

**JISC ITT: *JISC Deposit Projects*
Benefits Realisation**

Name of institution/organisation: University of Southampton (Electronics and Computer Science)	
Project partners: Arts consortium: University of Creative Arts (consortium lead), Winchester School of Art, University of the Arts (London), Royal College of Art, Goldsmiths University of Leeds University of Glasgow University of Southampton (Archaeology)	
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Length of Project: 6 months	
Project Start & End Dates: 1 June 2012 to 31 Dec 2012	
Total Funding Requested from JISC: £ 49,477 Funding Broken Down Over Academic Years (August – July) 2011/12 AY(1 August 2011 – 31 July 2012): £ 16,162 2012/13 AY(1 August 2012 – 31 July 2013): £ 33,315	
Outline Project Description The DepositMOre project will focus on wider application of the enhanced deposit tools produced by the DepositMO project, specifically to increase deposit in a range of partner repositories. These tools were designed to enable authors to deposit many different types of content in a repository directly from the author's computer desktop, by adapting existing popular applications such as Word and Windows Explorer, and by creating a new application to assist authors to discover and locate extant publications on the Web through specified services such as EasyChair. DepositMOre will work with those tools most likely to increase deposit rates measurably in the short-term, that is, the file manager and Web discovery tools, because these can be used to identify and prepare collections for batch upload. DepositMOre will work with a range of partner repositories to use these tools to deposit content produced by communities in arts, archaeology and computer science, where there have been calls for tools with such features, and measure the resulting deposit rates. Beginning with an assessment, with partners, of the initial refinements needed to deploy the tools based on the results of user testing in DepositMO, where some of the partners here were also users, the project will then engage partners in rapid iterative cycles of refinement, deployment and evaluation of the tools, and measuring deposit. Statistical tools will be used to record and report resulting deposit rates.	
Tick this box to indicate that this proposal has been approved by an appropriate member of the institution/organisation	<input checked="" type="checkbox"/>

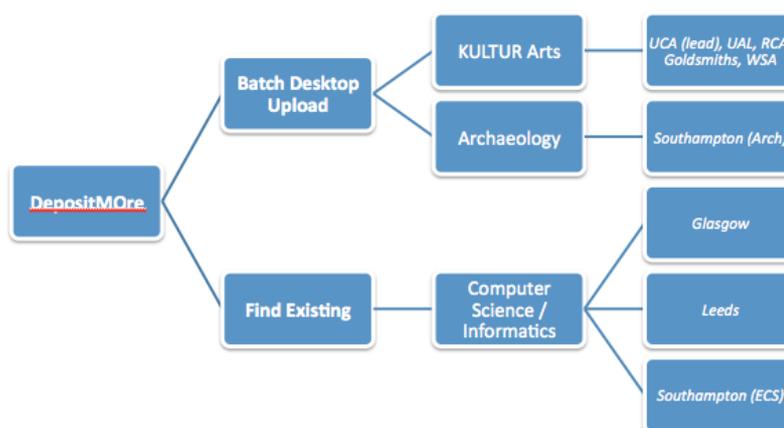
DepositMOre – Modus Operandi for Repository Deposits

