JISC

Project Plan

Project Information	
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Project Hashtag	#rdtk_herts
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Lead Institution	University of Hertfordshire
Project Director	Dr David Ford, Chief Technology Officer, University of Hertfordshire
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Partner Institutions	Digital Curation Centre
Project Webpage URL	http://www.herts.ac.uk/research-data-toolkit
Programme Name	Managing Research Data
Programme Manager	Dr Simon Hodson

Document Information	
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Project Role(s)	Project Manager, Project Director
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1.0	2/11/2011	Version 1 for JISC consideration

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1. Project Overview

1.1 Project Summary

The University of Hertfordshire (UH) conducts world leading research across several disciplines, including History, Nursing and Midwifery, Engineering, Physics, Computer Science, English, and Art and Design. Funding comes from a range of different funders, such as the Research Councils, the National Institute for Health Research and the European Union. The University sustains research of the highest calibre, which generates substantial amounts of data of many different types and scale, and significant project documentation.

The University is fully aware of the data management and sharing policies developed by a variety of research funders. We have produced our own Guide to Research Data Management (RDM), approved by the University Research Committee. Dedicated support is also provided for UH staff writing data management and data sharing plans.

Although at an institutional level our policies and procedures are in place, at an operational level the situation is that research groups across the University have a tendency to set up local arrangements for data handling and project documentation, both during the conduct of the research project, and importantly for archiving the data once the project has completed. These local arrangements include examples of good practice in research data management that can be more widely shared and will support the developments envisaged through this project.

Our need to implement a coherent and efficient institutional approach to good practice research data management represents a similar situation to that in many other institutions. This project will focus on the realisation of practical benefits for operationalising an institutional approach to good practice in research data management with strong transferable value.

The project will support the JISC strategy for a more dynamic and effective research environment as well as contributing to the achievement of the University's key aspirations for the quality of our research.

1.2   Aims and Objectives

The objectives of the project are to audit current best practice, develop technology demonstrators with the assistance of leading UH research groups, and then reflect these developments back into the wider internal and external research community via a toolkit of services and guidance. The overall aim is to contribute to the efficacy and quality of research data plans; thereby helping to create successful bids, and establish and cement good data management practice in line with local and national policy.

1.3   Anticipated Outputs and Outcomes

Outputs	Brief Description
Audit Report (document and web)	Account and Evaluation of existing good practice within UH. Best of breed for existing RDM planning tools identified.

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Case studies (document and web)	Encapsulated examples of good practice across at least three academic disciplines.
Cloud storage demonstrators	Data storage services demonstrated using local (institutional) cloud / remote private cloud or public cloud.
Document management demonstrators	Taxonomy and facilities for managing research project documentation
Example dataset with open, but secured access	An example dataset available in an opensource repository via open access protocols.
Guidance re: RDM planning and strategy (web pages)	Generic guidance with clauses for local UH requirements
Guidance re: Data storage and security (web)	Generic guidance with clauses for local UH facilities
Guidance re: Archive and long term access (web)	Generic guidance with clauses for local UH facilities and statutory third party repositories
Recommendations	Evaluation of features/ease of use/cost/sustainability/regulatory issues of technology demonstrators.
Research Data Toolkit	Outputs distilled and packaged for use by University Researchers, within and without UH.
Knowledge transfer day, other training events, programme events and workshop presentations, publications.	Thorough dissemination.
Outcomes	**Brief Description**
Evidence and Understanding	A thorough understanding of the practice, culture and barriers to research data management across UH
Cultural change	A more cohesive and consistent approach to research data management at UH is achieved.
New Practice	New, rigorous, standards and regulatory compliant practice is adopted going forward.
New Services adopted	Tried, tested and commoditised research data management services are adopted going forward.

1.4   Overall Approach

The project will be conducted in line with our original proposal of using several work packages to execute three phases of work:
- audit and engage,
- build and test,
- evaluate and package.

The sequence of these phases overlaps as each phase informs and helps shape the next.

The approach throughout will be to align practical solutions with need. In the main the work will take existing tools and make them more accessible and attractive to researchers with limited resources or expertise in data management.

The project does not seek to encompass all activity and every approach in current practice at UH. Its scope is limited to working with a number of leading research groups across the academic spectrum, whose requirements and issues are likely to be indicative of the whole.

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Supporting these groups, providing them with services and evaluating the impact for them will allow us to build our Research Data Toolkit, and contribute to easier and better research data management for all researchers, beyond the life and locality of the project.

