

Repositories and Preservation Proposal Cover Sheet

Cover Sheet for Proposals (All sections must be completed)		JISC Capital Programme
Name of Capital Programme: Repositories and Preservation Programme		
Bid for Call Area : (Please tick ONE BOX ONLY, as appropriate)		
Tools and Innovation (Strand B)		
<input type="checkbox"/>	Call Area I – Tools and Innovation Projects	Please specify area of proposed project eg <i>'metadata generation and validation'</i>
Discovery to Delivery (Strand C)		
	Call Area II – Discovery to Delivery Projects	<input type="checkbox"/> a) Version identification framework <input type="checkbox"/> b) Persistent identifier interoperability demonstrator <input type="checkbox"/> c) Federated access management and repositories <input type="checkbox"/> d) Semantic interoperability demonstrator
Repository Start-Up and Enhancement (Strand D)		
	Call Area III – Repository Start-Up and Enhancement Projects	<input type="checkbox"/> a) Repository start-up projects <input type="checkbox"/> b) Repository enhancement projects
Digital Preservation and Records Management (Strand H)		
	Call Area IV – Digital Preservation and Records Management Projects	<input type="checkbox"/> a) Digital preservation across the lifecycle <input checked="" type="checkbox"/> b) Models and implementation of preservation services <input type="checkbox"/> c) Preservation tools development
Shared Infrastructure Services (Strand I)		
	Call Area V – Shared Infrastructure Services Projects	<input type="checkbox"/> a) Pilot implementation of licence registry <input type="checkbox"/> b) Pilot national name and factual authority service <input type="checkbox"/> c) Scoping an architecture to support digital policy management <input type="checkbox"/> d) Scoping a terminology registry
Name of Lead Institution: Arts & Humanities Data Service		
Name of Proposed Project: Sherpa DP2		
Name(s) of Project Partner(s): University of Hull University of Oxford Goldsmith's College CERN Centre for Computing in the Humanities University of Edinburgh University College London		
Full Contact Details for Primary Contact: Name: Dr Andrew Wilson Position: Preservation Services and Projects Manager Email: andrew.c.wilson@ahds.ac.uk Address: Arts & Humanities Data Service Kings College London 26 – 29 Drury Lane (3 rd floor) London WC2B 5RL Tel: 020 7848 1982 Fax: 020 7848 1989		

Sherpa DP2

1. Introduction

1.1 This proposal is submitted by the Arts and Humanities Data Service (King's College London) under **theme b, 'Models and implementation of preservation services', of Programme Strand H: Digital Preservation and Records Management** of JISC Circular 4/06 Call for Projects under the JISC Capital Programme. Its purpose is to extend the collaborative, shared preservation environment developed by the Sherpa DP Project. The Sherpa DP project is implementing an OAIS based distributed preservation service for a subset of the institutional repositories that focus exclusively on e-prints (pre- and post-prints) as the targets for its preservation service. Sherpa DP developed a variation on the standard OAIS reference model in which the preservation functions were physically separated from the other functional entities of the OAIS model but implemented this in a way which allowed the combination of Institutional Repository and AHDS Preservation Service to be viewed in total as a conformant OAIS.

1.2 There is an increasingly complex ecology of digital resources being created and used by academics, researchers and others across the wide-range of communities that make up the Higher Education sector in the UK. Institutional repositories are beginning to ingest a much wider range of content types than just e-prints, including images, datasets, multi-media resources, spreadsheets, virtual reality models etc, and are investigating and implementing a range of different management models. Sherpa DP2 will build on the ground-breaking work of Sherpa DP by extending the implementation model to examine repositories with different and varied types of digital content and using a more diverse range of content management systems. The proposed extension of Sherpa DP in this way will allow the development of practical and effective methods for transmitting and preserving the wide range of digital content being created and stored within the UK Higher Education sector.

