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JISC Project Plan

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Partner Institutions	Acuity Unlimited, MediaShelf LLC			
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Programme Name	Managing Research Data			
Programme Manager	Simon Hodson			

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1. Project Overview

1.1 Project Summary

The History DMP project will build on the established data management practices within the Department of History at the University of Hull. It will use the experience in data management demonstrated and recognised over the past few years to frame a departmental approach to data management to enhance and build on the individual activities that have been the basis of data management thus far. This departmental data management plan will look to support future research strategy and provide a coherent platform for data sustainability in future research. The work to be undertaken will develop an overall plan, and will then look to implement this using past, present and future research activities. The role of local technical provision, in the shape of the University's Fedora-based digital repository, will be explored and enhanced in specific ways to deliver a platform that not only manages the data, but allows for its exploitation and access as well through repository, virtual learning environment, and linked data interfaces.

1.2 Objectives

The History DMP project has the following objectives:

- To capture a departmental record of current data management practices
- To identify and gather requirements for data management across the department
- To develop a departmental data management plan to guide the management of existing datasets and inform future dataset management within projects
- To implement the data management plan based on the institutional digital repository built on Fedora, identifying the role of local provision set against subject/national provision.
- To implement mechanisms for facilitating interaction with the repository for datasets, through the use of Hydra, Sakai and the use of linked data, and highlight ways in which managed data can be exploited via these routes.

Output / Outcome Type	Brief Description
Report	D2.1 Report detailing current departmental data management practices; departmental requirements for data management; the role of data management in supporting History research (November 2011)
Report	D 3.1 Departmental data management plan (February 2012)
Checklist	Adapted DCC checklist for use with a whole department.

1.3 Anticipated Outputs and Outcomes

	(Incorportaed in D3.1)
Software functionality	D4.1 Hydra functionality for datasets; D4.2 Sakai/repository link for dataset use; D4.3 Linked data prototype exemplar (March 2012)
Report	D5.1 Case studies of three exemplar departmental datasets and how they have been managed according to the data management plan. (March 2012)
Knowledge built	Increased awareness within the History department of the potential of better data management
Knowledge built/Experience	Case study background which will enable the History Department's work to be used as an exemplar for data management planning elsewhere within and without the University.

1.4 Overall Approach

The project will commence with a series of interviews with research active staff in the History Department. These initial interviews, each approximately an hour long, will seek both to capture a formal record of existing data management activity, and requirements across the department for how data, both existing and new, should be managed in the future. In parallel with these interviews, four focus groups will be held, open to all relevant staff and postgraduate researchers, each covering one of four general areas of interest:

- quantitative data
- qualitative data
- oral testimony
- archival data

Following this information gathering exercise, a departmental data management plan (DMP) will be developed, incorporating the different requirements identified. Whilst focused at the project level, the DCC checklist for DMPs will be used as the basis for this plan, and adapted to meet the needs of a whole department. Researchers in the department will be involved in the ongoing development to ensure validity and buy-in for the final output.

The evolving data management plan will be used to inform the development of matching technological capability within the University. The implied technical requirements of the DMP for the University's repository, Hydra, for its virtual learning environment, Sakai, and for the provision of

linked data will be considered. It is anticipated that the repository's current basic provision for handling datasets will first be significantly improved and then extended to enable linked data provision. It is further envisaged that proof-of-concept work undertaken in a previous JISC-funded project at Hull, CLIF, to allow interoperability of our repository and VLE will be implemented as a service in order that datasets in the repository could easily be used within the VLE for teaching and learning purposes and, potentially, that historical datasets created within Sakai (used perhaps more as a virtual research environment) could easily be transferred to the repository.

Finally the project will seek to implement the data management plan for three of the datasets identified within the department using this enhanced technological provision:

- an existing dataset
- a dataset associated with ongoing research
- a dataset created in conjunction with a new research project

This will allow the project team and staff within the department to test and report on processes for data management identified as part of the plan and to record the experience for future reference.

