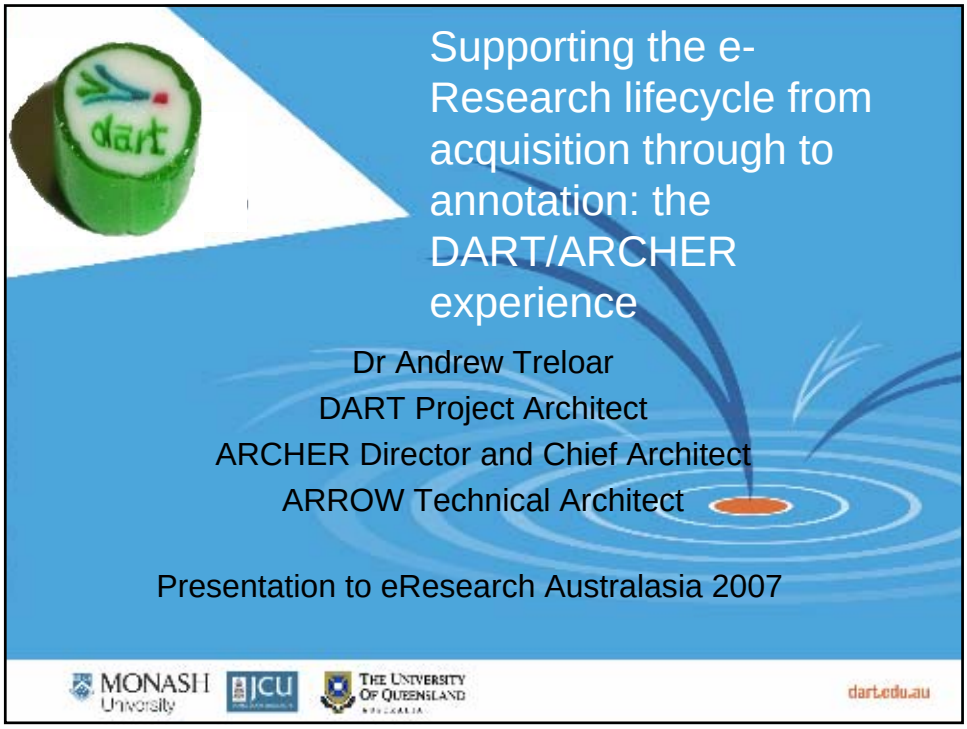
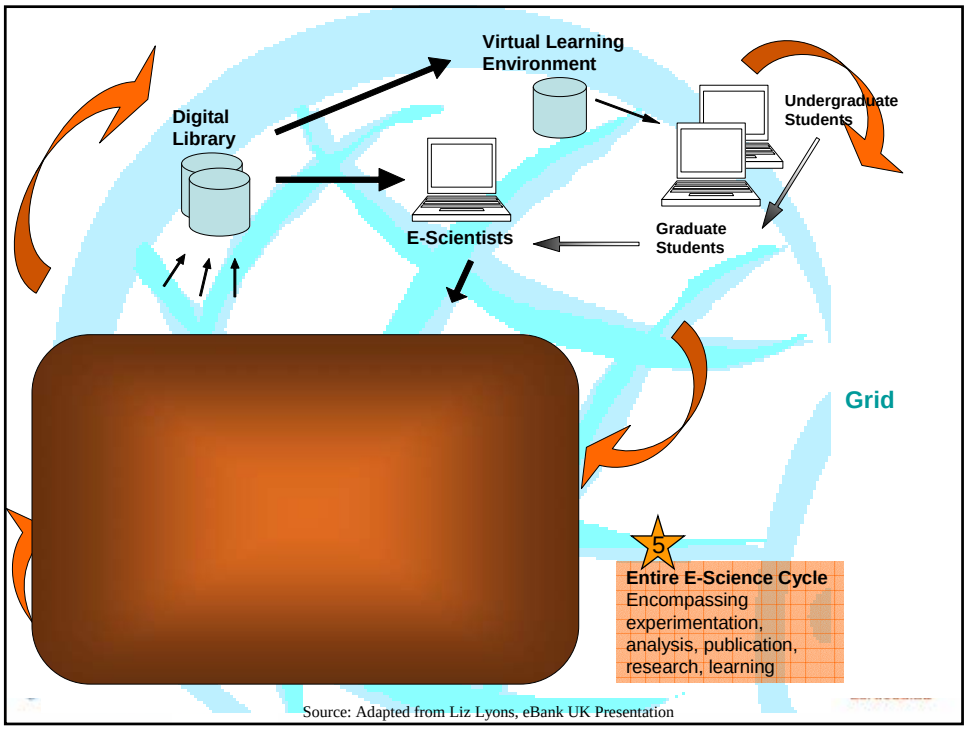




Source: Adapted from Liz Lyons, eBank UK Presentation

DART

- DART is/was a proof-of-concept project funded by the Department of Education, Science and Training (DEST) to support collaborative research in Australia
- The funding has been provided through the Systemic Infrastructure Initiative as part of the Commonwealth Government's Backing Australia's Ability - An Innovation Action Plan for the Future
- DART stands for
  - Dataset
  - Acquisition/Accessibility/Annotation
  - e-Research
  - Technologies

DART logistics

- 3 partners:
  - Monash University (lead) in Melbourne
  - University of Queensland in Brisbane
  - James Cook University in Townsville
- 5 technical areas of focus within the DART work packages (WPs)
- 18 month project, finishing in June 2007
- 28 Separate DART work packages
- 40+ project team members!!

