

Cover Sheet for Proposals <i>(All sections must be completed)</i>		JISC Capital Programme	
Name of Capital Programme: Repositories and Preservation Programme			
Bid for Calls : (Please tick ONE BOX ONLY, as appropriate)			
Discovery to Delivery and Interoperability Demonstrators (Strand C)			
	Call I – Interoperability Demonstrators	<input type="checkbox"/> a) Interoperability demonstrators	
Repository Start-Up and Enhancement (Strand D)			
	Call II – Repository Start-Up and Enhancement Projects	<input type="checkbox"/> a) Repository start-up projects <input type="checkbox"/> b) Repository enhancement projects <input type="checkbox"/> c) Rapid innovation projects: enhancing repository content	
Digital Preservation Across the Lifecycle (Strand H)			
	Call III – Digital Preservation Across the Lifecycle	<input checked="" type="checkbox"/> a) Digital preservation across the lifecycle	
Name of Lead Institution: University of London Computer Centre			
Name of Proposed Project: AIDA			
Name(s) of Project Partner(s):			
Full Contact Details for Primary Contact:			
Name:	Kevin Ashley		
Position:	Head of Digital Archives, ULCC		
Email:	K.Ashley@ulcc.ac.uk		
Address:	ULCC 20, Guilford Street LONDON WC1N 1DZ		
Tel No:	020 7692 1379		
Fax No:	020 7692 1234		
Length of Project:	18 months		
Project Start Date:	2007-10-01	Project End Date:	2009-03-31
Total Funding Requested from JISC: £149,788			

Funding Broken Down over Financial Years (Mar – Apr):		
	Sep07 - Mar08	Apr08 – Mar09
	£59,446	£90,342
Total Institutional Contributions:	£33,196	
<p>Outline Project Description</p> <p>The AIDA project will:</p> <ul style="list-style-type: none"> • Create a tool, based on a proven model, to enable institutions to perform self-assessment of their readiness for digital preservation • Suggest options and strategies for each stage of institutional readiness • Provide recommendations on how to improve institutional readiness. • Produce a decision tool for assessing assets which takes into account institutional readiness • Explore decisions relating to preservation options and their effect on costs • Provide some indications of the possible costs of digital preservation, based on these outputs <p>Our approach to building the self-assessment tool will be based primarily on the successful Cornell model for describing institutional readiness and capabilities for digital preservation. It is known that the preservation options available to an institution will vary between institutions, due to different states of preparedness between them. The asset management tool will take this into account when recommending options or highlighting threats to assets.</p> <p>Our approach to asset management will seek to bring together the best elements of the expertise of records managers, librarians, data curators, repository managers and others in developing an institution-wide approach to asset management. The tools, guidance and case studies will help institutions understand how to take small steps forward to improve institutional maturity in regard to digital asset management and preservation concerns.</p>		
I have looked at the example FOI form at Appendix A and included an FOI form in the attached bid (Tick Box)	√ YES	NO
I have read the Circular and associated Terms and Conditions of Grant at Appendix B (Tick Box)	√ YES	NO