1.5 Anticipated Impact	
Impact Area	Anticipated Impact Description
Maintain research excellence; maintain teaching & learning excellence	The History Department is focused on developing further for REF2014, particularly in relation to the impact of data: History is taking a lead on this and is one of the two departments trialling the new University research information system to inform research output collection processes. Data collection, management, and dissemination is a vital part of historical research, not least so that original data sources can be preserved in the most suitable format: as the SUDAMIH project ¹ found datasets of historical data are likely to be as useful in 50 years as they are today. But wider accessibility to structured data now also allows for further analysis and interpretation to take place, and thus further research on the history within the data. Many data sources can also be used for research within other disciplines; for example language- based or archaeological research, fostering interdisciplinary collaboration opportunities: data can also be used to enrich

1.5 Anticipated Impact

¹ Supporting Data Management Infrastructure for the Humanities (SUDAMIH) project, <u>http://sudamih.oucs.ox.ac.uk/</u>

	teaching, and act as the link between research and learning for students. Both interdisciplinary use and use in teaching are core parts of the recently refreshed University of Hull Strategic Plan. ²
Be more effective	Within the History Department data has been generated across a wide range of research areas in recent years. The solutions, though, have tended to be focused on the individual projects and there has rarely been coordination of effort or approach in what solution is used in any one case, an issue reflected in the findings at Oxford in SUDAMIH. The History DMP project will allow the Department of History to develop a data management plan for the department as a whole that draws together experience, expertise, and best practice from different projects to inform how data can be best managed, preserved, and exploited to maximise its value across the Department and to inform data management for History in general. This will include realising the benefits from clear assignment of responsibilities as promoted by the ESRC/UKDA, ³ developing the necessary data management resources library, and following the RCUK Common Principles on Data Policy. ⁴
Be ready for technology needs in the future.	Whilst the University's digital repository offers the scope for managing datasets locally for preservation and dissemination, we do not wish it to become a silo. The JISC-funded CLIF project ⁵ (2009-11) developed code to allow the integration of a Fedora repository with Sakai, the open source collaboration and learning environment. ⁶ Sakai is used as the primary VLE system for the University, but has also been used to foster collaborative historical research through the JISC VRE project on the History of Political Discourse, 1500-1800 ⁷ (which also used Sakai on a taught MA on this topic). For its potential in supporting both the use of data in teaching and use within a

 ² University of Hull Strategic Plan website, <u>http://www.hull.ac.uk/strategy</u>
 ³ DMP-ESRC Data Management Recommendations for Research Centres and Programmes, <u>http://www.data-</u> archive.ac.uk/media/257765/ukda_datamanagementrecommendations_centresprogrammes.pdf ⁴ RCUK Common Principles on Data Policy, <u>http://www.rcuk.ac.uk/research/Pages/DataPolicy.aspx</u> ⁵ Content Lifecycle Integration Framework (CLIF), <u>http://www2.hull.ac.uk/discover/clif.aspx</u>

 ⁶ Sakai, <u>http://www.sakaiproject.org/</u>
 ⁷ Virtual Research Environment for the History of Political Discourse, 1500-1800,

http://www.jisc.ac.uk/whatwedo/programmes/vre1/politicaldiscourse.aspx

research environment the CLIF integration will be implemented and tested for use with datasets.

The technical environment that exists at the University of Hull and which will be exploited to support data management in accordance with the data management plan developed will provide a set of case studies on the different ways in which data can be made available to maximise its value. Notwithstanding the platform, the way in which data is made available can also play a part. Whole databases/spreadsheets or identified subsets can be made available for download. However, individual parts of the dataset can also be exposed for direct interrogation. This can be managed by curating the way links into the dataset are enabled using a linked data approach. This case study will complement the others and provide a fuller picture of how data management can serve future uses.

1.6 Stakeholder Analysis

Whilst research in History has traditionally been an individual pursuit, this has not prevented collaboration on the production and use of data from such research. The History DMP project will use this as the basis of the development of the data management plan, highlighting the value to historical research institutionally and generally of effective and coherent management of data. The project will face two communities of interest: the History community, and the local University community. For both cases, the project will seek to find a crossover between the specifics of the project and the wider needs of those communities, through both appropriate stakeholder analysis and subsequent interviews with relevant academics (as described in the section on workpackages).

The key stakeholders for this project are those working in an historical research capacity. Hence, while an analysis of all stakeholders would appear to be favouring technical audiences, none of the interest expressed by them would be relevant if the History community were not interested in pursuing data management plans. Academic involvement in this project is thus crucial to carry the message through peers.

