



## Project Plan

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## 1. Background

### The Federated Digital Repository at the University of Oxford

An increasing amount of digital materials are being produced on a daily basis by researchers at the University of Oxford. These materials include journal articles, theses, images and datasets. The University has the responsibility for providing services to store, curate, disseminate and preserve outputs from research activities. . These services are increasingly made available at Oxford through digital repositories. There are also digital materials produced outside of the University, that are nonetheless required within Oxford for research purposes, and that are efficiently managed through repositories.

Currently there are several repository activities under way at Oxford. The Oxford Research Archive (ORA) was established to address some of the issues relating to the provision of repository services research publications. Other repository activities<sup>1</sup> dealing with research outputs, including datasets, are being led by OULS, the Oxford eResearch Centre (OeRC), the Department of Zoology, the Medical Science Division and the Mathematical Institute. The Oxford Digital Repositories Steering Group, chaired by the Pro-Vice Chancellor (Research & ASUC), provides strategic oversight of digital repository activities.

In 2005 the Research Councils UK (RCUK) issued a statement on access to research outputs where it was declared that, "*data underpinning the published results should be made available as widely and rapidly as possible*". The main funding bodies in the UK adhere to RCUK principles, requiring the deposit of data generated during the research process.<sup>2</sup> The UK is rich in domain-specific national data archives. However, as the JISC funded SToRe<sup>3</sup> survey highlights, although half of the respondents had created some form of research data, 71% of them had never deposited datasets with a national data centre. This observation, together with strategic decisions such as the cessation of funding for the Arts and Humanities Data Service (AHDS), are compelling reasons for institutions to take responsibility for the curation and preservation of their own research data.

The storage, curation and preservation of research data presents special challenges. Data are often complex and heterogeneous with little agreement on standards to describe data across disciplines. The current digital

<sup>1</sup> An up to date listing of all these activities can be found at: <http://www.ict.ox.ac.uk/repositories/>.

<sup>2</sup> Gibbs, Harry (2007) "DISC-UK DataShare State of the Art Review" <http://www.disc-uk.org/datashare.html>.

<sup>3</sup> Information about the SToRe project can be found at : <http://jiscstore.jot.com/WikiHome>.

repository infrastructure in place at Oxford requires extra services and expertise to deal with these issues. In the absence of a coordinated approach diverse repository solutions have emerged within different groups at the University. Better interoperability and communications are required if the federated digital repository is not to become unsustainable.

## **2. Aims and Objectives**

The project's overall aim is to scope the requirements, including for the underlying infrastructure and interoperability, for digital repositories services to store, curate, disseminate and preserve research data generated at Oxford.

Objectives:

- Capture and document researchers' requirements for digital repository services to handle research data.
- Participate actively in the development of an interoperability framework for the federated digital repository at Oxford.
- Make recommendations to improve and coordinate the provision of digital repository services for research data.
- Initiate and develop collaborations with the different repository activities already occurring to ensure that communication takes place in between them.
- Raise awareness at Oxford of the importance and advantages of the active management of research data.
- Communicate significant national and international developments in repositories to relevant Oxford stakeholders, in order to stimulate the adoption of best practices.

## **3. Overall Approach**

The Digital Repository Research Coordinator will work closely with the relevant digital repository constituencies and the research groups which use and produce data across the University. The post is based at the OeRC, line managed by Michael Fraser from OUCS and Richard Ovenden from OULS, and reports to the Oxford Digital Repositories Steering Group and the Office of the Director of IT. The project is funded for one year during which the activities outlined below will take place.

## **4. Project Activities**

- Review the literature and identify relevant activities, strategies and policies being developed within comparable research-led institutions (including funding bodies);
- Undertake a scoping study which documents the requirements for the management, curation, access to and preservation of research data (including an audit of existing practice and digital resource types within the University's research domain);
- Developing an interoperability plan that defines the standards and interfaces between the required repository services (including with the OULS Fedora system), together with best practice in service-oriented approaches to repository services, metadata management and resource discovery.
- Organise a series of expert workshops which both bring together internal and external expertise to assist in defining the required repository services for research data, and which also serve to raise awareness within the University of the activities underway;

- Reporting to various bodies; maintaining a project website and associated dissemination/management activities.

A more detailed breakdown of the above activities into work packages is provided in the Appendix.

## 5. Project Outcomes

- The project will guide the University in deciding what actions are needed and determining the priorities to improve current digital repository services for research data.
- The project will allow different communities (Library, OUCS, e-Research and academic research groups) to coordinate their efforts towards the development of innovative repository services.
- This project will stimulate internal discussion and thus prepare the groundwork for new activities and developments in this area.
- The project will identify risks for the University in respect of the management of research data and related digital materials, and will make recommendations for the mitigation of identified risks.