1 Executive Summary

1. AIDA - Assessing Institutional Digital Assets - is a response to item III(a) from Appendix F in the 1/07 JISC Capital Programme Call, to develop and test digital asset management tools in a variety of institutional settings.
2. The AIDA project will:
 - Create a tool, based on a proven model, to enable institutions to perform self-assessment of their readiness for digital preservation
 - Suggest options and strategies for each stage of institutional readiness
 - Provide recommendations on how to improve institutional readiness.
 - Produce a decision tool for assessing assets which takes into account institutional readiness
 - Explore decisions relating to preservation options and their effect on costs
 - Provide some indications of the possible costs of digital preservation, based on these outputs
3. Our approach to building the self-assessment tool will be based primarily on the successful Cornell model (section 2.1) for describing institutional readiness and capabilities for digital preservation. It is known that the preservation options available to an institution will vary between institutions, due to different states of preparedness between them.
4. As well as the Cornell model, the project will draw on extant tools such as the decision tree from the Digital Materials handbook (Jones/Beagrie), more recent JISC projects such as LIFE and DAAT, and the revised JISC study of the records lifecycle. It will also engage with relevant new and developing projects and services such as PRONOM, CASPER and PLANETS. AIDA's success is not, however, dependent on the results of any of these latter efforts.
5. Our project will allow institutions to explore "what-if" scenarios, and to successively refine their assumptions by providing more information about particular asset types where this is desired, available and economical to do so. Institutional assets are not tagged with as much management metadata as we would like. By demonstrating the value of improved object or collection metadata (such as retention periods or expected use), AIDA may help institutions to recognise the value of metadata which is created or applied as part of normal workflow.
6. With this pragmatic approach, AIDA will provide asset management tools that answer the questions institutions actually have, as opposed to telling them the answers to questions they have not asked or do not understand. AIDA's project planning and management approach will ensure that it can take advantage of planned developments to projects and services such as PRONOM. It will work closely with the programme manager and other relevant JISC bodies to keep them informed of these developments and seek their approval where required.
7. AIDA comes from ULCC's multi-disciplinary Digital Archives Group, which has at least 13 years of continuous engagement with digital preservation issues from the time of JISC's JTAP programme. The group contains IT specialists, archivists, records managers, information management professionals and software developers, amongst other skills. The group's expertise and success in service and project delivery is internationally recognised.

2 Project Context

2.1 Introduction

8. Recognising current institutional capabilities is an essential pre-requisite for taking effective decisions about how to preserve their assets. Likewise, understanding future requirements is necessary to enable an institution to decide whether specific actions need to be taken in regard to particular assets. The actions an institution can take will be determined, in part, by its institutional readiness and maturity in relation to digital preservation.
9. Anne Kenney and Nancy McGovern of Cornell University developed an effective model for describing institutional readiness and capabilities for digital preservation. The model is expressed by two simple concepts: a 3-legged stool illustrating three essential areas (resources, technology and organisation) and a 5-stage scale of readiness or maturity which relates to activities in each of these areas. The model is used by students on the award-winning Cornell digital preservation course, and is also used in UK Digital Preservation Training Programme, which ULCC leads.
10. The model is recognised as one of the most useful elements of the Cornell course, and it is particularly effective at casting light on what an institution needs to do to move its digital preservation capabilities onwards.
11. Existing tools don't provide enough guidance on what actions an institution needs to take once a decision to retain material for a given period has been taken. Tools such as those developed by PRESERV, for instance, can alert us to the range of file formats present in a repository, and a forthcoming version of PRONOM will also alert us when those formats are due to become unsupported. But this can cause needless worry. For institutional records which are scheduled for destruction next year, forthcoming lack of support for their file format is not a concern. If the material needs to be kept for 10, 20 or 100 years, then we must take some form of action. AIDA will help with these decisions, linking technical awareness services with information management knowledge.
12. The DPC's decision tree and JISC's study of the records lifecycle provide useful mechanisms to help institutions make selection, acquisition and retention decisions about a range of digital materials. The LIFE tool helps an institution to understand the costs of particular actions for a given set of materials. Neither tool, as yet, helps us understand when we should change the way we manage materials so as to use them more effectively, or reduce the costs of custody. AIDA will help to explore these concerns, bridging the gap between these approaches. Helping effective decision-making for long-term and short-term retention and preservation is AIDA's goal.
13. Different ways to approach a preservation problem may also provide different benefits to an institution. It's useful, therefore to be able to explore the effect of decisions and to explore the way in which improved knowledge of our assets' characteristics can help us make better, more cost-effective decisions. We want to suggest alternative models which might exist.
14. A concrete example may help explain this. Two institutions, faced with the decision to retain the same type of material, may well reach the same conclusion about the importance and period of retention. But the actions which result may

well be different, and will depend on the resources and technologies available to each institution and their relative degree of integration with relevant institutional workflows. Institution A may be able to utilise format-specific expertise in its institutional repository, which already has extensive holdings of a similar type; institution B may well decide to outsource some or all preservation actions, since it has no existing expertise in this area and does not expect to acquire significant holdings of this type in the medium-term future. On the other hand, if institution B anticipated a large growth in holdings of this type in the coming years, its best course of action might be to acquire the necessary expertise and resources to be able to deal with the problem itself.