The critical factors for success are:
- good engagement with our partner research groups,
- on-going commitment from our partner research groups,
- availability of technology and co-operative external vendors

1.5   Anticipated Impact

We can consider our impacts to be the extension of our outcomes beyond the scope of the project. This extension might be within UH or into the wider research community (perhaps including those similarly aspirational, active, and resourced universities for example members of the Modern Universities Research Group (MURG)).

Impact Area	Anticipated Impact Description
1. Improved productivity and quality	Better research proposals, more successful bids. More efficient conduct of research, better security of data.
2. Barriers broken	RDM becomes easier. Demonstrable and de-mystified services reduce perceived difficulties for researchers.
3. Value of data	More sustainable storage, archive and access mechanisms facilitate data re-use, new use, and lasting value.
4. Cost and Environment	Centralised or federated services will be less expensive in both real and environmental terms than many locally commissioned solutions.
5. Excellence and institutional mission	All of the above impacts contribute to an advance in research excellence and, by extension, (at UH) institutional mission

1.6   Stakeholder Analysis

Stakeholder	Interest / stake	Importance
Participating research groups	Our internal partners will commit time and effort to contribute to the outcomes and be the first to benefit from them. Their return on investment depends on a satisfactory prosecution of the project.	High
Individual researchers	Individual researchers, in and beyond UH, stand to benefit from impact 1 and 2 above.	Med
University of Hertfordshire (UH)	The university's aspirations for the extent and excellence of its research benefit from all outputs and impacts of the work.	High
Storage and system vendors	Commercial, not-for-profit and opensource vendors all stand to gain materially or by propagation of their products when new researchers adopt services demonstrated by the project.	Low/medium
Digital Curation Centre	The DCC is both a source and recipient of good practice identified by the project.	High

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JISC	The JISC is the prime investor and an important partner in the prosecution of the project.	High
National data archives and services.	The work of National archives and data services may benefit from impact 3 above.	Medium
All research active institutions and their funding bodies.	All research active communities can benefit from the RDM programme and this project's contribution to it.	Low/medium

1.7   Related Projects

The project will draw on other JISC projects including the use of Shibboleth for collaborative access (ref: Nottingham-led SAMSON project) and SWORD2.

1.8   Constraints

It may not be possible to address the full extent of the work encountered among our internal partners during the audit phase in the build and test phase. All the good practice discovered can be accounted for, but it may not be possible to include all of a group's data in the technology trials.

1.9   Assumptions

None.

1.10 Risk Analysis

Risk Description	Probability (P) 1 – 5 (1 = low 5 = high)	Severity (S) 1 – 5 (1 = low 5 = high)	Risk Score (PxS)	Detail of action to be taken (mitigation / reduction / transfer / acceptance)
Illness or unavailability of project team members	2	1	2	Other staff could increase the level of their participation or further staff could be deployed to provide cover.
Staffing – Failure to recruit Project Manager and Technical Developer	3	4	12	Project plan is scheduled such that early activities will be able to use existing staff resources, so time is allowed for the recruitment. It is likely that recruitment will be from within the University to support a prompt start
Failure to establish data-rich pilot project	1	5	5	Existing projects already underway which can be used
Failure of collaborative research project	2	2	4	Existing projects already underway which can be used
Discontinuation of senior management support	1	3	3	Long history of support for change projects, and fully aligned with UH strategic plans

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1.11 Technical Development

The thrust of the project is to build a Service Oriented Toolkit: a set of standalone, but complimentary and interoperable services to cover a broad range of RDM requirements. The project will adopt an opensource methodology of working, where it will take existing services or solutions and modify them only in so much as to offer them in the most practical way for non-technical researchers. We will aim for mature and simple solutions that have been demonstrated in existing markets. Where more complex solutions are necessary, we will try to employ systems that already have a significant body of support and experience in the research community.

1.12 Standards

Name of standard or specification	Version	Notes
W3C, WAI		Web based outputs will comply with the demands of the W3C Web Content Accessibility Guidelines. Well formed HTML/XTML/PDF will be used for best accessibility.
DCC Digital Asset Framework		RDM audit will be carried out as advised by the DAF.
Shibboleth		Wide area network authentication for open but secured access.
Dublin core, Other metadata conventions, METS, SWORD2		Where appropriate, we will employ standards based schemes for description and exchange of data. Proprietary metadata schemes (such as Google page tags) may also be used.
ISO/IEC 27001, ISO/IEC 20000		Standards compliance for Information Security and IT management. Cloud service vendors must demonstrate accreditation or show they are working toward these emerging standards.