Stakeholder	Interest / stake	Communication route(s)	Importance
History researchers	Awareness of data sources, awareness of role of data in support of research	Within academic papers/talks	High

. .			
Data	Understanding how to best serve the	Through RESEARCH-	High
managers needs of humanities, and specifically		DATAMAN discussion	
	history, researchers	list and ARMA	
Repository	Appreciating how to work with	Through UKCoRR and	Medium
managers	datasets from History and related	JISC-REPOSITORIES	
	subjects		
Fedora	Awareness of how Fedora can be used	Through Fedora	Medium
community	for the management of datasets in a	mailing lists and	
	flexible and reproducible way.	DuraSpace	
		communications	
Hydra	Expanding the implementation of	Through Hydra mailing	High
community	Hydra to incorporate datasets,	list and wiki	
	increasing the understanding of dealing		
	with these		
Sakai	Case example of how Sakai can be used	Through Sakai mailing	Low
community	to enhance VRE activity through	lists	
	extended access to relevant resources		

1.7 Related Projects

The History DMP project builds on work undertaken at Hull and elsewhere in a number of projects:

The JISC-funded **RepoMMan** and **REMAP** projects contributed greatly to the development of a Fedora-based institutional repository at Hull and to a small collection of workflow tools around it. This work was presented at the international Open Repositories 2008 conference as the direct result of which the **Hydra Project** partnership (the Universities of Hull, Virginia and Stanford University with Fedora Commons) was instigated later that year.

The JISC-funded **CLIF** project examined the potential for integration between, on the one hand, Fedora and Sakai and, on the other, Fedora and Microsoft SharePoint. This work was undertaken against the background of the Hydra Project and a commitment that Hull would shortly move to a Hydra-compliant Fedora repository; thus digital objects produced and consumed by the CLIF software are themselves Hydra compliant.

The JISC-funded **Hydrangea in Hull** project assisted the University, which had used Muradora as a front-end for its digital repository, to switch to Hydra. It is this Hydra and Fedora based system that will be used in the context of the History DMP project.

The project will give close attention and build from the findings of the **SUDAMIH** project and its requirements gathering for humanities research generally. Other projects from the first round of the MRD programme that will be learnt from and used are Incremental, IDMB and CARDIO.

1.8 Constraints

Over and above what one might expect in an HE context we should note that our software developers are part of the Information and Communication Technology Department and not part of Library and Learning Innovation; thus it is that the project leaders have to negotiate for their time. ICTD were forewarned of this project and have indicated their willingness to have the project 'buy' the necessary development resource, however on a day-to-day basis there is the possibility of conflicting priorities.

1.9 Assumptions

The project assumes the willing cooperation of a number of staff from the History Department in helping to develop a data management plan and in providing datasets against which to develop and test it. Early soundings suggest that this will not be a problem (see 'organisational' risks below).

Risk	Probability	Severity	Score	Action to Prevent/Manage Risk
	(1-5)	(1-5)	(P x S)	
Staffing				
Staff leave	1	4	4	Ensure good communication
				between staff involved to allow for
				stepping in if anyone leaves
Organisational				
Department does not	2	4	8	Department has indicated buy-in,
buy-in to work				but future reluctance will be
				addressed through internal
				champions and highlighting benefits
Department has to	4	2	8	Identify times when this is likely to
focus on other activity				happen and plan schedule around
				them.
Technical				
Hydra head doesn't	1	2	2	Requirements will be full assessed
meet requirements				prior to implementation so local
				adjustments can be made

1.10 Risk Analysis

Sakai link doesn't meet requirements External	1	2	2	Requirements will be full assessed prior to implementation so local adjustments can be made
	1	1	1	Local option for using repository will
ESDS changes	1	L L	1	Local option for using repository will counterbalance any changes to
				external repositories used.
Legal				
Disputes over	2	2	4	Use data management planning to
ownership and				raise awareness of need to address
copyright of datasets				this, and highlight routes that could
affect management				be used to address issues.
plan				

1.11 Technical Development

The Fedora digital repository provides a stable yet flexible platform upon which to base the management of digital content. It was adopted by the University of Hull to provide scalable repository provision for the future and the ability to deal with whatever digital content need to be managed, including datasets with the variety of formats etc. they can bring. Fedora has a powerful digital object model⁸ at its heart that allows it to adapt as circumstance determines, including the ability to relate datasets to other objects, for example related publications.