1.3 As with Sherpa DP, the collaborative model proposed for Sherpa DP2 will provide a full preservation service to the partner institutional repositories, thus removing from each individual repository the significant burden of adding a preservation layer to their repository, and the need for them to locate and employ scarce digital preservation management skills and expertise. The Sherpa DP2 project will expand on the basic business model developed for Sherpa DP, by establishing an economic cost model that could be used to ensure the long-term sustainability of a distributed preservation service.

1.4 Project timeframe:

- 21 months, from 1 March 2007 to 30 November 2008

2. Aims, Objectives and Outcomes

2.1 The project will:

- Extend the Sherpa DP OAIS based distributed preservation model to accommodate different types of institutional repositories and different collaboration methods, and investigate other options for provision of distributed preservation services.
- Investigate and develop tools to transform repository content (digital objects) as base64 encoded bitstreams for placing inside METS packages. The tool will also create the basic METS package and ensure that the encoded bitstream is appropriately located within the package.
- Investigate and assess other methods for connecting to digital repositories and downloading repository metadata and content.
- Refine the Sherpa DP set of protocols and software in order to interact with institutional repositories using a wider range of repository software applications (all but 1 of the Sherpa DP repositories uses EPrints software) and with a broad range of digital object types.
- Amend, update and expand as appropriate the Digital Preservation User Guide produced by the original Sherpa DP project to take account of the outcomes and lessons of the Sherpa DP2 project.

3. Project Partners

3.1 The lead organisation for the project is the Arts and Humanities Data Service (AHDS), based at Kings College London. AHDS is a national service funded by the Joint Information Systems Committee (JISC) and the Arts and Humanities Research Council (AHRC), to collect, manage, catalogue, preserve and promote the use of digital resources in research, teaching and learning in the arts and humanities. The AHDS provides advice and guidance in the creation of digital resources to quality standards that ensure their suitability for use in research and teaching and their long-term viability. The AHDS identifies and accessions a wide range of digital resources of many different types, and evaluates, validates, adds metadata, and incorporates the collections into its resource discovery, delivery and preservation systems.

3.2 In addition to developing significant in-house expertise in preservation issues and processes, the AHDS has been at the forefront of research into digital preservation. The AHDS has undertaken a LIC-funded (Library Information Council) project to establish guidelines for digital archiving, and a follow-up British Library funded project to create a workbook, which resulted in the highly-acclaimed 'Preservation Management of Digital Materials Workbook' published by the British Library. The AHDS is currently implementing a test OAIS based model for e-print preservation as part of the SHERPA DP project, and was a partner in the JISC-funded Digital Asset Assessment Tool (DAAT) project. The AHDS recently completed two preservation studies for JISC, on preservation of digital still images, and on preservation of digital moving images and sound. and has recently commenced a new JISC-funded project investigating the significant properties of digital objects.

3.3 The named institutional repository participants have been chosen on the basis of the diversity of repository content (primarily non-e-prints) and the repository management software (non-EPrints). This will ensure that the project has an adequate range of content types to download and preserve, as well as a variety of repository management software to expand the interface methods. The repository partners agree to expose their metadata and content to AHDS so harvesting, packaging and transmission techniques can be tested in real life situations in order to provide a sustainable preservation service to the repositories. The prospective partners will be required to sign a partner agreement agreeing to contribute as required to the project and to abide by the requirements laid down by the JISC. Repository partners will be funded out of project funds to cover their costs in implementing and testing software and scripts needed by the project to supply preservation services. The repository institutions and contacts are:

University of Hull	Chris Awre
University of Oxford	Neil Jefferies
Goldsmith's College	Mary Nixon
CERN	Joanne Yeomans
Centre for Computing in the Humanities	Paul Spence
University of Edinburgh	Colin Watt
University College London	Martin Moyle (not paid out of project funds)

3.4 We have made arrangements to use CERN, based in Switzerland, as a partner repository because the organisation has a diverse range of content which will present interesting challenges to the project. The different digital object types will allow the development of enhanced interface, transmission and preservation methods. CERN uses the *CDS Invenio* repository software and the repository contains large datasets, photos, multimedia materials, and a variety of other file types. The diverse and challenging repository content, along with the repository software which is not being used by any other partner institution, justifies the inclusion of this non-UK repository as a project partner.