Appropriateness and Fit to Programme Objectives and Overall Value

1. The aim of this proposal is to build on the work done by the DepositMO project, which extended the capability of repositories to **exploit desktop and authoring environments**, in turn making the repository an invaluable extension to the researcher's desktop. In this way apparent repository weaknesses can become strengths:
 - ENGAGED.** The repository is a place that is visited with a Web browser in order to make occasional deposits. By enabling repository processes to be carried out within **familiar desktop clients, a user can become engaged** much earlier in the publication process. This way the repository becomes a valuable information management service - to extend the desktop metaphor (the private management of local documents) into a **studio metaphor** (a collaborative environment aimed at releasing material for wider consumption) - by closely **integrating the repository's storage and organisation services** with those of the researcher's desktop.
 - HIGH VALUE.** The repository is seen as a place to deposit final-form published items, often in the immutable PDF publishing format rather than the original (editable) Office format. By opening up a conversation between the author and their **connected and controlled** resources, we envisage the repository becoming a core part of the work culture, like email. Additionally the repository is able to **offer valuable services specific to the user**, such as object verification, as shown by the DepositMO Project.
 - EFFICIENT.** The repository forces a user to scrutinise publications one at a time and leaves them with the responsibility of **finding and tagging** the appropriate 'full text' files. In DepositMO a number of clients were developed, each of which could **augment** the current one-at-a-time manual upload model for repository ingest with a **bulk deposit facility** which either identifies material on the web (e.g. stored in the user's EasyChair account) or allows the user to simply **drag-and-drop** content into their repository.
2. Using this new **high-bandwidth bridge that connects the users' desktop environment to the repository**, DepositMOre focuses on the clients and **user experiences** that are key to increasing the level of deposit. As part of the DepositMO project three distinct clients were developed, all of which focus on a different facet of current research practice:
 - i. A low-level driver and example client was developed for Microsoft Windows and Office/Word (<http://blogs.ecs.soton.ac.uk/depositmo/2012/01/18/microsoft-word-add-in-deposit-tool/>). This client allows direct deposit from the authoring and curation environment (Word). The driver can be used for any Windows-based application to talk to the repository (The SWORD-based Right-Click deposit project <http://swordapp.org/2011/09/right-click-deposit-project/> is based on this driver).
 - ii. A bulk upload utility that matches material on the desktop with records in the repository to support away-from-office scenarios (e.g. extended archaeological digs and oceanographic surveys) and end-of-project deposit. This Watch Folder client (<http://blogs.ecs.soton.ac.uk/depositmo/2012/01/18/watch-folder-deposit-tool/>) was demonstrated and tested with content from the arts and archaeology communities, who wish to deposit repository objects containing 10s of files.
 - iii. Web-based deposit from existing locations, such as a conference management system (<http://davax-blog.blogspot.com/2012/01/depositmore-prototype.html>). Academics **have to use** such management systems in order to get published in conference proceedings. Thus being able to offer a single extra click to deposit this content (plus all metadata) into an institutional repository both increases deposit and reduces the amount of effort required on behalf of the user, particularly in filling out metadata.
3. In DepositMO, **technology was part of the solution**. DepositMOre will apply this technology, focussing specifically on:
 - i. Introducing these new tools to more depositors through our partner repositories, to help them and increase the number of items in an institutional repository.
 - ii. Refining the current clients to provide better user experiences, based on iterative feedback from partner repositories and depositors.

- iii. Raising awareness of the tools and facilities in new communities, including computer science, archaeology and arts, with whom the project team is already working closely.
- 4. Within the DepositMO project, user testing was carried out on two of these tools and with different types of user (<http://blogs.ecs.soton.ac.uk/depositmo/tag/user-testing-results/>). None of the test users considered themselves to be regular depositors (even if one user did own 70 items). Contradicting the mantra “repositories are built for finished publications”, the ‘own’ content brought to the tests for deposit by these users was mostly content that might not be considered as formal ‘publications’. It is these more diverse content-owning communities that are least supported by current repository software. As we see demand for data publication in repositories, for example, the types of content deposited in repositories is only going to grow beyond traditional publications.
- 5. During the testing carried out in DepositMO, users were asked to use both the new clients and the existing repository interfaces to deposit a number of different content types. The results from these tests are clear: on average, both direct deposit clients (Word and Watch Folder) took less time for deposit.
- 6. Using the Microsoft Word Add-In developed as part of DepositMO, the average deposit time for a document (from opening Word to completed deposit) was done in **less than half the time** that it took to deposit the same item via the native repository interface.
- 7. The Watch Folder client also resulted in speedier deposit, with a 12% gain in time to deposit over the standard repository interface. In its current form the Watch Folder client does not provide the simplest means of metadata control and thus in some cases additional time was incurred to complete this stage using the repository metadata interfaces.
- 8. Some of the quotes recorded during testing suggest an attitude change is possible, with one user finding the experience “Quite fun”. Over 50% of the users reflected that the tools would encourage them to submit more of their own content to the repository.
- 9. With users who are already experienced in repository deposit it is clear that combining new and existing tools into one experience can be confusing, particularly as a user’s collection size grows. All users suggested that the tools “need some work”, specifically in informing the user about the actions being implemented both locally and remotely.
- 10. User feedback and the evaluation done as part of DepositMO will form a key starting point for DepositMOre. Through formulating actions focused on the partner user groups involved in DepositMOre, many of the kinks identified in this first phase could quickly be ironed out at the start of the project. Subsequently, further simple user testing can be performed before tools are deployed in live situations.