The Hydra project capitalises on the interface flexibility that Fedora provides (deliberate so that the interface can be built around the content being managed) to provide a re-purposable framework for the development of different interfaces (Hydra heads) according to need over a common repository (Hydra body). The technical implementation of the Hydra model, as undertaken for the Hydrangea project, uses the agile Ruby on Rails framework to allow for rapid prototyping and testing allowing for new interfaces for new content to be implemented rapidly. This project will seek to better understand the requirements for handling datasets within the repository. In particular it will look closely at collecting and applying appropriate metadata to allow the effective discovery and potential (re-)use of data both as full datasets within Hull's Hydra implementation to incorporate any metadata enhancement and to provide appropriate create-read-update-delete capability around data (sub-)sets.

The Sakai collaboration and learning environment has been in use as the institutional VLE at Hull since 2008. The environment can be applied equally to support learning or research collaboration, and has formed the basis of research communities within a number of JISC VRE projects (including

⁸ Fedora digital object model, <u>https://wiki.duraspace.org/display/FCR30/Fedora+Digital+Object+Model</u>

implementations at Oxford, Cambridge and Lancaster). The CLIF project has provided us with a proof-of-concept mechanism for linking this system with Fedora to allow content to move seamlessly between them, allowing the data to be accessed through whichever system is considered most appropriate for the use required. This project will take the CLIF work and refine it to production status.

The exploration of linked data, and specifically link curation, is recognition that datasets are structured, and that this structure can be exploited in parts just as much as with the whole of the dataset, particularly when linked to ontologies describing elements of the data. The project will make use of existing, openly available tools and APIs, including Google Refine⁹ and OKKAM,¹⁰ to demonstrate how the structure of a dataset can be just as much of an asset in managing the data, and thus potentially an important part of any data management plan.

All code arising from this project will be available to the community:

- all CLIF code is already available at http://www.github.com/uohull (as is Hull's implementation of the Hydra software). The Sakai piece has been disseminated at the JA-SIG and Open Repositories conferences, and at the European Sakai. There are no plans to feed this into the main Sakai project code repository at the moment, but options to do so are being explored.
- all Hydra repository-related software will either be shared through the above link or via the main Hydra code repository at https://github.com/projecthydra. Hydra works on the model that separate local implementations and adaptations of the base code will be shared as others request it (through the Hydra partners/developers community). Hydra is moving to a more modular architecture to allow simpler sharing of code in this way and allow others to exploit the software more easily.

1.12 Standards

Name of standard or specification	Version	Notes
MODS	3.4	Hull's Hydra implementation is currently based on MODS 3.4 as the metadata standard.

⁹ Google Refine, <u>http://code.google.com/p/google-refine/</u> and <u>http://lab.linkeddata.deri.ie/2010/grefine-rdf-extension/</u>

¹⁰ OKKAM, <u>http://api.okkam.org/</u>

Hydra compliance		Whilst not a standard as such, the notion of
		Hydra-compliance has grown out of the
		Hydra Project. Fedora provides myriad
		ways to structure a digital object: Hydra
		has suggested a structure that can be easily
		and widely adopted in order to provide a
		level of potential, flexible interoperability
		between systems built over Fedora.
RDF for data		The Resource Description Framework is the
		W3C's standard model for interchange of
		data on the Web. As such, the project will,
		through the linked data exploration, identify
		how RDF can be used as part of a
		management plan for data on the Web.
OWL	2	
CSV		Not a standard per se, though used as a
		standard in a de facto way, the use of CSV
		highlights the need to understand what
		format standards will be appropriate for use
		as part of a data management plan. CSV
		offers a lowest common denominator for
		much data, and it is to be discovered
		whether it suffices or if other formats are
		also required.

There are a number of 'question marks' around standards for this project in the area of linked data. At this stage it is not possible to be specific about the standards that ultimately will be adopted. We will adhere to the W3C standards for Linked Open Data at a minimum, plus conventions at different levels. The most domain specific level would be the "domain ontologies", we may need to be specific on the use case for the HDMP case study - eg the extent to which we are targeting a specific researcher group, how general-purpose etc. The project will explore the appropriate standards as work develops and will make clear in its Final Report which were adopted. This is an area in which our sub-contractor Acuity Unlimited has considerable expertise.

1.13 Intellectual Property Rights

IPR in the datasets used for the project is addressed in the risk assessment. Clarity on this, an acknowledged issue, will be sought as part of the requirements gathering to provide an accurate picture of any issues that may need addressing.

IPR in the data management plan and other documentary outputs (whether produced by the University's staff or its subcontractors) will reside with the University, but will be made available openly in perpetuity to the UK Higher Education community.