15. Thus, recognising current institutional capabilities is an essential pre-requisite for taking effective decisions about how to preserve a given set of assets. Understanding future requirements is necessary to enable an institution to decide when and how it is desirable to improve on its current capabilities.
16. There is often a complex feedback loop between what needs to be done, how it can be done and what it will cost. Different ways to approach a preservation problem may also provide different benefits to an institution. It's useful, therefore to be able to explore the effect of decisions and to explore the way in which improved knowledge of our assets' characteristics can help us make better, more cost-effective decisions. Tools such as LIFE are one important component in this area, but they currently address static situations, in which the way in which a particular preservation problem is tackled is effectively static. For instance, LIFE's analysis of the cost of website preservation for the BL assumed the BL's membership of the UK Web Archiving Consortium (UKWAC) and the continued use of the technologies and processes to which it had committed. Other technologies, used within or outwith the consortium, would enable completely different types of collection policy and would result in radically different cost profiles for web archiving. LIFE can be used to analyse each of these in isolation, but it does not help to suggest alternative models which might exist.

2.2 Management methodology

17. AIDA will be pro-actively managed by ULCC using its existing PRINCE-2 based project management methodology. As described in this proposal, the project intends to adapt to external circumstances and possibilities and project planning will be done in a way which will allow this to happen without disruption to the core project aims. AIDA will work with external partners for its case studies, but the partners will have an advisory rather than executive role in the overall project execution. AIDA will ensure that the JISC programme manager is kept fully informed of updates to the project plan.
18. Core aims and deliverables will be generated by the staff of ULCC's Digital Archives Group, and external collaboration will be used to deliver added value (where possible) to these core activities. An advisory panel will be recruited to provide external input to the project's overall direction. The budget allows for two face-to-face meetings of this panel during the project's life.

2.3 Experience

19. ULCC's Digital Archives Group has been in existence for 10 years, and some of its members have been conducting work in digital preservation since a JTAP

project provided the unexpected but welcome opportunity to collaborate with the British Library on its early digitisation programmes and the digital preservation, storage and management challenges that these programmes brought into being.

20. The team, currently 16 strong, has a solid track record in delivering digital preservation services to The National Archives and The British Library, as well as engaging in JISC development projects and services. It is multi-disciplinary, containing software developers, IT specialists and archivists, some of whom have extensive records management experience. We currently undertake work for JISC in carrying out its collection management activities in the UK Web Archiving Consortium, as well as providing reports on collection policy and future directions for UKWAC. We were lead partners in the Digital Preservation Training Programme (DPTP) and the Digital Asset Assessment Tool (DAAT) funded under the 4/04 programme. ULCC was a founding member of the Digital Preservation Coalition and continues to take an active role in this organisation. We will seek to bring any benefits which this can deliver to AIDA, as well as seeking to build a strong collaboration for the project with the Digital Curation Centre.

3 What the project will do

3.1 Readiness self-assessment toolkit

21. Because the asset management options open to an institution are dependent on how fully engaged the institution is with digital preservation, we believe a decision making tool for asset management needs to take into account institutional readiness. Cornell's model provides a proven template for this, but it has currently only been deployed in a teaching context. We will develop this into a toolkit, which allows an institution to assess itself, and back this up with simple guidelines on how to move forward from one level to another. The outputs of this stage will thus be:
 - A self-assessment toolkit for an institution
 - A set of guidelines to illustrate how an institution can move forward
 - A small set of case studies on the use of the toolkit
22. The self-assessment toolkit will enable institutions to evaluate themselves against the Cornell model. We believe it is essential for institutions to have this self-knowledge in order to do effective digital asset management.
23. The toolkit will also take into account any significant findings about institutional workflow and records management from the fact-finding stage.

