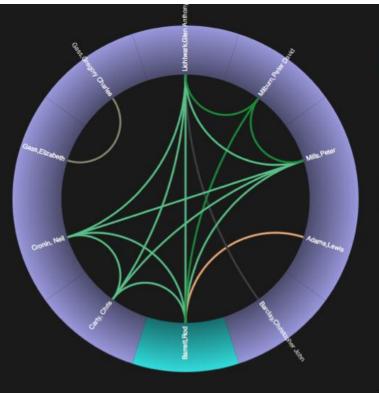
VISUALIZING COLLABORATIONS USING JAVASCRIPT INFOVIS TOOLKIT

Connected Sunburst

Dynamic SPARQL query is used as as input for this visualization.

This example shows how researchers within a group collaborates through projects.

Left click to select a node (researcher) and show its relations.



Barrett,Rod connections

2x Basler digital (DCAM) colour cameras (100 frames per second at 656x492 resolution) with lens, cables and tripod for use with exisiting Vicon motion capture system

· Milburn,Peter David

Ageing, falls and balance recovery

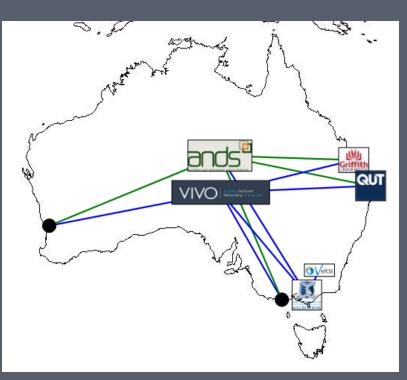
Lichtwark, Glen Anthony

- Mills,Peter
- · Carty, Chris
- · Cronin, Neil

Dynamics of locomotion: visualisation in skill acquisition & rehabilitation

· Adams,Lewis

9/9/2010 VIVO Conference August 2010



RESEARCH DATA REGISTRY





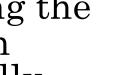
MULTIPLE GOALS FOR THE ESTABLISHMENT OF A RESEARCH DATA REGISTRY

Goals:

- Participation in the national research data commons
- The need to play a key role in helping the University communicate its research identity both internally and externally
- The need to enable university research data and records policy compliance









BACKGROUND: THE NEED FOR A RESEARCH DATA REGISTRY

• Policy – 2005, review 2009

- Good start but not enough
- Audit 2007, 2009
 - Policy and compliance is off the radar for most
 - Compliance patchy
 - Storage ad hoc
 - Local registers
 - Risk management



ENGAGING WITH RESEARCHERS

Central resources are the missing key to enabling compliance

- **Central storage** a petabyte-scale Research Data Centre for Parkville Precinct
- A Central research data registry

WHAT IS A CENTRAL RESEARCH DATA REGISTRY?

- Definition: This is an institution-wide record of all research data and records stored in the university.
- At a minimum:
 - description of the research data and records, associated researchers and projects,
 - the location of the data (digital and analogue),
 - access restrictions,
 - and relocation and disposal schedules.

(requirements based on policy)

VIVO

SCALE

- Intended scale (biggish) definitely enterprise scale
- Over time, it should be as important to the University as publications reporting and grants management

A CENTRAL RESEARCH DATA REGISTRY IS NOT AN INFORMATION SILO



A central research data registry happens in the context of richly described research:

- Grants, Publications, Research Program, External and Internal Researchers, and departments
- All of this information exists and should be reused in the registry...
- Should not be an information silo

BUILDING THE REGISTRY



• Piggybacking on our public researcher profile system - 'find an expert' dataset...

http://www.findanexpert.unimelb.edu.au/

Search results for Find an Expert

G funnelback

PROF Ian Ramsay

I aw

Research Interests/Keywords

· corporate law, corporate governance, securities regulation

Matching Publications (39) More

- · Commercial applications of company law
- · Commercial applications of company law in Malaysia
- · Commercial applications of company law in Singapore

Matching Grants, Contracts and Consultancies (1)

· Partnerships at work: the interaction between employment systems, corporate governance & ownership structure

1 - 10 of 32 search results

Filter results by...

Department

law (15) social and political sciences (3)finance (3) accounting and business information systems (3) melbourne business school (2) management and marketing (2)architecture, building and planning (2) historical studies (1) more...

Who's Who (Media)

M/bo'o M/bo (9)

Home > Find an Expert

Experts by Organization

Experts by RFCD

Experts by SEO Classifications

Experts by Country of Research Expertise

Experts by International Linkages

Data for Departments (University Only)

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Media and Publication Servic

Feedback

Asialink

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A/PROF DAVID PHILLIPS



Publications

Publications produced at the University of Melbourne and reported in the Annual Publications Collection and 'Research Report' since 2001. The Themis Publications module, released in November 2006, allows additional publications from previous institutions and publications from past years to be entered.

(Show full listing) Publications in 2006

Journal Articles

 40Ar/39Ar thermochronology of the Kampa Dome, southern Tibet: Implications for tectonic evolution of the North Himalayan gneiss domes

- (Hide details) 2006 Journal: Tectonophysics
 - Volume: 471
- 269-297 numbers:
 - Author(s): M C QUIGLEY, Y Liangjun, L Xiaohan, C WILSON, M SANDIFORD, D PHILLIPS
- Super Search Source it locate this resource.
- ⁴⁰Ar/³⁹Ar dating of mica-bearing pyrite from thermally overprinted Archean gold deposits(<u>Show details</u>)
- Noble gas and balogen constraints on mineralizing fluids of metamorphic versus surficial origin: At Isa, Australia. (Show details)







search help

(full profile)