IPR in Hydra outputs will be made available, as with all Hydra outputs, under the Apache 2.0 licence (including all code input from MediaShelf). All code contributions back to Hydra will be covered in this way, and also submitted under the terms of the Hydra code licensing agreement (currently under development). This statement covers code produced by the University and its subcontractors for this project.

IPR in the Sakai link code from CLIF is held by the University, but is released under an Apache 2.0 licence for use by others.

IPR in any data manipulated for exposure as linked data will remain with the University or with the copyright holder as agreed. IPR in any code developed by Acuity Unlimited for the project will also be released under an Apache 2.0 licence.

2 Project Resources

2.1 **Project Partners**

University of Hull

- Lead institution
- Main contact: Chris Awre (c.awre@hull.ac.uk)

Richard Green, Independent Consultant

- Sub-contractor: Project manager
- r.green@hull.ac.uk [this is the normal contact person for the project]

Acuity Unlimited

- Sub-contractor: Linked data
- Martin Dow (martin.dow@acuityunlimited.net)

MediaShelf LLC

- Sub-contractor: Hydra/Fedora
- Eddie Shin (edwin.shin@yourmediashelf.com)

There are no project partners (a consortium) for this work, only subcontractors.

2.2 Project Management

Richard Green, project manager on a range of previous JISC repository-related projects since 2005, will manage the project. John Nicholls has carried out the role of data manager at Blaydes House (a unit within Hull's History Department) and will act as project officer and link within the department itself for interviews and focus groups. Chris Awre (LLI), David Starkey and Peter Wilson (both History) will form a steering group to direct the project. Staff in ICTD will contribute as required, and will be managed through ICTD management in liaison with Chris Awre. External software consultancy input (Acuity Unlimited and MediaShelf LLC) will be managed through Richard Green.

2.3 Project Roles

Team Member Name	Role	Contact Details	Days per week to be spent on the project
Chris Awre	Project Director; Steering Committee Chair	c.awre@hull.ac.uk	0.05 FTE (~2h)
Richard Green	Project Manager	r.green@hull.ac.uk	0.5 FTE (18.5h)
John Nicholls	Project Officer	j.nicholls@hull.ac.uk	0.3 FTE for months 1-2 (~11h); 0.4 FTE for months 3-6 (15h)
Simon Lamb	Software developer (Hydra)		20 days total
John Higham	Software developer (Sakai)		5 days total
David J Starkey	Steering Committee		0.05 FTE (~2h)
Peter Wilson	Steering Committee		0.05 FTE (~2h)
Acuity Unlimited	Linked data		15 days total
MediaShelf LLC	Hydra/Fedora		17 days total

2.4 Programme Support

The project has no support requirements at this time.

3 Detailed Project Planning

3.1 Evaluation Plan

As with the stakeholder analysis, the key to a successful outcome for this project will be involvement of and communication with academics within the Department of History, who this project is primarily aimed at serving. In particular, the opportunity to apply the data management plan in a real current funding application will be explored as far as possible within the project's timeframe and evaluated for further evidence of its value and usefulness.

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
End each month	Project progress	Is project on track?	Steering Group/JISC review of progress	Monthly reports to Steering Group and JISC Programme Manager submitted on time
End month 2	Requirements gathering	Are requirements clear?	Reflect back findings to History academics	Agreement from History academics
End month 5	Data management plan incorporating checklist	Is plan complete?	Review with History academics	Steering Group signs off plan
End month 5	Data management case studies	Have case studies successfully demonstrated how the plan can be implemented to best advantage? What value has been demonstrated through use of the plan?	Review with History academics	Steering Group signs off case studies

End month 6	Technical	Has it been	Review against	Steering Group signs
	developments	possible to fully	user	off outcomes
		implement	requirements and	
		requirements in	with History	
		technical platform?	academics	

3.2 **Quality Assurance**

Output / Outcome	Project plan and related repo	Project plan and related reports.		
Name				
When will QA be carried out?	Who will carry out the QA work?	What QA methods / measures will be used?		
At draft stage, prior to submission	Project Director and/or Steering Committee as appropriate	Comment and feedback leading to revision(s)		

Output / Outcome Name	Record of departmental data management practices; record of requirements for data management; report on role of data management in supporting History research.		
When will QA be carried out?	Who will carry out the QA What QA methods / measures will be used? work?		
At draft stage, prior to submission	Steering Committee, contributing staff, other History Department staff	Comment and feedback leading to revision(s)	