3.2 Fact-finding: what institutions require

24. The project requires an understanding of an institution's workflow and of the lifecycle of its digital assets. AIDA will therefore work with a range of outside institutions to carry out brief requirements surveys, conducted along with the trials of the self-assessment tool. These studies will be essential to validating our understanding of the real issues institutions are facing. Input will also be sought from the advisory panel on this issue.

25. Another aspect of the fact-finding stage will be to conduct a gap analysis on existing tools to gain a more detailed understanding of the gaps which AIDA will need to bridge.

3.3 An asset management assessment tool

26. Assessment tools require a great deal of knowledge in order to provide meaningful information about workflows, lifecycles, the long-term costs of managing the object, and of the risks associated with it. This knowledge includes:
- How an institution manages an object
 - The uses it currently makes of an object
 - The uses it intends to make of that object
 - How long it intends to keep that object
27. Ideally we would also want information about the expected growth in certain types of material. We recognise we can't get this from metadata alone. Expected lifetime and use of an asset is rarely present in object metadata, except in well-managed electronic record management systems. Likewise, information about retention is a property of a collection, rather than a property of its constituent parts. Institutions will be reluctant to supply all this information just to get an answer from an assessment tool unless they can see clear benefits.
28. People do find it easy, however, to categorise and classify information - as teaching materials, research outputs, or records. The AIDA project aims to provide quick answers based on this classification of material type, information derived from extant records management programmes, and - additionally - automated technical analysis of format. This approach will be closely aligned with the methodology of the JISC Study of the Records Lifecycle.
29. Some funding has been set aside to cover the costs of those institutions who will be involved in the case studies. We will conduct at least three case studies involving a range of asset types and institutional settings. The project will adopt a flexible and open approach to recruiting those institutions at an early stage of the project.
30. The project's primary aim will be to produce a decision-making tool, along with guidelines on its use, that performs digital asset assessment within organisations. In this, AIDA will build on the work carried out in DAAT, LIFE, and related projects, taking forward their successes and learning from their problems. We will take the thorough and rigorous approach of records managers and seek to apply this to objects such as research data and learning and teaching materials which typically fall outside the domain of records management systems.
31. The tool will allow for selection and appraisal decisions, accommodate workflow schedules, and incorporate an understanding of the current and future management and use of the assets. We will seek to prove the validity, usability and efficacy of this tool by demonstrating its integration with at least one commonly used institutional repository software platform such as Dspace and/or Eprints.
32. AIDA will also aim to provide a concrete means of understanding the implications of particular asset management decisions on the future in a way which also reduces the amount of information institutions will be forced to supply to its modelling systems before it can produce meaningful answers. The outputs of the

automated digital asset assessment will be related to the results of the self-assessment survey, and hence take account of institutional capabilities.

33. The institution will then be in a position to relate its business needs with its own digital asset collections, and start to build up a possible decision path involving the risk, value, benefits and cost factors of different preservation actions.
34. The assessment tool can also make assumptions about retention periods and future growth patterns for certain types of material, allowing more rapid (albeit less accurate) answers to be provided. It will make it easier to provide future projections, along the lines of “if this information is correct and you continue to follow this policy, in 20 years time you will have discarded 10,000 objects from collection X, will have total holdings of Y petabytes and will have carried out N format migrations at an expected cost of M.” Users will then be encouraged to refine and override the initial assumptions about growth and retention and see what effects this has on future holdings and associated costs.
35. A further goal of the project will be to link the assessment problems which the tool identifies with recommendations as to the options open to an institution to address those problems. We may know that a particular media type or file format is inappropriate for long-term use, but that does not tell us what to do; it simply tells us to worry. Many of those responsible for information preservation would say that they do quite enough worrying already without being told to do more by an automated tool. They don’t want problems - they want solutions. AIDA may not be the entire solution, but it will endeavour to point to the paths which lead to solutions.