DATA ENTRY PROCESS

ind an Expert	DR PETER RAISBECK				
Find an Expert	DICTER INIDDECK				
¹ Search	Contact Biography Expertise 8 Languages Awards 8 Grants 8 Publications Research				
Experts by Organization	Details Linkages Qualifications Contracts Classifications				
Experts by RFCD Classifications	No. 1				
Experts by SEO Classifications	Publications				
¹ Experts by Country of Research Expertise	Publications produced at the University of Melbourne and reported in the Annual Publications Collection and Research Report' since 2001. The Themis Publications module, released in November 2006, allows additional publications from				
¹ Experts by International Linkages	previous institutions and publications from past years to be entered.				
Data for Departments (University Only)	(Show full listing)				
B About Find an Expert	Publications in 2009				
Update My Details	Conference Publications/Papers				
Feedback	conterence rubications/rapers				
Knowledge Transfer & etnerships Office	PPPs and the global credit crunch: what next for the PPP financial model and global governance?(<u>Show details</u>)				
Melbaurne Research Office	Publications in 2008				
Melbourne Consulting and iston Programs	Book Chapters				
Hews Room	Biometric futures: global biometrics and the architectural production of intelligent buildings(<u>Show details</u>)				
Asialink	Developing a framework of retained risk in Public-Private Partnership (PPP) social infrastructure projects(Show details)				
International Relations Office					
	Journal Articles				
	 Perceptions of architectural design and project risk: understanding the architects' role in a PPP project()-lide details) 				
	Year: 2008				
	Journal: Construction Management and Economics				
	Yolume: 26				
	Issue: 10-12				
	Page 1145-1157 numbers:				
	Author(s): P.RAISBECK				
	Super Control Incate this resource.				
	Conference Publications/Paners				



Affiliation: * Department of Architecture, Building and Planning, University of Melbourne, Melbourne, 3010 Australia

DOI: 10.1080/01446190802512342 Publication Frequency: 12 issues per year

Published in: 😡 Construction Management and Economics, Volume 26, Issue 11 2008 , pages 1145 - 1157

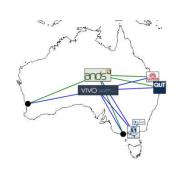
Abstract

Softhem Cross Station is on of the largest public privale partnership PPP projects undertaken in Australia. In this project the architects played a significant role in developing an incoinc design which has received international professional design awards and much media attention. In the media he architect design was perceived as having impacted negatively on capital costs. Given These contradicidory perceptions, the arm of this study was be before understand perceptions and the architects role in relation to project risks arising out of their design. A wavey of key project executives working in the PPP consortium reportable for development activity ament than simply as a profession software software incomes processions to the fact that the architectural design area be viewed as a research and development activity rather than simply as a profession software software processions to the fact that the architectural design and the software activities and the simple software and the architectural design and the processions of the architectural design and the simple software activities and the idea that architectural design and be viewed as a research and development activity rather than simply as a profession software accessions for the fact that the architectural design and processions for development activity rather than simply as a profession. The sources measure processions to the fact that the architectural design and processions for development activity rather than simply as a profession software processions of the project that the design activity the activity and the constraints.

(2) Scan forreferences todata inpublications

(3) CreateSkeletonResearchData Record

(4) Infer as manyof the detailsabout theresearch datarecord from thepublication



(1) Pre seed DataRegistry with Findan Expert data

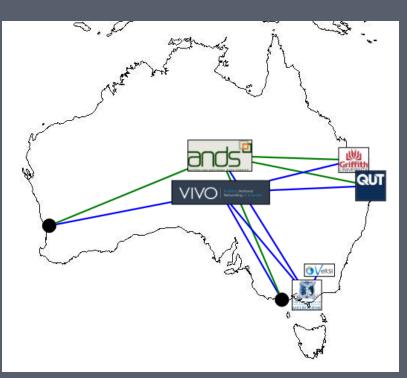


S. 5.0 **REGISTRY OUTPUT** Links: University Homepage 💌 Go Search: Search the U Central Research Data Registry sity Homepage 💌 Go MELBOURNE Central Research Data Registry Central Research Data and Records Registry · Log in Central Research Data and Records Registry Home · About Architecture, Building and Planning Data sets <u>Contact Us</u> • Log in Potential Data Sets About HEYWOOD, CHRISTOPHER (DR) Data sets <u>Contact Us</u> Department Potential Data Sets Institute Department People Institute Research Group **Research Data Custodian** People Data sets for the Data Com research data for 'Individual' harms, Community 'harms': reconciling Indigenous values affiliation Research Group with drug harm minimisation policy Register My Data Data sets for the Data C Architecture, Building and Planning Index research data for "Negative interference" between Australian construction professionals Register My Data work and family roles: Evidence of an asymmetrica Links: University Homepage 🗸 Go Search Search: Search the University research data for 3D Crossover: exploring objects d research data for A consumer-oriented technique f Central Research Data Registry research data for Adapting Cellular Automata to Su Process THE UNIVERSITY OF MELBOURNE ■ 119 more employs Central Research Data and Records Registry AHMED, KHONDKAR (DR) AIBINU, AJIBADE (DR) Log in ASHFORD, PETER (MR) Home • About BARRINS, JOSEPH (DR) research data for A consumer-oriented Data sets Contact Us BENNETT, ROHAN (MR) technique for planned residential Potential Data Sets -----Department developments Research Data Institute People Research Group The empirical study is based on innovation theory where end-users are primary stakeholders in Data sets for the Data Common the innovation process, and even innovators themselves. A case study of a new participation Register My Data method based on a two-phase internet questionnaire is used to research practical solutions in Index integrating end-users into urban planning process. Search **Research Descriptions** results published in A consumer-oriented technique for planned residential developments Custodians Associated Principal Investigator HEYWOOD, CHRISTOPHER (DR) **Custodian Department** Architecture, Building and Planning



FEEDBACK SO FAR...