Output / Outcome Name	Departmental data management plan; adapted DCC checklist for use with a whole department.		
When will QA be	Who will carry out the QA	What QA methods / measures will be used?	
carried out?	work?		
At draft stage,	Steering Committee,	Comment and feedback leading to revision(s)	
prior to submission	contributing staff, other		
	History Department staff		
	Another department within		
	the Faculty of Arts & Social		
	Sciences, plus the Research		
	Funding Office and IT		
	department		

Output / Outcome Name	Hydra functionality for datasets; Sakai/repository link for dataset use; linked data prototype exemplar.		
When will QA be	Who will carry out the QA	What QA methods / measures will be used?	
carried out?	work?		
Iteratively during	Project Director, Project	Test functionality and implementation	
development	Manager, Project Officer		
In later stages of	Contributing History staff	Comment and feedback on implementation and	
development		usefulness	
(noting that			
functional			
prototypes exist			
for most of these			
items)			

Output / Outcome Name	Case studies of departmental datasets and how they have been managed according to the data management plan.		
When will QA be carried out?	Who will carry out the QA What QA methods / measures will be used? work?		
At draft stage, prior to submission	Steering Committee, contributing staff, other History Department staff	Comment and feedback leading to revision(s)	

3.3 Dissemination Plan

Dissemination for this project is clearly split between those events being attended by colleagues in History, and those attended by repository staff, notwithstanding the combined efforts through blog and Twitter. The emphasis on the key messages will thus be focused according to audience, addressing the different interests within these.

Timing	Dissemination Activity	Audience	Purpose	Key Messages
Summer 2012	History conferences attended by local academic staff (a list of possible conferences is currently being compiled) JISC event presentations as available (e.g., Repository Fringe 2012)	Different academic History circles (acknowledging the connection by subject and period for historians) Technical and non-technical audiences within stakeholders	To alert local and external communities to the benefits of effective planning in support of the management of data for research and emanating from research	 That data management for research in History has good established practices That a data management plan can help to guide and enhance those practices for the
Summer 2012	Presentation at OR12, Edinburgh	Technical audiences within stakeholders		best pragmatic outcome institutionally, and help to
Autumn 2012	Presentation at EuroSakai, 2012	Technical audiences within stakeholders		identify gaps - That an institutional repository can be
Throughout	Project blog	All stakeholder groups		used to support the management of data and
Throughout	Project Twitter tag (#historydmp)	All stakeholder groups		access to it through the application of
Spring 2012	Submission of report and plan to University Research and Enterprise Committee, plus engagement with Faculty Research Committees and Deputy Deans for Research	University research leaders and administrators		flexible interfaces - That funding body requirements for data management can be addressed and met through applying a plan.

3.4 Exit and Embedding Plans

Project Output	Action for Take-up & Embedding	Action for Exit
Project plan and	Dissemination via relevant mailing	Deposit of documents in local
reports	lists, incorporation of outcomes in	repository and JISC repository
	departmental planning documents	
Data management	Dissemination via relevant mailing	Deposit of documents in local
and History reports	lists, incorporation of outcomes in	repository and JISC repository
	departmental planning documents	
Adapted DCC	Liaise on dissemination with DCC	Feedback to DCC
checklist for dept		
Hydra	Showcase within Hydra community,	Feedback developments to Hydra
implementation	establish future use with ICTD for	github
	data management generally	
Sakai	Showcase with Sakai community,	CLIF Fedora-Sakai linking software
implementation	establish future use with ICTD for	already available via github
	data management generally	

3.5 Sustainability Plans

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
Data management plan	Incorporation in research planning process for department, provided as exemplar for others to adapt	Work with Department of History to identify future management and maintenance of the plan	
Case studies	Incorporation as part of the plan to provide evidence of use	Deposit of documents in local repository and JISC repository	

Linked data	Use as exemplar of	Store outputs from	
implementation	how linked data can	exemplar in local Fedora	
	be used to enhance	repository	
	data produced and		
	managed		

Whilst the table focuses on the specific project outputs, planning for the sustainability of the work carried out in the project, and the data management plan itself, will also be incorporated into departmental planning during the project's lifetime. The University's annual strategic planning round for 2012-13 will take place during the project period, and this offers an opportunity to formally adopt approaches for support of the data management plan for future research. Specific possibilities, which will be considered at departmental and University level, include:

- Identifying specific data impact case studies for submission to REF2014
- Adding data management to the research & training seminar series
- Adding data management to the Staff Development Programme
- Incorporating data management into postgraduate workshops
- Inclusion in research strategies

Institutionally we shall be guided by the DISC UK DataShare Policy-making for Research Data in Repositories Guide in establishing the management of datasets within the repository as part of the long-term implementation of the data management plan and extension of the role of the repository for this purpose

Appendices

Appendix A. Project Budget				
Directly Incurred Staff	Apr 11 – M	ar 12 TOT	AL £	
Project Manager 0.5 FTE	£ 12,000	£ 12	,000	
(External Consultant)				
AcuityUnlimited	£ 10,000	£ 10	,000	
MediaShelf	£ 12,000	£ 12	,000	
Total Directly Incurred Staff (A)	£ 34,000	£ 34	£ 34,000	
Non-Staff	Apr 11 – M	ar 12 TOT	AL £	
Travel and expenses	£ 2,000	£ 2,	000	
Hardware/software	£ -	£ -		
Dissemination	£ 1,000	£ 1,	000	
Consumables	£ 300	£ 30	0	
Total Directly Incurred Non-Staff (B)	£ 3,300	£ 3,	300	
Directly Incurred Total (C) (A+B=C)	£ 37,300	£ 37	,300	
Directly Allocated	Apr 11 – M		AL £	
Project Officer 0.3 FTE for months 1-2, then 0.4	£ 6,963		963	
FTE for months 3-6				
Project Director, 0.05 FTE	£ 1,634	£ 1,		
Software developer #1, 20 days	£ 3,395	£ 3,		
Software developer #2, 5 days	£ 849	£ 84		
Steering committee #1, 0.05 FTE	£ 1,843	£ 1,		
Steering committee #2, 0.05 FTE	£ 2,139	£ 2,		
Estates	£ 2,514	£ 2,	514	
Directly Allocated Total (D)	£ 19,337	£ 19	,337	
Indirect Costs (E)	£ 9,691	£ 9,	691	
Total Project Cost (C+D+E)	£ 66,328	£ 66	,328	
Amount Requested from JISC	£ 57,956		,956	
Institutional Contributions	£ 57,956 £ 8,272		,550 272	
	,_, _			
Percentage Contributions over the life of the	JISC		al	
project	87.4 %		%	
No. FTEs used to calculate indirect and estates	No FTEs:	Which staff? All	under Directly	
charges, and staff included	0.31 Allocated			

Appendix A. Project Budget

Appendix B. Workpackages

	October	November	December	January	February	March
WP1						
WP2						
WP3						
WP4						
WP5						

Note: Target dates given below refer to the *end* of the month stated.

WP1: Project management (Months 1-6)

To oversee the work of the project and to ensure all milestones and deliverables are delivered according to the project plan and timetable.

Outputs:

- D1.1 Project plan (October 2011)
- D1.2 Final report (March 2012)
- D1.3 Completion report (March 2012)

WP2: Requirements gathering (Months 1-2)

To use a series of interviews with research active staff in the department and focus groups to both capture a formal record of existing data management activity and requirements across the department for how data, both existing and new, should be managed in the future.

Output:

• D2.1 Report covering record of departmental data management practices; record of requirements for data management; report on role of data management in supporting History research. (November 2011)

WP3: Data management plan (Months 3-5)

To develop a data management plan for the department, incorporating the different requirements identified. Whilst focused at the project level, the DCC checklist for DMP will be used as the basis for

this plan, and adapted to meet the needs of a whole department. Researchers in the department will be involved in the ongoing development to ensure validity and buy-in for the final output.

Output:

• D3.1 Departmental data management plan; adapted DCC checklist for use with a whole department. (February 2012)

WP4: Enhancing local infrastructure and services (Months 3-6)

To implement mechanisms that facilitate interaction with the local digital repository for dataset management.

Output:

- D4.1 Hydra functionality for datasets (March 2012)
- D4.2 Sakai/repository link for dataset use (March 2012)
- D4.3 Linked data prototype exemplar (March 2012)

WP5: Data management plan implementation (Months 4-6)

To implement the data management plan for a subset (one existing, one project ongoing, and one new project) of the datasets within the department using the University's digital repository and the enhanced local infrastructure as the basis for the data management. Processes for data management identified as part of the plan will be tested and the experience recorded within the plan for future reference.

Output:

• D5.1 Case studies of departmental datasets and how they have been managed according to the data management plan. (March 2012)