## 6. Stakeholder Analysis

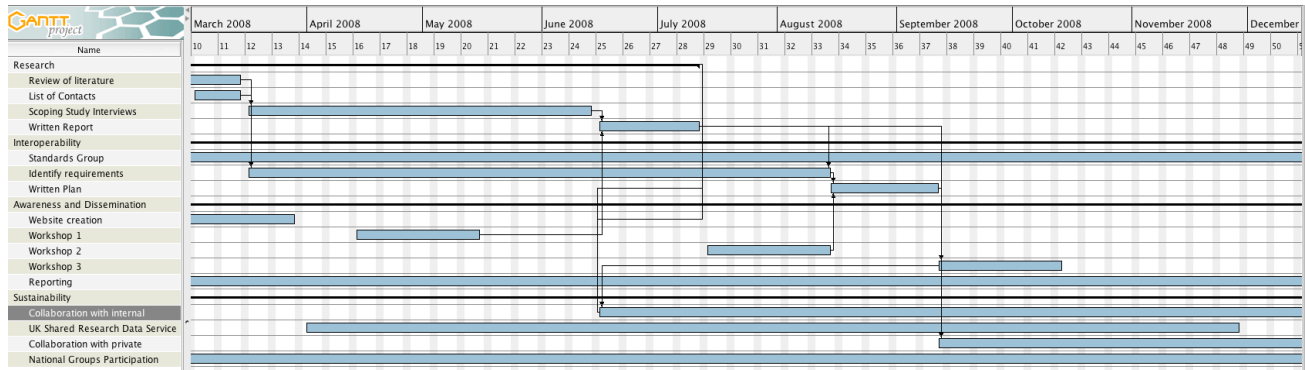
Stakeholder	Interest / stake	Importance
Oxford Digital Repositories Steering Group	Coordinates the development of digital repository services within Oxford and makes recommendations for prioritising future developments.	High
Academic Divisions	Departments, faculties, research groups and individuals are responsible for the creation, reuse and management of research outputs, including data, in conformance with both internal and external policies. Controlled access to data, whether as part of a collaboration, for wider reuse, long-term preservation, or to meet security or ethical obligations, is increasingly important. The amount and complexity of digital objects produced or used within a research context is growing beyond the point at which a single project or unit can be expected to provide the supporting infrastructure.	High
OULS	Responsible for a wide range of digital curation activities, including the Oxford University Research Archive (ORA). OULS seeks to extend the remit of repository services to curate and preserve research data.	High
OUCS	Seeks to meet the ICT requirements of the University, including for the support of research. OUCS offers the HFSS backup and archiving service for long-term data storage.	Med
Oxford Centre e-Research	The OeRC has a special interest in participating in data management and data curation related initiatives as well as seeking to integrate the OeRC with other digital repository activities happening at Oxford.	Med
Research Services Office (RSO)	The RSO monitors and communicates funding body policies for data management and access.	Low

## 7. Risk Analysis

<b>Risk</b>	<b>Probability (1-5)</b>	<b>Severity (1-5)</b>	<b>Score (PxS)</b>	<b>Action to mitigate Risk</b>
<i>Staffing</i>				
Loss of key staff before end of the project	2	4	8	Ensure the project is embedded in institutional practices by spreading expertise across a number of individuals. Ensure that planning for sustainability begins early.
<i>Organizational</i>				
Difficulties in arranging interviews with relevant members of the research community	2	4	8	The engagement of the OeRC, OUCS and OULS in the project offers a wide set of contacts in the academic divisions and expertise in undertaking the requirements gathering exercise
Delays in achieving tasks from project plan	2	3	6	Tasks will be prioritized and, in the case of delay, the project plan will be re-profiled to focus on the highest priority activities.
<i>Technical</i>				
Problems in identifying and agreeing valid standards for the interoperability plan	3	2	6	Establishing the membership of the Digital Repositories Standards Working Group and close collaboration with technical staff from existing repository activities (both within and beyond Oxford).

## Appendix

### Detailed Project Planning



**Work package 1: Research** – to document the current situation for dealing with research data in other similar research institutions and capture Oxford University researchers’ requirements, including data users/producers and potential users, for repository services to store, curate, disseminate and preserve research data.

	Task	Duration	Start Date	Dependencies
1.1	Review the literature to identify relevant activities, strategies and policies	1 month	Mid February	
1.2	Build a list of contacts from relevant repository activities, data producers/users from academic divisions groups and potential users	Throughout but first list in 15 days	March	
1.3	Undertake a series of one to one interviews with data producers/users and potential users	3 months	Mid March	1.2
1.4	Produce written report with recommendations	1 month	Mid June	1.3, 3.2

**Work package 2: Interoperability** – to layout the formal and technical principles for interoperation of the different digital repositories in terms of metadata for description and preservation, best practice on SOA approaches and policies needed.

	Task	Duration	Start Date	Dependencies
2.1	Convene the Digital Repositories Standards Working Group, a forum to discuss and agree on interoperability needs	Throughout	Mid February	
2.2	Identify technical and formal requirements for interoperation of repositories from working group meetings, scoping study and interviews with repository managers	5 months	Mid March	1.2, 1.4
2.3	Produce written plan	1 month	Mid August	2.2, 3.3

**Work package 3: Awareness and Dissemination** – to raise awareness at Oxford about the advantages of and best practice in curating and preserving data whilst stimulating discussion with the relevant stakeholders

	<b>Task</b>	<b>Duration</b>	<b>Start Date</b>	<b>Dependencies</b>
3.1	Website creation and other features geared towards dissemination activities such as blog with RSS feeds	1.5 months	Mid February	
3.2	Design, organize and deliver workshop 1 – data management for researchers topic	1 month	Mid April	1.2
3.3	Design, organize and deliver workshop 2 – data in repositories	1 month	Mid July	1.2
3.4	Design, organize and deliver workshop 3 – results of scoping study and interoperability plan	1 month	Mid September	1.2
3.5	Reporting to internal groups through written reports, presentations and blog	Throughout		

**Work package 4: Sustainability** –to identify collaborative opportunities to address the recommendations produced as part of the scoping study.

	<b>Task</b>	<b>Duration</b>	<b>Start Date</b>	<b>Dependencies</b>
4.1	Identify funding opportunities and explore collaborations with current repository activities	6 months	Mid June	1.4, 2.3
4.2	Coordinate Oxford's contribution to the UK Research Data Service feasibility study.	8 months	April	
4.3	Explore collaborations with the private sector	3.5 months	Mid September	1.4, 2.3
4.4	Participation in national groups; RIN Libraries and Researchers Working Group; CURL/SCONUL Joint Task Force on e-Research	Throughout		