DART chief investigators

MONASH University


Andrew Treloar


Asad Khan


David Abramson


Ann Monotti

THE UNIVERSITY OF QUEENSLAND AUSTRALIA


Jane Hunter


Xiaofang Zhou

JCU JAMES COOK UNIVERSITY


Ian Atkinson

What did DART try to achieve?

- To develop software tools to handle the data and information management requirements of the complete research lifecycle
- To collect and manage large datasets, associated with instruments, such as sensor networks, X-ray diffractometers, etc.
- To support collaborative research and annotation needs
- To deal with intellectual property, privacy and security issues
- To create customised portals for research demonstrators
- To handle research publication, discovery and access

or to put it another way……


dart
dataset acquisition
accessibility & annotation
e-research technologies
building the new collaborative
e-research infrastructure
Collect Datasets
Data Collection Tools
Collaborative
Research Analysis
Middleware Tools
Annotation
- Dynamic
Documentation
Annotation Tools
'Discover'
Access Tools
Raw Data
Store
Data Curation Tools
Analysed
Data Store
Large Dataset
Management Tools
'Publish'
Publishing Tools
MONASH
University
JCU
The University
Of Queensland


dart
dataset acquisition
accessibility & annotation
e-research technologies
DART work packages
The work packages cover five broad technical areas:
Data Collection and Monitoring
Storage and Interoperability
Content and Rights
Annotation and Assessment
Discovery and Access
Details on the website, including all project outputs:
reports, source code, documentation
Or come and see the stand in the exhibition area!
MONASH
JCU
The University
Of Queensland
8
dart.edu.au

DART Achievements

- Strong progress in data capture and instrument integration
- Investigated storage and replication of very large datasets across diverse networks
- Placed Information Management staff into research teams, addressing their data and information management requirements
- Developed annotation software for 3-D models, video and audio
- Reviewed IP and privacy around datasets and e-research practices
- Investigated Creative Commons & Science Commons licensing
- Worked to utilise Shibboleth, PKI and Grid security standards
- Developed search tools, metadata schema registry, Plone tools, etc
- Production deployment of X-Ray Crystallography tools

DART Demo

- NOTE: This is only a partial demo of the range of work performed in DART - for more see the website or visit the stands in the exhibition area
- https://dev.archer.edu.au/downloads/DartPortalDemonstration/eResearch-no-callouts/eResearch-no-callouts.html

DART Lessons

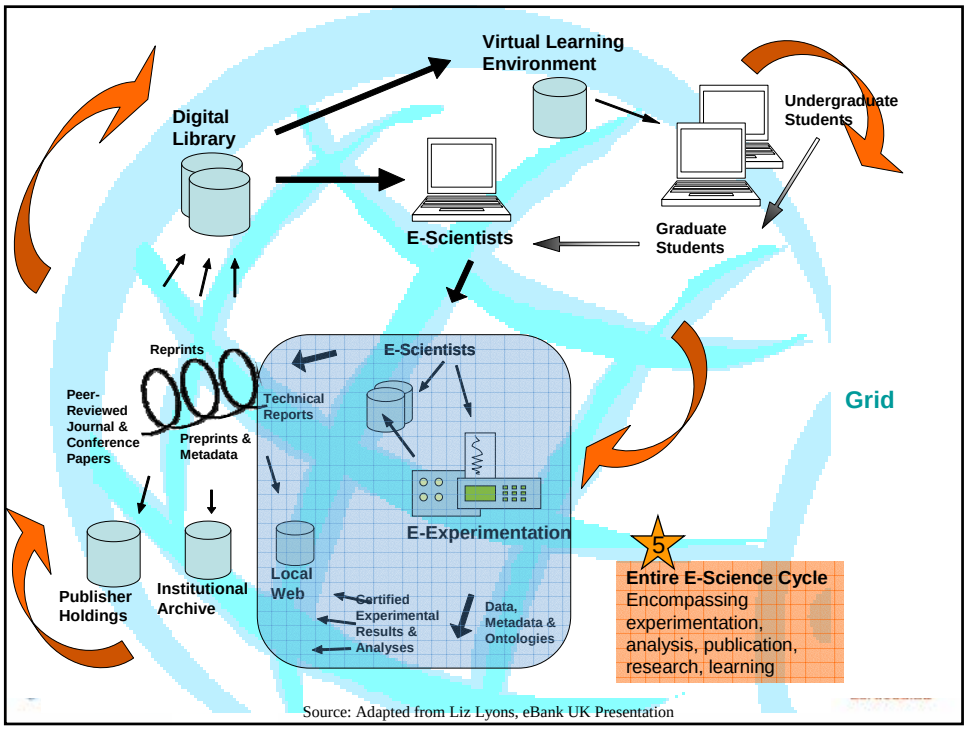
- Importance of demonstrators
  - not envisaged in original bid
  - demonstrating end-end benefits
- Integration challenges
  - didn't originally employ someone to focus on this
  - underestimated amount of complexity and effort required
- Collaboration and co-ordination
  - Tendency to focus on the specific task
  - Problem of distributed activity
  - Lots of travel around
  - Over-busy chief investigators
- Rate of technology change