3.4 Case studies and dissemination

36. We will test the tool in a small number of institutions recruited in the early stages of the project. Some funding is set aside to cover the cost, in staff time, to the institutions of participating in the case studies.
37. Dissemination will be by means of paper and presentations at relevant conferences as well as through a project wiki. A workshop is planned towards the project’s end to provide a focus for dissemination of final results.

4 Benefits

38. Institutions should expect the following benefits to result from using the AIDA tool:
 - A picture of where they sit on the ‘five stages’ chart, showing their institutional readiness for digital preservation, based on their current Organisational and Technological Infrastructure, and Resources Framework
 - An understanding of the significant threats to their digital materials
 - Reassurance about potential threats which can be ignored (because the assets involved have a short useful lifetime, for example)
 - Recommended actions and suggestions for how they can move forward to subsequent stages in the five stages path
 - An analysis of their assets based on simple classification, and on formats
 - Recommendations for digital preservation based on current use and future use, including suggestions for making decisions about retention periods and future growth patterns across the entire lifecycle

- An idea of the likely costs of carrying out digital preservation of their assets (including a comparison of external preservation costs with the costs of doing it in-house)
39. AIDA's outputs will encourage institutions to share good asset-management practice across disciplinary boundaries. Records managers, librarians, teaching staff and those responsible for research outputs and special collections each have specific skills, knowledge and working practices which could be of benefit to others. Normal working methods rarely give the opportunity for this to happen, but successful digital preservation initiatives are frequently based on this sort of cross-fertilisation of ideas. We will therefore make it an explicit goal of the AIDA tools and guides to promote this type of activity.

5 Partnerships and related projects

40. CASPAR/PLANETS: we have a strong working relationship with the UK lead partners in these projects and will build on research outputs as they become available and update the project plan to reflect this in consultation with the programme manager. The testbed environments which will be created as part of these projects could be of great utility in testing aspects of AIDA's functionality, and we will be monitoring the progress of this aspect of the projects with considerable interest.
41. AIDA will build on the outputs of the LIFE project, helping institutions to take account of current and future cost implications of particular asset management decisions. Through the British Library, with which we have had a long-standing working relationship on digital preservation issues, we also plan to take account of the findings and outputs of LIFE 2, utilising them where possible to inform the methodology of AIDA.
42. The updated version of the JISC study of the records lifecycle is one of the external inputs on which we can rely, as it has now been produced. We will use this study to inform the classification of records types and expected lifetimes and the usefulness of institutional records as one aspect of institutional asset management. The classification should help others with responsibility for digital assets, but without a records management background, understand the usefulness of undertaking such an analysis of asset types, asset roles and asset lifetimes.
43. PRONOM is a leading international resource for a range of high-quality information about file format longevity and currency. Plans for PRONOM 6 outlined by The National Archives could be highly relevant for asset management issues. PRONOM 6 is now available in-house at The National Archives (TNA) and is due to become available as a web service in mid-July 2007. It includes not only a format alert function - allowing an institution to register its interest in a particular file format, and hence to be alerted in future when the format is at risk - but also a migration advice function. All of this is to be provided via a web services interface. If successful, this will be of great value in turning AIDA from a system which tells you about your problems into one which tells you about solutions, and we will build on our existing working relationship with The National Archives to make use of this.
44. We continue to have an effective working relationship with the developers of the Cornell training course and model, and are working with Nancy McGovern to support its future development at ICPSR at Michigan.

6 Outline workplan and deliverables

45. The following outline description shows the primary deliverables and outputs which the project expects to produce, broad timescales for their production and an indication of the effort devoted to each.