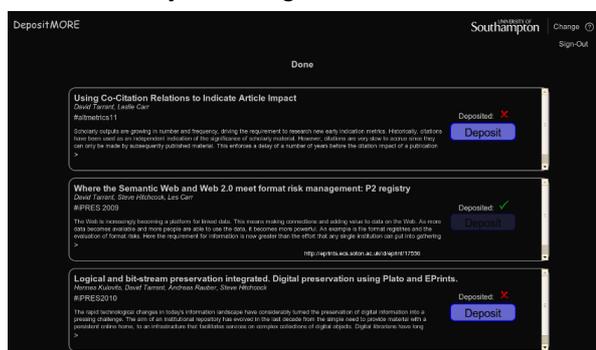
11. DepositMOre will focus on two main communities who are keen to see development of two of the tools. The first is the community of publishing scholars, whose content is often deposited in some form of closed conference or publication system from which it could be retrieved. The second are the arts and archaeology communities, who build large collections of works, sometimes in the field, that cannot be deposited and manipulated as easily using current repository interfaces. These two communities have been chosen due to the high level of opportunity they offer to rapidly increase deposit without the need for complex curation.



Locating and Depositing Existing Publications: Computer Science/Informatics

12. Research papers are published in many places that do not necessitate deposit in an institutional or open repository. Conference proceedings are one such example where an author may often also wish to publish at least a metadata record in another repository.

13. EasyChair.org, a Web conference submission and reviewing system, is one such system where conference submissions are collected, reviewed and accepted into many conferences. Hosting over 15,000 conferences to date, EasyChair is a widely used system across the worldwide academic community.



14. EasyChair presents opportunity for authors contributing to conferences to directly populate their institutional repository, leveraging the effort they have already invested in creating metadata describing their full-text conference articles.

15. The EasyChair Deposit tool (EDT, pictured) uses HTML5 and jQuery techniques to provide a modern app experience for users, with clear separation of publications and an indication of their status (already in repository / available to be deposited). In this respect the service acts more like a desktop application allowing users to submit multiple articles at once to their repository.

16. Another key feature of the EDT client is that it will not ask users to locate their local repository and then enter a username and password. Repository discovery will be done using the Organisation and Repository Identification [ORI] (<http://lucas.ucs.ed.ac.uk/oarj/index.html>) index, and only those repositories that have registered with the DepositMORE client will be able to accept submissions.

17. If a repository cannot be located for the user (or one really does not exist), then they will automatically be given the option of submitting their material to the Depot where it can safely reside and be made openly available.

Building and Submitting Collections as Batch Uploads: Art and Archaeology

18. DepositMO recognised that repositories must **extend their user interaction model for intelligent bulk ingest**. Rather than uploading and carefully annotating one document at a time, it must be possible to deal with **dozens or even hundreds of documents at once**.

19. Within DepositMO the Watch Folder client was used to investigate this problem - building and depositing large and complex collections. From the user testing it was clearly felt that the Watch Folder client was more suited to this task than deposit of single file items.

20. User testing should be iterative, leading to iterative improvements of the client tools. DepositMO will start by re-examining the Watch Folder client with the partners, some of who were the original user testers, against the earlier feedback. Further, simpler user tests will be designed for use within the target arts and archaeology communities to which this tool is of interest.

21. If the public Web is underused as a venue for scientific knowledge creation, the **private desktop is rich in personal scholarly resources**. This 'backlog' of un-deposited work found in an author's workspace is an **aggregation of previously created content and currently active material** in the process of being worked on for dissemination or some form of publication. Perhaps a career's-worth of background, this material informs current work and is a rich source of quotation, citation and inspiration.

22. DepositMO went some way towards simplifying the process of gathering and submitting desktop-locked content into a repository. When merging a private environment with a public one the clear challenge for any client is to be simple, concise and easy to use. It is this experience that will inform further progress by DepositMOre.

23. In addition, there is opportunity to consider tools to support bulk upload (or, more accurately, sideload) from appropriate public web sources such as ETHoS. Many tools already exist to facilitate individual parts of the sideload activity (e.g. GoZilla batch PDF

download / NZ National Library Metadata Extraction Tool / DepositMO Metadata extraction / SWORD Bulk Importer / DepositMO Watch Folder) but the DepositMOre project will investigate their integration into an easy-to-use workflow.