3.5 The Centre for Computing in the Humanities (CCH) is a research department located in the School of Humanities at King's College London that specialises in the application of computational methods to the creation, interpretation and analysis of digital sources in a research context. As such the content it creates is for the purpose of research and is likely to be structured in a complex and interpretative fashion, dissimilar from that created and held by

digital libraries. The inclusion of CCH will add an additional dimension to this project, and provide useful insights into the preservation requirements of complex on-line and interactive research materials.

4. Project Description

4.1 Until recently, institutional repositories were a relatively new phenomenon in the UK Higher Education sector. However, the JISC-funded Sherpa project (2004 - 2006) and its successor, Sherpa Plus (2006 -), have been developing open-access institutional repositories in a number of research universities to facilitate the rapid and efficient worldwide dissemination of research. These institutional repositories were initially focussed on holding e-prints (pre- and post-prints) content only. However, JISC has funded recently a number of individual digital repository projects concerned with the management and dissemination of research and learning outputs of Higher Education institutions more generally. These projects have resulted in an expansion of the types of content currently being deposited into and managed by institutional repositories. Institutional repositories now ingest and manage a diverse range of objects including still images, datasets, videos, learning objects, e-theses, in addition to the usual e-print content.

4.2 However, the consensus on the need to grow the number of repositories and increase the range of content has not been supported by a corresponding consensus on how to ensure preservation of content. It may be that in the future as Heery and Powell point out “there will be a national preservation strategy that makes clear who has responsibility for preserving different types of data...”.¹ Until then, however, institutional repositories need to look at ways of preserving this wide range of content types to ensure that they remain accessible and useable over time.

4.3 It was recognized in the JISC Feasibility and Requirements Study that it is more effective to address the preservation requirements of digital repositories at the beginning of their implementation rather than leaving it until the lack of preservation management becomes an issue and content is no longer accessible.² Furthermore, the study identified a diverse range of skills and expertise required to manage and run a preservation environment based upon the OAIS Reference Model. In particular the study noted the scarcity of staff and services with practical digital preservation skills and expertise and acknowledged that institutional repositories would find it difficult to employ staff with the requisite skills to provide preservation services in-house.

4.4 This challenge was taken up by the Sherpa DP project (2005-2007), which set out to develop and implement one particular model for taking care of the preservation needs of institutional repositories. Sherpa DP created a collaborative, shared preservation environment for institutional repositories framed around the OAIS Reference Model. In this model the AHDS provides a shared preservation store, and undertakes preservation planning and preservation functions, whilst the repositories continue their usual work to raise awareness and promote deposit of content, ingest, storage of content for delivery and access. The Sherpa DP distributed model was developed for certain repository management applications and requires further development and testing on a more diverse range of repository and content types.

4.5 The skill shortage has not changed in the short time since the Sherpa DP project commenced. It is still unlikely that many Higher Education institutions will be able to provide in-house preservation services to their digital repository content. Sherpa DP2 will further specify the OAIS-based model adopted by Sherpa DP in order to extend the implementation of the model to cover non-e-prints content, and to create additional protocols and processes that might be necessary for the implementation of a successful preservation environment. Sherpa DP2 will first establish a baseline set of requirements that institutional repositories have for a distributed network preservation service and will assess the viability of providing these requirements as part of the distributed service implemented by the project. Within this model the repositories will provide the following functionality:

- ingest of digital content

¹ R. Heery and A. Powell, *Digital Repositories Roadmap: looking forward*, JISC, 2006, 9.

² H. James et al., *Feasibility and Requirements Study for Preservation of E-Prints*, JISC, 2003.