1.13 Intellectual Property Rights

All project outputs will be made available, free at the point of use (or 'at cost' where appropriate), to the UK HE, FE and Research community in perpetuity and in accordance with JISC's Open Access and/or JISC's Open Source Software Policy wherever possible, and all outputs will be disseminated widely in partnership with JISC. The detailed content of any commercial agreement with vendors may need to be retained as confidential.

2 Project Resources

2.1 Project Partners

The project is based wholly within the University of Hertfordshire.

2.2 Project Management

The project will be led by staff from Information Hertfordshire, and report to a Project Steering Group, chaired by the University Pro Vice-Chancellor for Research. The Steering Group will comprise key

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stakeholder representatives, including Academics, Internal Service providers, University Senior Management and representation from the JISC and from the Digital Curation Centre. The Steering Group will meet quarterly. Additionally the Project Director will regularly report to the Vice-Chancellor's Advisory Group for Information Management and to the University's Research Committee.

The project will employ a core team made up of the Project Director, Project Manager, Business/Data Analyst and Systems Developer. The core team will interact with a wider project team of active researchers, other UH officers including legal and IPR experts and other UH stakeholders to build relationships, deliver services and refine outcomes. The Core team will interact day-to-day, but meet every two weeks for evaluation and reporting.

Steering Group	
Professor John Senior	Chair, Pro Vice-Chancellor (Research)
Professor Di Martin	Chief Information Officer
Dr Simon Hodson	JISC Programme Manager
Kevin Ashley	Director of the Digital Curation Centre
Professor Bruce Christianson	Professor of Informatics
Dr David Ford	Project Director
Dr William Worthington, (attendance only and clerk)	Project Manager

The project will adopt the University's current project management methodology, which has been successfully applied to a number of major development projects, and also act on the experience gained from running previous JISC funded work. Our project management methodology is Agile, in that several autonomous collaborations will explore data management strategy and services, and test, respond and iterate in order to develop a service oriented toolkit.

2.3   Project Roles

The Project Manager will have the responsibility for day-to-day coordination of the project, managing the progress of work packages and reporting. The Project Manager will report to the Project Director (UH Chief Technology Officer), the JISC Programme Manager, and the Steering Group. The Project Analyst will lead the audit and ongoing engagement with researchers. The Systems Developer will lead the service(s) implementation and liaise with vendors.

Team Member Name	Role	Contact Details	FTE
Dr William Worthington (Bill)	Project Manager	w.j.worthington@herts.ac.uk 01707 284000 x77883	See *Appendix A. Project Budget*
Dr David Ford	Project Director	d.m.ford@herts.ac.uk 01707 284671	
Ms Cathy Tong	Project Analyst	c.tong@herts.ac.uk 01707 281360	
To be recruited	Project Analyst		
To be recruited	Systems Developer		
Dr David Wellsted	Co- investigator, Health and Human Sciences	d.m.wellsted@herts.ac.uk 01707 286291	

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Dr Kirsten Rennie	Co- investigator, Health and Human Sciences	k.rennie@herts.ac.uk 01707 285919	
Prof Ranjeet Sokhi	Co- investigator, Physics, Astronomy and Mathematics	r.s.sokhi@herts.ac.uk 01707 284520	
To be appointed (informed by WP1)	Co- investigator, School of Humanities		

2.4 Programme Support

The Project would benefit from support of the Programme/Programme Manager in the following areas:
- Evaluation and quality management, including referrals to other evaluators
- Identifying dissemination opportunities, event, conferences and publications
- Alerting and introducing the project to related activities
- Promoting outputs

3 Detailed Project Planning

In an Agile methodology continual evaluation informs the next sequence of activity (and shapes the ongoing project plan), so evaluation will be a standing item on team meeting agenda. An Evaluation report will also be included as a separate deliverable (D8), rather than as appendix to the final report.