DART Conclusions

- Value of end-end approach didn't evidence itself as much as expected
- Different groups get excited about particular components
- Researchers are very time-poor and need immediate value to stay involved
- Need agile development techniques to deal with loose or missing requirements
- Some of the changes we envisaged in DART are now happening in scholarly communication practices and national initiatives
  - RQF accessibility component
  - NCRIS Platforms for Collaboration (ICI and ANDS)

From DART to ARCHER

- Australian ResearCH Enabling enviRonment
- ARCHER is a new DEST funded project for 2007 that will take the **proof-of-concept** outcomes of DART, turn them into **production-ready** ARCHER software tools, and package them, along with other open-source components, for deployment
- These tools are being developed as modular middleware components, customised to suit the needs of a number of designated National Collaborative Research Infrastructure Scheme (NCRIS) priority research capabilities
- Now engaging with NCRIS capabilities and undertaking active development



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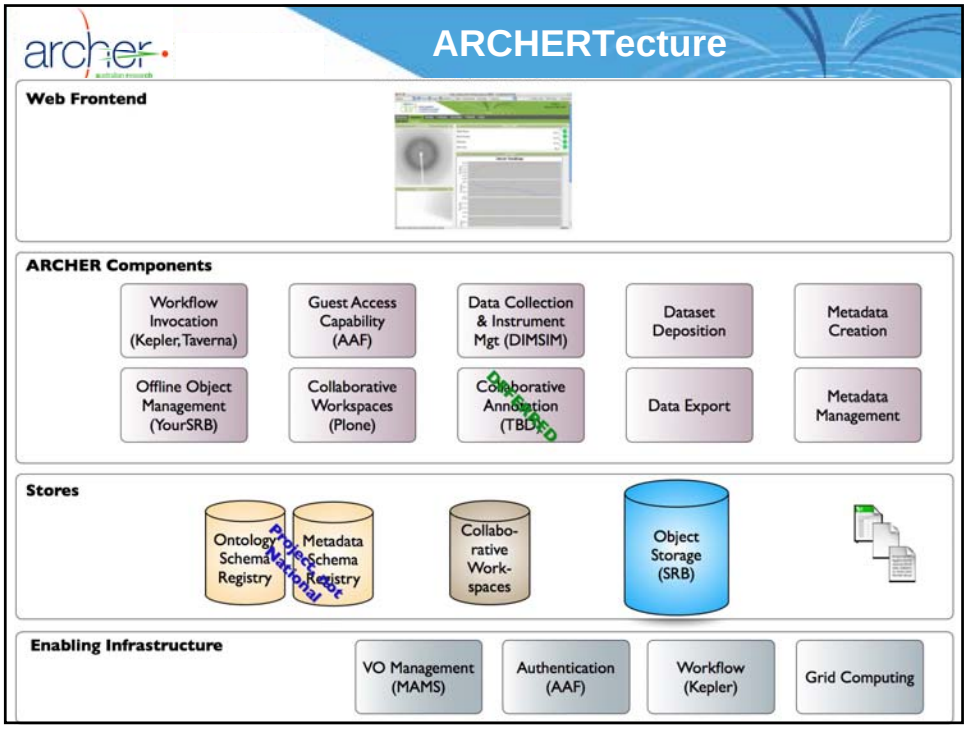
ARCHERTecture
Web Frontend
ARCHER Components
Workflow Invocation (Kepler, Taverna)
Guest Access Capability (AAF)
Data Collection & Instrument Mgt (DIMSIM)
Dataset Deposition
Metadata Creation
Offline Object Management (YourSRB)
Collaborative Workspaces (Plone)
Collaborative Annotation (TBD)
Data Export
Metadata Management
Stores
Ontology Schema Registry
Metadata Schema Registry
Project Bot
National
Collabo-rative Work-spaces
Object Storage (SRB)
Enabling Infrastructure
VO Management (MAMS)
Authentication (AAF)
Workflow (Kepler)
Grid Computing


dart
dataset acquisition accessibility & annotation e-research technologies
Acknowledgements
Without the hard work of all these people (and more!), DART could not have happened!
UQ
JCU
MU
MONASH
JCU
16
edu.au

Questions?

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