- creation and publishing of metadata and allowing it to be harvested
- implementation of methods for transferring data and metadata across the network
- alerting mechanisms for updated/additional content

4.6 Without wishing to pre-empt the outcomes of the requirements study, the AHDS Preservation Service will provide to repositories the following functionality as a minimum:

- mechanisms for harvesting metadata
- tools and techniques for harvesting data
- file format conversion tools
- file integrity checking tools
- file format obsolescence checking

4.7 An important preliminary stage of Sherpa DP2 will be to investigate and develop methods for transferring data and for harvesting metadata and content (data) over the Internet. The Sherpa DP project explored the use of METS as a method to package e-prints and their metadata in a single transmission package. Although Sherpa DP established that this packaging method was explicitly allowed for in the METS specification, it found that no repositories or digital libraries had actually chosen to implement METS in this way. Sherpa DP2 will investigate the practicalities of storing data and metadata in a single METS package through the development of a software tool. This tool will improve repository interoperability and simplify the data transfer and ingest processes. Sherpa DP2 will seek to incorporate the tool in to existing repository software and workflow practices.

4.8 Alongside this work, the project will identify and assess a range of alternative packaging and transmission methods for harvesting data over the Internet. Examples include the use of the proposed extension of the OAI-PMH as OAI-HP (harvesting protocol), or Atom or RSS (for notification) with HTTP GET and content negotiation (such as Microsoft's simple sharing extensions).³

4.9 Both the METS method and any alternatives that may be implemented will require the incorporation of some form of error checking to ensure the integrity of files transferred across the network. The chosen packaging and transmission method will be deployed in the implementation phase of the project in order to locate content and metadata and download both to the preservation service provided at the AHDS. The project will also seek to investigate semi-automated software to preserve digital objects. It may be possible to process collections, for example, using a combination of JHove for format identification and Xena for migration.

4.10 A key issue in the project work is the investigation of methods by which trust in the authenticity of the digital object may be established and maintained by key players under a distributed preservation service model. In addition to the obvious issue of maintaining data integrity during network transfers, the project will investigate methods to ensure the authenticity of preserved digital objects in terms of the ability to maintain the 'significant properties' of objects over time. The project team will liaise with other relevant JISC projects, such as the InSPECT project, to ensure the issue of preserving the significant properties of digital objects, and hence authenticity, is addressed. The project will also investigate the NARA/RLG Trusted Digital Repositories approach to determine if trust in the authenticity of digital objects can be confidently asserted using the proposed audit/certification methodology

4.11 Sherpa DP2 will contribute to and expand the Digital Preservation Handbook produced by the Sherpa DP project. This Handbook sets out an approach to establishing a digital repository and describes the implementation of a distributed preservation service. The experiences and outputs of the Sherpa DP2 project will be incorporated in the handbook. The additions to the Handbook will provide details of variant approaches to the implementation of preservation services in a distributed environment, as well as offering advice and guidance for

³ Raised and discussed at the recent invitation-only workshop 'Augmenting interoperability across scholarly repositories', in Washington DC USA, 20-21 April 2006, sponsored by Microsoft, the Mellon Foundation, CNI, DLF, and JISC. The final report is at: <http://msc.mellon.org/Meetings/Interop/FinalReport> - see pages 11-12.

anyone wishing to adopt a similar approach. An additional piece of work for the Handbook will be an expanded case study of the Sherpa DP/AHDS implementation of a Fedora-based digital repository.

4.12 Finally, Sherpa DP2 will investigate the provision of a self-sustaining preservation service within the AHDS operational structure. The Sherpa DP basic business model will be reviewed and extended as necessary. The planned service would offer preservation and storage services to clients in association with, but also independently of, a putative AHDS preservation consultancy which it is intended to develop over the next 12-18 months. Sherpa DP and Sherpa DP2 partners would be able to make use of the service once it has been launched at reduced rates to acknowledge their participation in its development. The service would be made available to all institutional repositories in the UK Higher Education sector.