• Feedback from the Faculty (so far)



STANDARDS TECHNOLOGY AND DEVELOPMENT

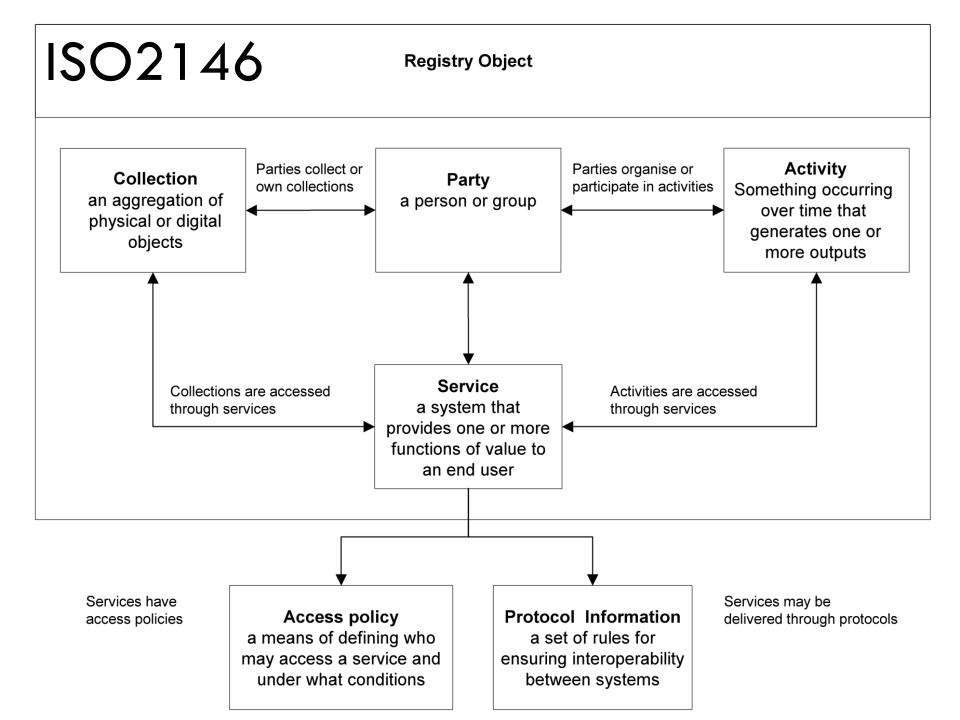
STANDARDS

• RIF-CS

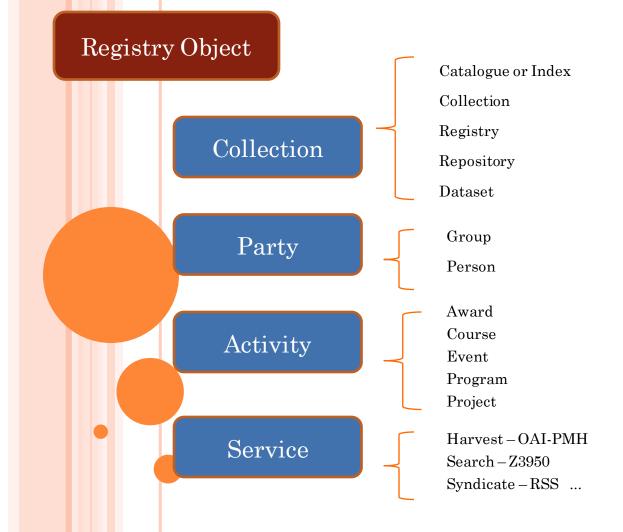
- The Registry Interchange Format Collections and Services (RIF-CS) Schema was developed as a data interchange format for supporting the submission of metadata to a collections service registry.
- It is based on ISO2146 but only includes elements needed for a collection service registry and so is not a full binding to the standard.

• OAI-PMH

• The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) is a low-barrier mechanism for repository interoperability. **Data Providers** are repositories that expose structured metadata via OAI-PMH. **Service Providers** then make OAI-PMH service requests to harvest that metadata.



Registry Interchange Format -Collections and Services (RIF-CS)



RIF-CS: A TYPICAL OBJECT

Type

Identifier

Name

Description

Subjects

Location

Related Objects

Related Info

A value taken from a controlled vocabulary indicating the type of object being described.

Primary and alternative identifiers for the object.

The name of the object in either a simple or compound form.

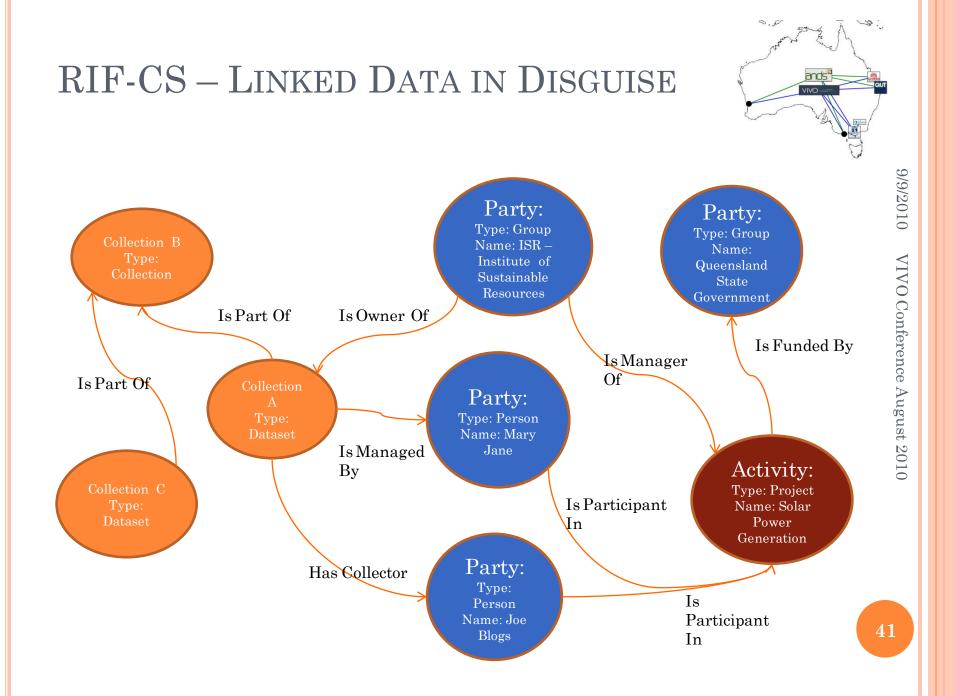
A textual description or URI resolving to a description relevant to the object.