Engagement with the Researcher Community

24. The aim of DepositMOre is to continue to **effect sustainable culture change among researchers to deposit more content into digital repositories and use these new deposit tools in their everyday workflows**. DepositMO made a significant start in this area, but lack of maturity of these services proved to be a stumbling block. DepositMOre will address this issue with the support of communities that are keen to use the tools and promote the accompanying culture change.
25. The following partners will be engaged in using tools to support the different deposit methods identified above:
26. Batch desktop upload for collections: Arts consortium: University of Creative Arts (consortium lead, Leigh Garrett), Winchester School of Art, University of the Arts (London), Royal College of Art, Goldsmiths. Archaeology: University of Southampton.
27. Locating and Depositing Existing Publications: Computer Science/Informatics: University of Leeds (lead, Jodie Double), University of Glasgow (lead, William Nixon), University of Southampton (Electronics and Computer Science).
28. The principal stakeholders are **researchers and lecturers**, who are likely to own the most content that is suitable for deposit. Our secondary stakeholders are **repository staff**, who are often given the difficult task of encouraging deposit or gathering and annotating the resources themselves. These groups are likely to have most impact in this area and are dedicated to encouraging positive culture change.
29. The main mechanism for researcher engagement undertaken by this project will be through the partner network, through **face-to-face** interaction, testing, feedback and training. This will be reinforced with wider updates and reports on blogs and tweets. The aim will be to seed the peer networks in the target communities through regular reports of monthly deposit statistics.
30. A pleasurable experience for the users depends heavily on using modern, social and friendly mechanisms of communication, with a professional and clear web presence being key. We have already begun this strategy in the DepositMOre client website which adopts techniques available in HTML5 to make the website modern, engaging and clear to use with very few buttons and confusing options. It is envisaged that the project may construct many web pages which advertise the same tool, but in a different context for a specific community.
31. Since many of the tools are intended for different uses, as well as making this clear through project websites, tools will be presented both at large events and on a one to one basis. One to one training will focus on key players who can further encourage a culture change both in the targeted sectors as well as new sectors.
32. The **engagement methodology** for this project is through:
 - i. The partner network of institutional repositories
 - ii. Depositors, including researchers and repository staff
 - iii. Reporting statistical results for deposit rates due to the tools deployed by partners.
 - iv. Roll out of the tools to **community partners** and other institutions on demand.
 - v. The **developer community will be targeted** through, e.g. dev8D, EPrints.
 - vi. Collaboration with **RSP** (subject to JISC confirmation) to add DepositMOre project outputs to their portfolio of deposit enhancement mechanisms and also to draw a wider community for requirements gathering, user testing, dissemination.
 - vii. Collaboration with **RSP** (subject to JISC confirmation) to develop recommendations for pathways to sustainability of enhanced deposit rates, based on continued and growing use and development of the project deliverables.

Quality of Proposal and Robustness of Workplan

Workpackages

33. There are two parallel deposit activities in DepositMOre covering both the discovery and deposit of conference publications, and bulk upload (arts, archaeology) deposit. Both involve evaluation, refinement, deployment and statistical gathering with the two chosen client tools. For this reason workpackages 1-3 apply to all partners, target communities and tools.
34. Workpackages 1-2 involve an iterative loop of simple evaluation and refinement of tools, based on monthly feedback and reporting from partners. The aim is to deposit content in partner repositories, but where deposit policies do not allow deposit of some of the types of content involved, we will set up a demonstrator repository, as in DepositMO.
35. Following the first cycle of iteration we will begin collecting monthly statistics on deposit patterns. Preceding this, in month 1 the project will establish appropriate statistical tools, identify benchmarks and references against which to measure results, and a means to distinguish effects that may be due to use of the deposit tools from conventional deposit.

WP	Title	Mar	Apr	May	Jun	Jul	Aug
0	Project management, dissemination, reporting	X	X	X	X	X	X
1	Evaluate and update deposit tools with new stakeholders (partners)	X					
2	Refine, deploy tools (monthly loop to 1)		X	X	X	X	
3	Gather deposit statistics: identify tools, establish benchmarks and reporting methods, report monthly deposit statistics	X		X	X	X	X

Deliverables

36. The following **deliverables** are proposed:

D1. Enhanced desktop integration tools focused initially on the arts, archaeology and computer science communities, as well as more general tools to support bulk web sideloads.