5. Relationship with other call areas

5.1 The AHDS is submitting a concurrent proposal under *Strand H, Call Area IV(c): Preservation Enhancement Tools* of the current call, which is developing a modular software architecture that allows individual repository ingest services to be easily “pluggable”. The proposals are independent of each other, and the funding of one does not pre-suppose the funding of the other, even though aspects of the work are complementary. However, this proposal has links with other strands of the programme:

- the third work package will develop a tool to create METS packages containing data and metadata, and is thus directly related to *Strand H, Call Area IV(c): Preservation Enhancement Tools*.
- part of the project would involve investigating, developing and testing common interfaces for various types of repository management software applications. This is related to *Strand B: Tools and Innovations* of the Repositories and Preservation programme.

6. Contribution to the JISC Programme

6.1 The Sherpa DP2 proposal will achieve several key objectives outlined in the JISC Circular 4/06 Call for Projects:

- Implement a preservation environment that will result in the ongoing accessibility and usability of institutional repository content;
- Expand the Sherpa DP collaborative model for provision of shared preservation services based on the OAIS reference model;
- Develop methods and tools for enhancing the relationships and interactions between repositories and external preservation providers;
- Investigate the issue of building trust into the provision and assessment of external preservation services.

6.2 Key outcomes of the project which will contribute indirectly to the JISC IE aims, include:

- a persistent distributed preservation service tested with a wide range of digital object types and repository software
- increased understanding of the use of various preservation techniques applied to different digital resources
- better understanding of issues of trust and authenticity of preserved digital objects
- contributions to pilot implementations and models for choosing preservation approaches

6.3 These outcomes will benefit the AHDS host institution, King's College London, directly and indirectly. Direct benefits to King's include enhanced ability of AHDS to provide content retrieval and preservation services for the content of the KCL institutional repository, and the probable generation of income through the development of a self-sustaining preservation service to be offered to all UK HE institutions and other organisations in the cultural and heritage sector. Indirect benefits are harder to quantify but could include an increase in visibility and status of the College through the existence of a persistent preservation

environment at AHDS, and due to the world leading skills and expertise of AHDS staff in digital preservation.

7. Work Packages

7.1 Work Package 1: Project management

Duration: 21 months

Months 1 – 21 (Mar 2007 – Nov 2008)

This work package will act to manage and coordinate the activities of the project and of the partners, to prepare and report as required, and to assess risks and opportunities as the project progresses. This will include drafting and finalising a partners agreement to regulate rights and responsibilities of all partners in a disaggregated model. This work package will also examine activity costings in order to develop a business case for provision of a sustainable preservation service. Deliverables for this package will include:

- detailed work plan
- progress and risk assessment reports
- website and dissemination activities.

7.2 Work Package 2: Establishing requirements and developing the model

Duration 4 months

Months 3 – 6 (May – Aug 2007)

This work package will carry out a user requirements survey to establish the functional requirements of a distributed networked preservation service as defined by partner institutions and the wider community. This will establish a baseline set of services to be developed and tested by Sherpa DP2, which may include services additional to those implemented by Sherpa DP. This will identify additional rights and responsibilities, services and actions appropriate to each institution, and apportion these between the institutional repositories and the preservation repository service. The shared collaborative model implemented by Sherpa DP for a narrow set of repository types will be enhanced to cater to a more diverse range of repository types. Deliverables will include:

- survey form
- survey assessment report
- enhanced collaborative model

7.3 Work Package 3: Metadata and data harvesting: METS

Duration: 5 months

Months 6 – 11 (Aug 2007 – Jan 2008)

This work package has two components: the first is to assess the existing metadata held in the partner repositories and to establish if additional metadata needs to be collected or added. In particular this will address if the administrative metadata is sufficient, and if not, what might be added. Preservation metadata will be based on the element set developed by the Sherpa DP project. The second component will be to implement the use of METS to combine metadata and content (data) into a single transmission package for exchange of data between institutional repository and the preservation service (in both directions). A necessary component of this work activity will be the development of a tool to enable the use of combined METS packages. This tool will:

- convert content bitstream(s) into base64 encoded bitstream(s)
- create a METS package and insert the encoded content bitstream into the appropriate location within the package
- extract the encoded bitstream(s) from the METS package and convert it back into its original format by un-encoding it.