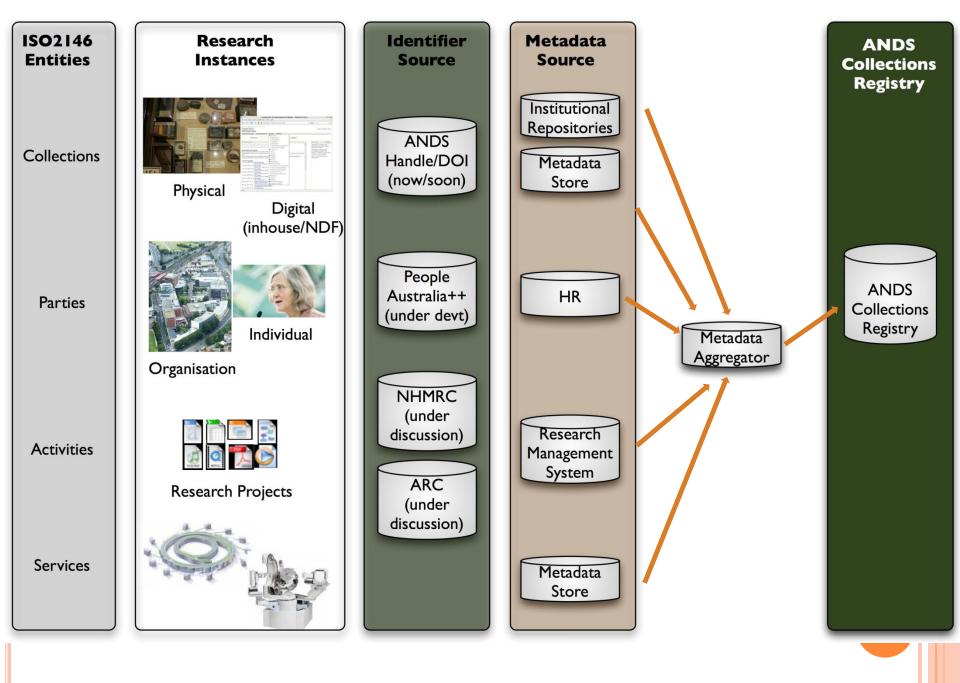
A subject category into which the object falls or the object is related.

Location(s) relevant to the collection. A location element should contain information about a single location (e.g. collection web site).

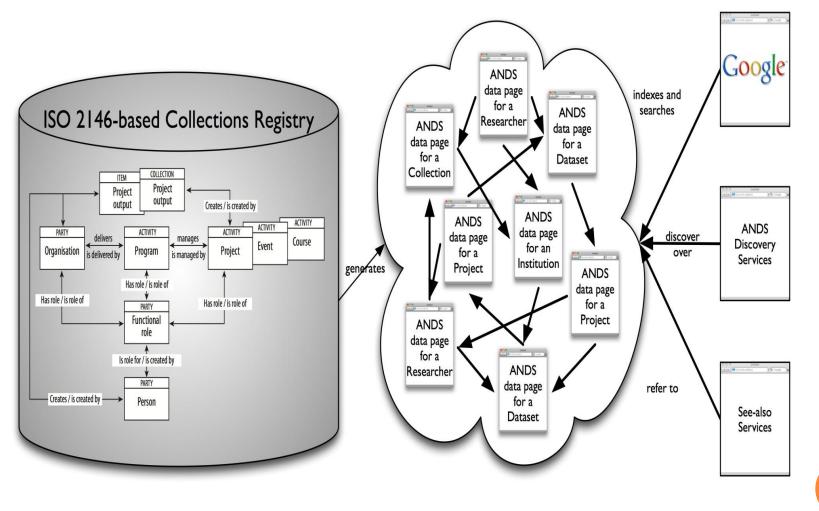
Information about a related registry object.

A URI pointing to information related to the collection.





FROM COLLECTIONS REGISTRY TO DISCOVERY



RESEARCH DATA AUSTRALIA WEB SITE

	Research Data Australia	
 <u>Parties (343)</u> Where a party is a collection (2) <u>Services (2)</u> Where a service is a collection (or items w <u>Activities (13)</u> 	a useful grouping of physical or digital items. erson or organisation that has some relationship to a collection, varty. mechanism for gaining some kind of access to or information about a vithin a collection).	Search Research Data Australia
iVEC MEST - West Monash University Polar Information Publish My Data (!	e of Marine Science (455) tern Australian Marine Data and Projects (898) (10) Commons (32)	

HOW TO STORE RIF-CS IN VIVO?



- Try to use as much of the existing VIVO ontology and associated ontologies as possible.
- However, need to extend the Core VIVO Ontology
- Admin extensions new properties
- Vocab extensions new classes
- Relationship extensions object properties
- Classifications new separate ontologies

ANDSHARVEST ONTOLOGY



- Name: ANDSHarvest
- Namespace: <u>http://www.ands.org.au/ontologies/ns/0.1/VITRO-ANDS.owl#</u>
- Some new classes:
- OAIHarvest
- Research Data
 - Research Catolog, Research Collection, Research Records Collection, Research Registry, Research Dataset
- Subject area Keyword