Activity	Duration	Effort (Days)	Outputs
Produce detailed project plan	Months 1-2	10	Standard JISC project plan and detailed budget
Produce self-assessment toolkit for institutional readiness	Months 2-5	30	Workbook
Conduct gap analysis on existing asset tools	Months 2-3	20	Areas for new tool development, identification of areas of tool integration
Produce self-assessment planning guides	Months 4-8	30	Guides on how to move from current stage to next stages
Project Management	Months 1-18	36	Reports, budgets, revised plans
Recruit case study sites for workbook and tool	Months 1-3	20	List of sites for case studies
Perform self-assessment case studies and conduct requirements analysis for final tool	Months 6-9	55	Documented case studies and refined requirements for final tool
Produce assessment tool and test internally	Months 4-12	100	Tool and guides on use, report on changes due to internal testing
Conduct external tests of assessment tool	Months 12-15	25	Case studies and tool change list
Revise tools, publicise project results	Months 16-18	15	Revised tools, Project report, conference and/or journal papers, workshop

7 Budget

46. As we have not yet allocated specific staff to the project, the budget has been prepared using the average staff cost of £48,047 per FTE for the Digital Archive Group at ULCC. This figure includes salary on costs (NI, pension etc). We assume that notification from JISC allows the project start date to be 1st October 2007, meaning that months 1-6 fall in fiscal year 2007/08 and months 7-18 in 2008/09.
47. Total effort is 356 person days with 150 person days between October 2007 and March 2008 and 206 person days between April 2008 and March 2009. This has been converted to FTEs on the assumption of 200 productive days work in a year. Estates Costs (£8,119 per FTE per year) and Indirect Costs (£39,577 per FTE per year) are the TRAC figures calculated for the University of London from February 2007. We have applied a 3% uplift for inflation for salary, estates and indirect costs for 2008/09.
48. We are requesting full funding for non-staff costs (travel, steering group etc.) and 80% of all other costs, with the rest being made up of institutional contribution. This appears appropriate for a project where the institutional benefit is no greater or less for us than for others in the community who may be able to benefit from the project's outputs.

Directly Incurred Staff	April 07– March 08	April 08– March 09	TOTAL £
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Directly Allocated	April 07– March 08	April 08– March 09	TOTAL £
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Percentage Contributions over the life of the project	JISC 82 %	Partners 18 %	Total 100%

8 Risks and dependencies

49. It will be apparent that many (although not all) of the related projects with which we have established contact are themselves at a very early stage, and it is not yet possible to be certain what form their outputs will take, nor when those outputs will necessarily become available. We have determined that AIDA's core deliverables will not be dependent on the production of materials from other projects, nor on the success or failure of those projects or of particular parts of them. We will adopt a flexible approach which allows us to react to, and benefit from, the results of these projects as our own matures. This will be accomplished by our monitoring of these projects and through regular contacts between the project teams. It will be reflected in updates to the project plan, in agreement with the JISC programme manager.

Appendix A

FOI Withheld Information Form

We are content for any part of this proposal to be made available and do not request JISC to consider withholding any part of it should the contents of this proposal be requested under the Freedom of Information Act, or if we are successful in our bid for funding and our project proposal is made available on JISC's website.

We acknowledge that the FOI Withheld Information Form is of indicative value only and that JISC may nevertheless be obliged to disclose this information in accordance with the requirements of the Act. We acknowledge that the final decision on disclosure rests with JISC.

Tel: 020 7692 1000
Fax: 020 7692 1234
Director: David Rippon

Belviar Notay/Nike Holmes
JISC Executive
Northavon House
Coldharbour Lane
Bristol
BS16 1QD

20 June 2007

Dear Ms Notay and Ms Holmes,

Assessing Institutional Digital Assets

I am very pleased for University of London Computer Centre (ULCC) to be submitting the Assessing Institutional Digital Assets proposal the JISC Capital Programme Call for Proposals, April 2007, Repositories and Preservation Programme, Digital Preservation Across the Lifecycle (strand H).

The project will build on ULCC's previous JISC project DAAT and provide new tools for digital asset assessment for the UK HE/FE community.

I confirm that the proposal has my full support, and that ULCC will meet its commitments to the project.

Yours sincerely,



David Rippon
Director