7.4 Work package deliverables will include:

- working document reporting on repository metadata use
- report on methods for implementing packaging of content in METS packages
- tool to encode, decode and package content and metadata in METS packages

7.5 Work Package 4 Metadata and data harvesting: Other methods

Duration 6 months

Months 10 – 15 (Dec 2007 – June 2008)

A comprehensive assessment, analysis and testing of mechanisms other than the use of METS for packaging content and metadata. These will include the proposed enhanced OAI-PMH to be known as OAI-HP (Harvesting Protocol) for harvesting metadata and “arbitrary ‘representations’ of digital objects”. Other mechanisms for harvesting content across the Internet which include Atom, and RSS (for notification) with HTTP Get and content negotiation (such as Microsoft’s simple sharing extensions) will also be investigated. If feasible a tool will be developed to enable automated data transfer using these alternative methods. The main deliverables for this work package will be:

- report assessing non-METS methods for packaging and transmission of metadata and data as a single package
- possible tool to allow the use of alternative transmission and packaging methods

7.6 Work Package 5: Repository archiving

Duration 9 months

Months 13 – 21 (June – Nov 2008)

The Sherpa DP2 partner repositories implement a range of repository software applications and this work package will include the development of methods to interface with that software to allow the automated networked transfers of data and metadata between the institutional repository systems and the preservation service. The aim is to use the methods developed by Sherpa DP to develop automatic synchronisation of data and metadata resources with a remote preservation repository in order to enable resources to be preserved and maintained within an OAIS framework. Solutions to this problem at a number of different functional levels will be investigated and will include enhancements to the techniques implemented by Sherpa DP. A subsequent part of this work package will be an investigation of semi-automated methods for preservation, such as using a combination of JHove and Xena to automate the preservation processing of objects in the repository. Deliverables will include:

- interface methods for repository software (scripts, plug-ins etc)
- evaluation of possibilities for integration with workflow solutions
- assessment of the range of content types supported by partner institutions
- extension of the Sherpa DP methods to a diverse range of content types and repository software
- report on feasibility of using semi-automated methods for preserving content
- implementation of shared preservation service and preservation of repository content

7.7 A significant aspect of this work package will be the investigation of how trust in the transferred and migrated digital objects may be assured. The project will liaise with the InSPECT project to determine if automated methods for authenticity checking can be developed. Sherpa DP2 will also investigate the use of the NARA/RLG methodology for audit/certification of Trusted Digital Repositories to assess whether it offers a more viable alternative for guaranteeing the trustworthiness of digital objects that have been transferred across networks or changed due to preservation actions.

7.8 Work Package 6: Expansion of Sherpa DP Digital Repository Handbook

Duration 4 months;

Months 17 – 21 (Jul – Nov 2008)

This work package is designed to bring together the experiences and outputs from this project and expand the Handbook produced by the original Sherpa DP project. Deliverables will include:

- expanded case study of Sherpa DP Fedora implementation
- amended and enhanced Digital Repository Handbook

8. Project Management

8.1 We propose that the current SHERPA Management Group be asked to act as the Management Board for this project. This will ensure the closest coordination between the

original SHERPA project, the Sherpa DP project and this new project. The Project will comply with JISC requirements and will report to the JISC Programme Manger as required.

8.2 The Sherpa Management Group currently consists of:

Dr Paul Ayris (Chair), Director of Library Services, UCL
 Stephen Pinfield, Deputy Chief Information Officer and Director of Research and Learning Resources, Information Services, University of Nottingham,
 Bill Hubbard, SHERPA Project Manager. University of Nottingham
 Robin Green, CURL Executive Director
 Peter Morgan, Project Director, DSpace (Cambridge University Library/MIT)
 Sheila Anderson, Director, Arts and Humanities Data Service (AHDS)
 John MacColl, Sub-Librarian, Edinburgh University Library

9. Risks

Risk	Probability	Severity	Impact (P x S)	Action to Prevent/Manage Risk
Staffing Problems (inability to attract and retain staff with appropriate skills and experience)	2	5	10	Spread expertise through project, create clear project plan & document current work to ensure knowledge is not lost. Timely advertising of vacancies
Organisational – partner agreements fail	1	5	5	Contact host institutions and partners to convince them of benefits of supporting the project.
Key stakeholders do not buy in to/support the project	1	5	5	Ensure regular information flow to all stakeholders; seek feedback on direction and progress.
Technical hardware and software issues	2	4	8	Complete evaluation of hardware and software to be deployed. Ensure adherence to standards and best practice. Provide training as necessary.