#	class	shortdef	example	group	ontology	display level	update level
1	ANDSHarvest:OAlHarvest	ANDS HARVEST DETAILS		OAlHarvest	ANDSHarvest	editor	editor
2	ANDSHarvest:Research Data	Research Data	Survey results for project X	Information Resource	ANDSHarvest	public	self
	ANDSHarvest:Research Catalog			Information Resource	ANDSHarvest	unspecified	unspecified
	ANDSHarvest:Research Collection			Information Resource	ANDSHarvest	unspecified	unspecified
	ANDSHarvest:Research Records Collection	Resaerch Records Collection	The Brown family Guide to Records	Information Resource	ANDSHarvest	public	public
	ANDSHarvest:Research Registry			Information Resource	ANDSHarvest	unspecified	unspecified
	ANDSHarvest:Research Repository			Information Resource	ANDSHarvest	unspecified	unspecified
	ANDSHarvest:Reserach Dataset			Information Resource	ANDSHarvest	unspecified	unspecified
3	ANDSHarvest:Subject area Keyword			Subject Area	ANDSHarvest	unspecified	unspecified

ANDSHARVEST ONTOLOGY

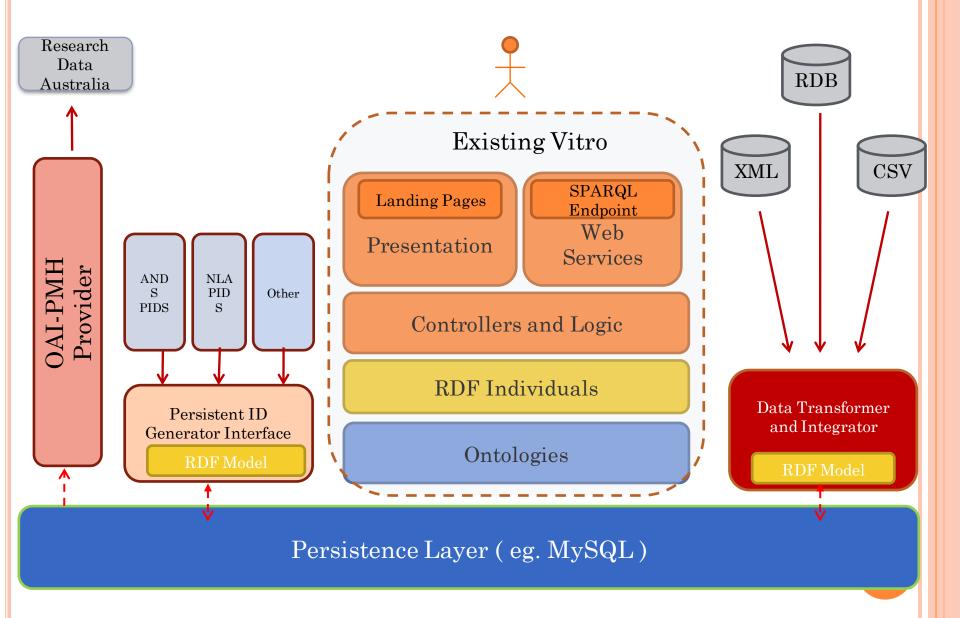


- Many new object properties to map required relationships: (examples)
 - ANDSHarvest:isDescribedBy
 - ANDSHarvest:isManagedBy
 - ANDSHarvest:isOwnedBy
 - ANDSHarvest:isSupportedBy
 - ANDSHarvest:isCollectorOf
 - ANDSHarvest:isPointOfContactFor
 - ANDSHarvest:publishedIn
- Many new data properties: (examples)
 - ANDSHarvest:arc
 - ANDSHarvest:dateResearchCommenced
 - ANDSHarvest:dateResearchCompleted
 - ANDSHarvest:groupDescription
 - ANDSHarvest:locationOfDataManagementPlan
 - ANDSHarvest:nonDigitalDataLocation
 - ANDSHarvest:retentionPeriod

RESEARCH CLASSIFICATION ONTOLOGIES

- Maintained by the Australian Bureau of Statistics
- Classifications:
 - Socio-economic Objective classifications (SEO)
 - Fields of Research (FOR)
 - Type of Activity (TOA)
- Hierarchical Classifications using 2, 4 and 6 digit codes
- Example
 - Division (86) Manufacturing
 - Group (8607) Agricultural Chemicals
 - Objective (860702) Chemical Fertilisers
- Classification modelled using:
 - rdfs:subClassOf
 - skos:broader
 - skos:narrower
 - skos:exactMatch

Metadata Exchange Hub



PERSISTENT IDENTIFIERS



- Every RIF-CS object requires a globally unique identifier or Persistent Identifier (PID).
- ANDS provides a web-service for minting PIDs based on the Handle System (<u>http://www.handle.net/</u>).
- The National Library of Australia is also involved with providing PIDS for people (party) through its People Australia project.
- Large national research bodies such as the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) also have unique IDs for researchers.
- Exactly what PID to use for researchers and other parties is still to be resolved.

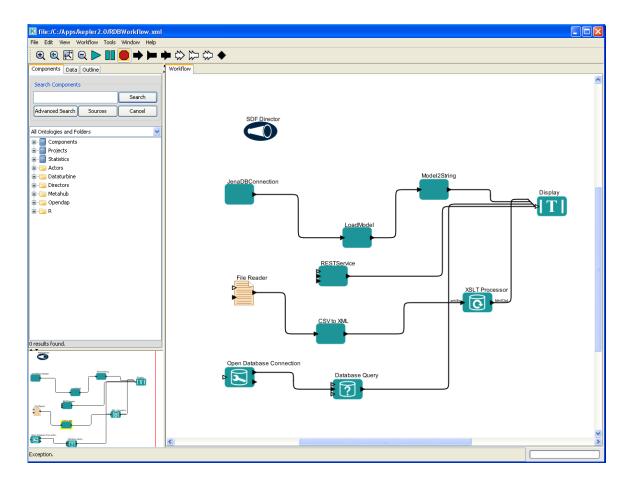
PROVIDING METADATA FOR HARVESTING

- Institutions expose RIF-CS metadata to Research Data Australia via OAI-PMH.
- To provide such metadata using VIVO we:
 - 1) perform a SPARQL Select query on VIVO to extract relevant records.
 - 2) apply a XSLT to transform the previous results into RIF-CS compliant XML.
 - 3) store the RIF-CS XML in a directory monitored by our OAI-PMH Provider software. The software encapsulates the XML within a compliant OAI-PMH feed ready for harvesting.
- The slight complication in this process is using a non-DC metadata schema with OAI-PMH.