D2. DepositMOre Web site, integrated with current DepositMO blog and Web sites, with links to download enhanced deposit tools and other deposit resources. An expanded list of third-party systems, like EasyChair, from which content can be harvested, will be identified in conjunction with partners.

D3. User testing reports: initially as blog posts, but also a full report at completion of tests.

D4. Statistics reports: monthly blog posts presenting evidence of increased deposit, correlated with progress of tools and partner implementations where possible.

D5. Recommendations for ongoing work in terms of (a) pathways to sustainability of deposits beyond the lifetime of the project and (b) opportunities for further work in the deposit enhancing area, including suggestions for the development of future use cases

D6. Project reports to JISC.

Project Management

37. The core team responsible for DepositMO project will lead DepositMOre. The table below details and analyses the main risks associated with the project.

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Actions to Prevent/Manage Risk
Staffing: loss of key project staff	2	5	10	All project staff identified and available. Project management from its existing staff.

Organisational: lack of engagement, short timescale	3	3	9	Partners and depositors fail to engage – wide range of partners should give us some traction. Short project timescale includes Easter and summer breaks – work with partners will have to be concentrated between these phases.
Technical: complex communications architecture	2	5	10	Complex technical communications architecture includes: client tool-repository-repository software-SWORDv2. This has been successfully tested with EPrints repositories, which are used by all partners. SWORDv2 available but optional for repositories.

IPR

38. The model(s) for intellectual property will be adopted from DepositMO. As the new project is not intended to produce new tools or techniques, any novel contributions will be considered as they arise.
39. Software tools to be enhanced by the project are based on open standards and released as open source with appropriate licenses to encourage further support and development.

Impact and Benefits

40. The potential for a change in deposit culture was recognised during the DepositMO project. DepositMOre intends to realize this benefit by continuing the work and putting in place quantitative measures by which this impact can be measured.
41. The tools chosen to refine as part of DepositMOre consist of a set of generic tools and plug-ins to software which is already widely used. These tools only utilize existing standards such as SWORD and OAI-ORE, ensuring **interoperability and sustainability**.
42. A range of stakeholders in the research, repository and developer communities will be positively impacted by this project. **Repository staff** and **researchers** will gain the most. We will also continue to support the **developer** and **IT services** community in both developing and deploying the tools in the best places to support the whole community.
43. **Evaluation.** The project will employ quantitative and qualitative evaluation metrics to judge the outcomes of the project:
- Number of deposits in repositories made by the tools deployed as part of the project.
 - User testing, similar to that in DepositMO, will allow for qualitative feedback.

Budget

	Jun.12-Jul.12	Aug-Dec.12	Total FEC £
Personnel			
Staff	6,795	14,144	20,939
Expenses (travel, dissemination), inc. partner expenses	4,044	8,149	12,192
Total incurred	<u>10,839</u>	<u>22,293</u>	<u>33,131</u>
Directly allocated costs			
Personnel	239	494	733
Institutional estate & Infrastructure Tech Lab	3,170	6,550	9,720
Total allocated	<u>3,409</u>	<u>7,044</u>	<u>10,452</u>
Indirect costs			
General services	5,956	12,307	18,263
Total FEC	<u>20,203</u>	<u>41,643</u>	<u>61,846</u>
JISC contribution	16,162	33,315	49,476
Institutional contribution	4,041	8,328	12,369
JISC contribution %	80.0%	80.0%	80.0%

Previous Experience of the Project Team (% refers to effort funded by the project)

Dr Leslie Carr (Project Director/Chief Investigator, 2%) has been lead investigator on over 20 digital library and repository projects. He is the technical director of EPrints, which supports over 320 repositories providing open access, open data and open educational resources.

Dr Steve Hitchcock (Project Manager, 50%) has managed many JISC repository projects, including currently the DataPool RDM project, as well as DepositMO where he was also responsible for working with users and managing user tests, as well as project reporting.

Dr David Tarrant (Lead Research/Developer, 50%) is an award-winning software developer with a background in sustainable development for digital repositories and preservation. In DepositMO, David produced the two clients to be used in this project.