3.1 Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
Throughout	Aims and objectives	Is the project progressing towards its objectives as expected?	Steering Group (inc DCC)	Work packages are proceeding as scheduled, milestones met, deliverables delivered
Throughout	Conduct of project	Is the project being conducted in an appropriate manner? Is the documentation satisfactory?	Programme Manager	Progress Reports and project web site meet requirements of the Project Plan
To January 2012	Practice audit	Is work package WP1 progressing well?	Core Team, DCC	Comprehensive audit carried out, good practice identified, DCC/DAF procedures followed.
To January 2012	Pilot Services	Are work packages WP2 & WP3 progressing well?	Core Team	Initial requirements identified, first services delivered
Milestone M2, Mar 2012	Feed Forward	Have WP1, WP2, WP3 spawned new collaborations and satisfied needs of WP5 & WP9	Core Team	Un-envisaged activity undertaken/planned. Co-investigators for identified WP5 and WP9. Shared dataset

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				available for WP9.
Milestone M2, Mar 2012	Research Data Toolkit Alpha (RDTα)	Have WP1, WP2, WP3 lead to new guidance and early adoption of services?	Project Team, particularly co-investigators	Existing UH guidance updated, case studies of initial services deployment published. UH data policy satisfied.
Project midpoint, Jun 2012	Pilot Services	Are work packages WP2 & WP3 progressing well?	Core Team	Additional/modified requirements identified, services responded
Project midpoint, Jun 2012	Additional Factors	Have the third party storage, IPR, long term storage and access issues been addressed by WP4, WP6 & WP7? Was RDTα successfully used in WP4?	Project Team, particularly co-investigators	RDTα guidance updated
Project midpoint, Jun 2012	Review plan	Is the project plan still fit for purpose? Are changes necessary?	Steering Group	Continuing project plan Agreed
Milestone M3, Sep 2012	Pilot shared dataset	Has WP9 delivered a shared but secured dataset?	Project Team, particularly external co-investigators	Dataset available worldwide, access authenticated by wide area protocol.
Milestone M3, Sep 2012	Research Data Toolkit Beta (RDTβ)	Is toolkit progressing toward public rollout? What barriers remain?	Project Team, particularly co-investigators	RDTβ guidance revised, ready for generic deployment. Pilot services commoditised/packaged.
Milestone M4, Nov 2012	UH Research Data Toolkit	Is the toolkit fit for purpose?	Co-investigators, wider UH research community, DCC	Website metrics, feedback from Knowledge transfer day and other internal training
Milestone M4, Jan 2012	Generic Research Data Toolkit	Is the toolkit fit for purpose?	Programme colleagues, External research community, DCC	Website metrics, feedback from programme events.
Throughout	Dissemination	Has the Dissemination Plan been carried out?	Project Team	Outcomes and supporting narrative published via internal/external channels.

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3.2   Quality Assurance plan

Timing	Responsibility for Quality	QA criteria / metrics	QA evidence
Deliverable D1 – Project Plan			
November 2011	Project Manager, Project Director	Agrees with JISC Programme Guide. Satisfies UH requirements.	Reviewed and Accepted by Programme Manager. Signed off by Steering Group
Deliverable D2 – Project website			
Throughout	Project Manager	Adheres to W3C web standards. Available for syndication. Delivers well written content and comprehensive project documentation.	Passes page validation tests. All deliverables and outputs available to download. User comments on posts, other feedback.
Output – Audit Report on Existing RDM Practice			
To Feb 2012	Project Analyst, DCC	Good range of disciplines and data management tasks observed. DCC Data Audit Framework (DAF) applied.	Reviewed and Accepted by Steering Group. DAF followed. Necessary information fed forward to WP2, WP3, WP4, WP5, WP8
Output – Cloud storage services			
December 2012 onward	Systems Developer	Co-investigator requirements for storage, backup, database as a service. Funding body requirements and standards.	Service level agreements. Services adopted. Co-investigator/user feedback.
Output – Document management services			
December 2012 onward	Systems Developer, Project Analyst	Co-investigator requirements for document management. Funding body reporting requirements.	Document Management Taxonomies. Services adopted. Co-investigator/user feedback.
Output – Guidance			
Mar 2012 – Dec 2102	Core Team	Findings of WP1 to WP8 distilled into clear, plain English notes for guidance for Researchers.	Reviewed and Accepted by Steering Group. Co-investigator/user feedback. Programme/DCC feedback. UH data policy updated.
Deliverable D4 – Shared dataset			
Sep 2012	Systems	Shared data accessible online	Shibboleth logins enabled. Repository used by external

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	Developer	via agreed protocols.	evaluators.
Deliverable D3 & D5 – UH Research Data Toolkit, generic Research Data Toolkit			
Mar 2012 Sep 2012 Nov 2012 Jan 2013	Core Team	Guidance or services added or improved with each iteration. Plain English / straightforward propositions used.	Increasing web site usage/ toolkit downloads. User feedback. Programme/DCC feedback.
Deliverable D6 – Training and events			
Throughout	Core Team	Dissemination plan executed.	Independent use of services. Increasing web site usage/ toolkit downloads. Programme/DCC feedback.
Deliverable D7 – Generic Business Plan for RDM			
Mar 2013	Project Manager, Project Analyst	Facilitates estimate of costs and benefit of adopting RDM.	Reviewed and Accepted by Programme Manager and Steering Group.
Deliverable D8 & D9 – Evaluation and Final Reports			
Mar 2013	Project Manager	Fully and faithfully addresses all aspects of project. UH data policy informed.	Signed off by Programme Manager and Steering Group.