- Using Kepler 2.0 software for data workflow and transformation.
- Free Java software (BSD) which incorporates GUI and workflow engine with ability to execute workflows via GUI or command-line.
- Workflows can be nested and modularized for re-use with inbuilt mechanisms for packaging and sharing.
- Comes pre-built with over 300 actors and can be extended using Java API and other JVM languages.
- Has a module system that allows the construction of customised distributions for easy deployment.



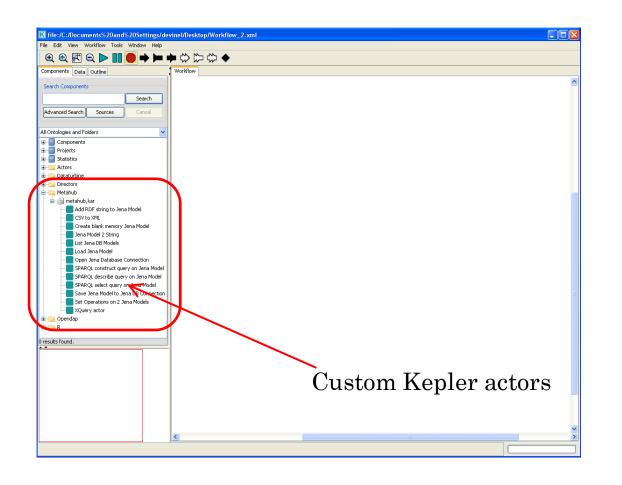
• An example test workflow.



• Some of the existing actors include such functionality as:

- file reading/writing and other file operations
- web service execution
- RDB connection and querying
- record and string manipulation
- mathematical functions
- Control flow
- For our project we have added actors for:
 - Jena DB connection
 - SPARQL Queries, Select, Construct, Describe
 - RDF Model operations
 - CSV to XML
 - XQuery

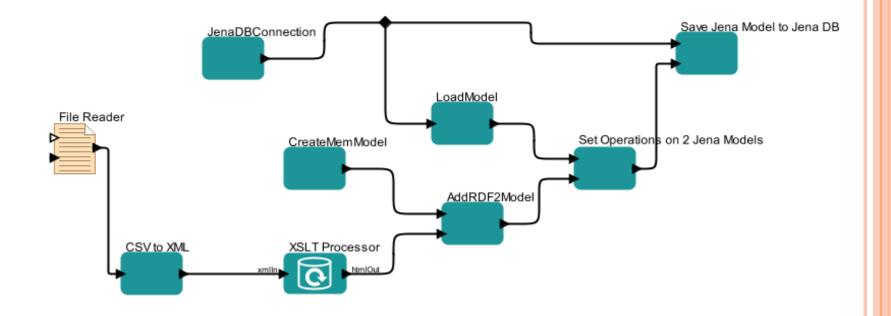
• Custom Kepler actors for working with VIVO



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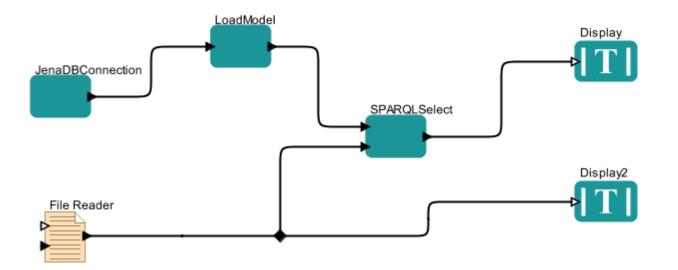
• Read CSV file, transform to RDF, merge with existing model and save to DB.