10. Dissemination and Promotion

10.1 A key element of the project will be to share the experience, evaluations and results with the wider community. Dissemination will be an on-going activity throughout the project and will take place through a variety of mechanisms. Dissemination will also take place at an international level as appropriate. In particular the project will use the following dissemination pathways:

- a project website to announce and disseminate results and outcomes of this project;
- the project will use the relationship developed with the DCC through Sherpa DP to disseminate its outcomes to a wider audience through the DCC website;
- important milestones and deliverables will be announced on appropriate discussion lists;
- articles will be written for publication in appropriate journals;
- various key conferences will be targeted for dissemination opportunities.

11. Evaluation

11.1 Evaluation will be an on-going process throughout the lifetime of the project. The Project director will evaluate the deliverables and the milestones as a regular part of the project management role. A final evaluation report will be produced by the Project director at the end of the project, following completion of all project activities. The Management Board will also have a quality assurance role. The Board will monitor progress, measure outputs, and advise the Project Director of strategic and operational developments which should be considered by the project.

12. IPR

12.1 IPR in all working papers and reports etc, and software tools or enhancements produced by the partners will be retained by the authors and host institutions but will be made freely available on a non-exclusive licence, as required by JISC. All results and outputs will be freely disseminated and available for use by the Higher Education and Further Education communities. All project outputs and working data will be archived permanently and made accessible in line with JISC requirements.

13. Sustainability

13.1 The METS tool (and the tool for alternative transfer methods if developed) will be an important building block and workflow tool for repositories generally, since it will enable the preservation service to transfer digital content and metadata round the network, enabling more efficient data sharing. AHDS undertakes to sustain the tool and make it available as long as it is useful to the Higher Education community. The published project papers will be sustained by AHDS as part of its normal sustainability activities. Project reports will be retained by the JISC, A live version of the project web site will be maintained for three years after the life of the project by the AHDS. The partner institutions will seek to build on the work of the project to consolidate their digital curation expertise and experience.

14. Key Personnel

14.1 Project Director, 0.5 FTE

Project management and oversight of the work of the project, as well as acting as advocate for the project.

Dr Andrew Wilson (AHDS), has extensive experience in the management and implementation of digital preservation strategies and projects. Dr Wilson is Manager of Preservation Services and Projects at AHDS, and has operational responsibility for all AHDS preservation activities. Dr Wilson is director of the JISC funded Sherpa-DP project, and also contributed significantly to the JISC consultancies on preservation of digital images, and moving images and sound. He is joint director of the JISC-funded InSPECT project. Dr Wilson also has extensive experience in the development, management, and implementation of metadata standards.

14.2 Preservation Officer, 0.3 FTE

Technical and research activities associated with work packages 3-6.

Gareth Knight, (AHDS) is Digital Preservation officer for the Arts & Humanities Data Service. He is responsible for the investigation and implementation of AHDS preservation strategy, and providing technical advice to depositors and AHRC applicants wishing to manage their digital resources. Gareth is currently preservation officer for the JISC funded SHERPA-DP project, investigating a distributed OAIS-compliant model for the preservation of digital objects stored by institutional repositories participating in the SHERPA project and is contributing to the InSPECT project.

14.3 Technical Officer 1.0 FTE

Programming and coding work for work packages 3-5

The Technical Officer will have responsibility for the technical aspects of the project, including implementation. This is a key role working within the technical framework of the AHDS and acting as the liaison point with the technical staff at the partner sites. The technical officer will be line-managed by the AHDS technical manager. This post will need to be recruited by the commencement of Work Package 2.