3.3 Dissemination Plan

Timing	Dissemination Activity	Audience	Purpose	Key Message
From outset	Project website, including a blog for activity and progress; links to internal and external resources; all project documentation; and Twitter feed for #rdtk_herts and #jiscmrd	Any interest parties. Search engines.	Primary source of information for UH researchers, raise awareness of project, progress reporting, publish deliverables	New RDM practices and services are being developed
From Mar 2012	Internal dissemination	UH research community	Ensure UH community is aware of project and new resources	RDM Resources and Help exists for UH researchers
Summer 2012	Technology Briefing/Workshop (part of Information Hertfordshire lunchtime briefings series)	UH stakeholders & research community	Raise awareness, informal reporting	Demonstrate new services
Nov/Dec 2012	Knowledge transfer day: presentations and workshops.	UH research community, other interested parties	Formal launch of Research Data Toolkit	Propagate new RDM practice UH wide

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As opportunities arise	JISC workshops, other conference presentations or posters submitted	External stakeholders and wider community	Publicise project outputs. Share experience	Project aims and objectives and outputs
As opportunities arise	At least two publications/ articles in RDM related field.	External research/information community	Report findings and services	Successes (and failures)
Throughout	Ad hoc JISC programme activity. Submissions to mailing lists, inter-project communications	JISC programme community	Share and gather experience	Programme advancement

3.4   Exit and Embedding Plans

Project Outputs/Outcomes	Action for Take-up & Embedding	Action for Exit
Audit Report (document and web)	Will be embedded in the completed toolkit	No further action
Case studies (document and web)	Will be made available as a resource for researchers	Make available on UH intranet and project website
Cloud storage demonstrators	Will become a service option for UH researchers	Document the service
Document management demonstrators	Will become a service option for UH researchers	Document the service and best practice for its use
Example dataset with open, but secured access	Will become a service option for UH researchers	Document the service
Guidance re: RDM planning and strategy (web pages)	Will become standard guidance for all researchers at UH, promoted by Research Office and IT	Make available on UH intranet and project website
Guidance re: Data storage and security (web)	Will become standard guidance for all researchers at UH, promoted by Research Office and IT	Make available on UH intranet and project website
Guidance re: Archive and long term access (web)	Will become standard guidance for all researchers at UH, promoted by Research Office and IT	Make available on UH intranet and project website
Recommendations	Will be discussed at University research committee and translated into UH best practice	Discussion and actions
Research Data Toolkit	Will become standard guidance for all researchers at UH, promoted by Research Office and IT	Make available on UH intranet and project website

3.5 Sustainability Plans

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address

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Guidance re: RDM planning and strategy (web pages)	Will be maintained as standard guidance to UH researchers	Will be reviewed and developed as with other University policies and guidance	Cultural change
Guidance re: Data storage and security (web)	Will be maintained as standard guidance to UH researchers	Will be reviewed and developed as with other University policies and guidance	Cultural change
Guidance re: Archive and long term access (web)	Will be maintained as standard guidance to UH researchers	Will be reviewed and developed as with other University policies and guidance	Cultural change
Cloud storage demonstrators	Will be a permanent UH service offering	Service will be developed further as take-up increases	Appropriate costing model needs to be developed for inclusion in research proposals
Document management demonstrators	Will be a permanent UH service offering	Service will be developed further as take-up increases	Appropriate costing model needs to be developed for inclusion in research proposals
Example dataset with open, but secured access	Will be a permanent UH service offering	Service will be developed further as take-up increases	Appropriate costing model needs to be developed for inclusion in research proposals
Research Data Toolkit	Will be maintained as standard guidance to UH researchers, including the further development of services	Will be reviewed and developed as with other University policies and guidance	Cultural change

Appendices

Appendix A. Project Budget

File: rdtk_herts_planAppA_finance_v10.xls

Appendix B. Workpackages

File: rdtk_herts_planAppB_workpackage_v10.doc

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