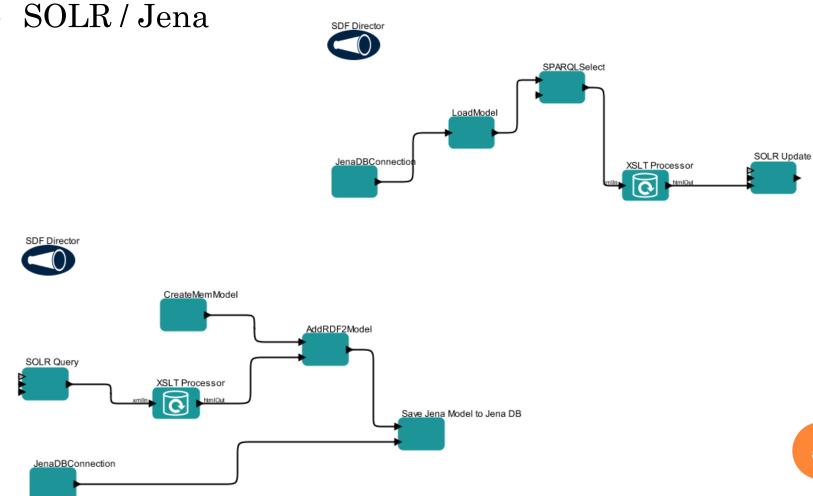




9/9/2010







• SOLR / Jena

- Workflows are saved as XML •
- / display name="CSWOrkflow"/> // and the state of (/property) <property name="_vergilSize" class="ptolemy.actor.gui.SizeAttribute" value="[890, 753]"> <property></property> cyproperty name="_vergilZoomFactor" class="ptolemy.data.expr.ExpertParameter" value="1.0"> /property> <property name="_vergilCenter" class="ptoleny.data.expr.ExpertParameter" value="{384.0, 3</pre> (property)
 (property name="SDF Director" class="ptolemy_domains_sdf.kernel.SDFDirector")
 (property name="iterations" class="ptolemy_data_expr.Parameter" value="1") <property></property> <property name="vectorizationFactor" class="ptolemy.data.expr.Parameter" value="1"></property name="vectorizationFactor" value="1"></property name="vectorizationFactor" value="vectorizationFactoriz (/property) <property name="allowDisconnectedGraphs" class="ptolemy.data.expr.Parameter" value="f</pre> <property></property> cproperty name="allowRateChanges" class="ptolemy.data.expr.Parameter" value="false"> <property></property> (property name="constrainBufferSizes" class="ntolenv data expr Parameter" value="true <property> <property name="period" class="ptoleny.data.expr.Parameter" value="0.0"></property name="period" class="ptoleny.data.expr.Parameter" value="0.0"> (/property) <property name="synchronizeToRealTime" class="ptolemy.data.expr.Parameter" value="fal</pre> (/property) cyproperty name="timeResolution" class="ptolemy.actor.parameters.SharedParameter" valu <property></property> </property> (property name="wellerDocumentation" class="ptolemy vergil basic KeplerDocumentationAttribute (property name="description" class="ptolemy kernel util ConfigurableAttribute"><configureSteve Ne (property name="author" class="ptolemy, kernel util ConfigurableAttribute"><configureSteve Ne (ptolemy, kernel util ConfigurableAttribute")</configureSteve Ne <property name"userLevelDocumentation" class" ptolemy kernel util ConfigurableAttribute"></property name" prop iallowBateChanges" class" ptolemy kernel util ConfigurableAttribute"></property name" prop iallowBateChanges" class" ptolemy kernel util ConfigurableAttribute"></property name" prop inteResolution" class" ptolemy kernel util ConfigurableAttribute"></property name" prop inteResolution" class" ptolemy kernel util ConfigurableAttribute"></property name" prop inteResolution"></property name" prop inteResolution class" ptolemy kernel util ConfigurableAttribute"></property name" prop interations" class" ptolemy kernel util ConfigurableAttribute"></property name prop interations" interations" class" ptolemy kernel util ConfigurableAttribute"></property name prop interations" interations" class" ptolemy kernel util ConfigurableAttribute"></property name prop interations interations internations interations internations inte </property>

(property)
cproperty name="class" class="ptolemy.kernel.util.StringAttribute" value="ptolemy.dom
cproperty name="id" class="ptolemy.kernel.util.StringAttribute" value="urn:lsid:k </property>

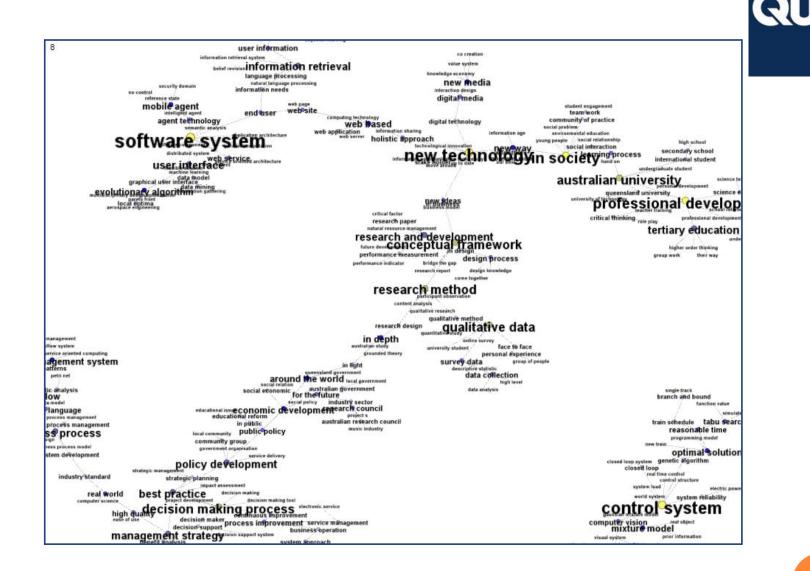
Command line execution: •

Java –cp ./kepler.jar org.kepler.build.runner.Kepler –runwf –nogui hello.xml

- To Do:
- Actors for easier manipulation of RDF and XML
- More documentation and examples.
- Think about how to combine efforts with the VIVO Harvester.

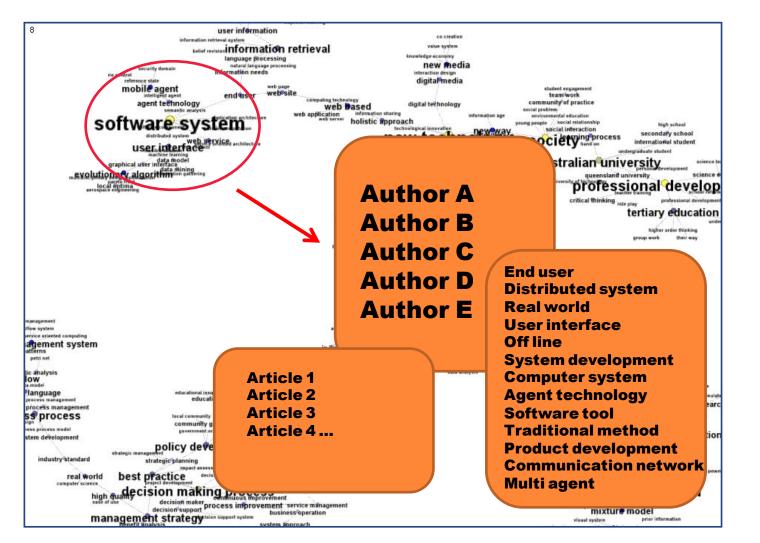
MAPPING AND NAVIGATING THE CONCEPTUAL SPACE OF A UNIVERSITY'S RESEARCH OUTPUTS

- Index bibliometric data using Lucene.
- Retrieve Wikipedia section labels from DBPedia. (RDF)
 - Other vocabularies/taxonomies could be used, eg. MeSH
- Clean wiki labels and keep 2-grams and 3-grams ("Concepts")
 - Higher order n-grams may be used as well.
- Create "semantic representations" of the concepts found within publication abstracts using contextual features within the abstracts.
- Use heuristics to construct networks through the semantic space of the abstracts.



An automatically generated view onto a portion of the conceptual landscape of QUT's ePrints repository.

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- Can be used to generate semantic signatures/profiles for researchers.
- Can be used to discover researchers with similar interests.
- Can be used to explore the research landscape via associative links.

OUTCOMES

 Griffith's implementation of VIVO for Research Data Australia has created a new, expansive project for an inclusive Griffith Profile system, making research data accessible via one entry point. It will expose the 'linked' nature of relationships between a researcher and their research outputs.

OUTCOMES CONTINUED



- Most researchers are receptive to having information about them and their research activities published to Research Data Australia and displayed publically via a web semantic discovery solution.
- Participating in the Research Data Commons (aka Research Data Australia) has enabled each university to identify additional registry objects that ISO 2146 & RIF-CS will be able to accommodate for categorising and discoverability purposes (expansion of Service types and Commercial Activities [enterprises] con researchers).

OUTCOMES: CULTURAL CHANGE

🕞 🖬 🤊 😈 🔹 👻 FW: Storage Service SLA & associated research use - Message (HTML) 💦 💶 💌								
Message Developer 🔘								
Reply Reply Forwards All Respond	Folder *		Block Not Junk Sender Junk E-mail	Categorize Follow Up + Options	Mark as Unread	 A Find A Related ▼ Select ▼ Find 	Send to OneNote OneNote	
From: Steven Manos Sent: Thu 22/07/2010 11:20 AM To: Simon Porter Simon Porter Cc: Subject: FW: Storage Service SLA & associated research use								
From: Steven Manos Sent: Tuesday, 13 July 2010 7:43 PM Subject: Storage Service SLA & associated research use								
Hi everyone, I am following up from the Storage Service SLA meeting yesterday. I met with Simon Porter today to discuss how the storage service relates to the bigger picture which includes university policy and other activities in the Research Office and the Library on digital research data.								
I want to ensure that any service we deliver to researchers isn't done in isolation of the research community (obviously), but also naturally connects into other research-related endeavours at Melbourne, rather than offered as a service where we don't know about its use and how it relates to other activities.								

- Linking research activities, projects/grants, people, publications and datasets. Researchers using the central storage service will inevitably doing some data-centric research where the data is directly related to reserch work, publications, etc. Capturing information about the data and research activities/groups using the storage service gives the University (and ITS) some rich information about what's sitting on the storage services, rather th just offering it up as a blank slate.
- Data is the new intellectual property of the university. The University needs to maintain an awareness of of the data that is stored, used and how it used. Different types of data are associated with different retention and destruction policies, and those policies need to be able to be linked not only to research activities, but the resources (e.g. storage) they are using.
- 3. ITS needs to capture information about how its resources are being used by the research community. Ultimately we need information as to how providing research services supports the Melbourne and Parkville research community. If we wish to attract more funding to provide research service from the University (and elsewhere) we need to collect the necessary data to ensure that cases for funding can be made in future.

	 We mandate that on an annual basis the Storage Authorisation Contact tells us who's using the storage service, what research group(s) are using it, and how much space they're using (a fairly minimal requirement). We mandate that on an annual basis the Storage Authorisation Contact <i>Review</i> information we provide them on publications, people, projects/grants and activities, and help us clarify the links between say, a publication and a dataset which is stored on the storage service. 	
cer do	By reviewing that data - instead of mandating they provide us with new data - it means we can (1) verify the publications, services, people etc. that are stored centrally already and (2) clarify the links between those services, datasets, people, etc. This process is nothing new, as to a large extent it is already being done through the Research Data Registry project. It is just a case of ensuring that we can appropriate link the storage service and the research data registry activities.	66
Do	Doing this will ensure that we build services into the research fabric of the university, rather than just offering it as a disconnected service.	00
An	Any thoughts & response on this would be appreciated. I'll work with Rob to make sure we build this into the SLA.	

CHALLENGES



9/9/2010

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- Early adopters of the technology Little knowledge about VIVO in Australasia when our projects began.
- In kind contributions, specifically project support, exceeded our estimations for a comprehensive implementation that delivered on all requirements (ontology expansion for RIF-CS, landing pages, OAI Cat implementation with successful harvest tests from Research Data Australia)
- Sustainability after project / knowledge transfer Identifying reliable service support for VIVO after project closure. Possible solutions include outsourcing to eResearch services & solutions (VeRSI, Intersect).



CHALLENGES CONTINUED

- IP issues of research data Who owns the data? The University in most cases, however, there are a few exceptions to the rule.
- Griffith Intellectual Property Policy:
- The intellectual property of which the University claims ownership under sections 2.1 and 2.2 of this IP Policy includes (without limitation) intellectual property in relation to:
- (a) patentable and non-patentable inventions, together with field and laboratory notebooks relating to such inventions;
- (b) registered and unregistered designs, plant varieties and topographies;
- (c) databases, computer software, firmware, courseware, and related material;
- \circ (d) works generated by and/or with computer equipment or software, except where specifically exempted under other
- provisions in this IP Policy;
- (e) University-commissioned works;
- (f) Confidential information associated with each and every item listed in this section 3.0;
- (g) Copyright in works and materials except for those specifically excluded by this IP Policy;
- (h) Educational materials except for those specifically excluded by this IP Policy.







CHALLENGES CONTINUED

VIVO

• DATA Related:

- Privacy issues Data that needs to be kept private and confidential due to the nature of the research vs. data that can be sanitised if permissible.
- Data management practices by researchers is rudimentary. Getting access to the metadata/data is a challenge. Researchers are storing data in a variety of solutions, and a number of them are unreliable.
- Data Storage Lack of available funding for data storage has caused problems for Universities. Researchers are not allocating enough funding for storage in their grant applications.



CONCLUSION

• Questions?

