

Project Acronym: CHARTER  
 VERSION: Version 4.0  
 Contact: Jessica Gardner  
 Date: 03 November 2008



## Project Document Cover Sheet

Project Information			
<b>Project Acronym</b>	CHARTER		
<b>Project Title</b>	Creating Heritage Artefacts for Research and Teaching in an E-Repository		
<b>Start Date</b>	1 October 2008	<b>End Date</b>	30 September 2009
<b>Lead Institution</b>	University of Exeter		
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<b>Partner Institutions</b>	NA		
<b>Project Web URL</b>	<a href="http://www.exeter.ac.uk/charter/">http://www.exeter.ac.uk/charter/</a>		
<b>Programme Name (and number)</b>	<i>JISC Digitisation Programme: Enriching Digital Resources</i>		
<b>Programme Manager</b>	Alastair Dunning & Paola Marchionni		

Document Name			
<b>Document Title</b>	<i>CHARTER Project Plan</i>		
<b>Reporting Period</b>	<i>for progress reports only</i>		
<b>Author(s) &amp; project role</b>	Jessica Gardner (Principal Investigator) with James Green (Project Manager)		
<b>Date</b>	13 October 2008	<b>Filename</b>	CHARTER Project Plan.doc
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<b>Access</b>	<input type="checkbox"/> Project and JISC internal	<input checked="" type="checkbox"/> General dissemination	

Document History		
Version	Date	Comments
1.0	13.10.2008	Start draft; circulate sections for Team to complete
2.0	22.10.2008	Added content from James Green and Technical Sub-Group (SM, RB, AA-Z, BE).
3.0	24.10.2008	Circulation to Team; identify and request outstanding data.

Project Acronym: CHARTER  
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4.0	3.11.2008	Final draft for JISC.
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- JISC Project Plan

## **Overview of Project**

### **1. Background**

#### **1.1. What is CHARTER?**

CHARTER is a small-scale digitisation pilot project that will deliver an open access repository populated with a critical mass of 4000 digital images drawn from the unique and rare resources in Special Collections of the University of Exeter. CHARTER will select, digitise and deposit in the repository 2000 new images created during the project and will transfer into the repository another 2000+ existing images (currently held in the online EVE database facility of the Bill Douglas Centre). The project will also create 2000 new metadata records and the creation of a tool for transferring 2000+ metadata records from EVE into the repository.

#### **1.2. What is the CHARTER repository?**

Built using fedora software, the repository developed through CHARTER will be the tool of management and access to digital surrogates of the physical artefacts within the University's Special Collections. It will be an online, searchable open access repository and 'one-stop-shop' for researchers, students and members of the public who want to find and use digital surrogates from the collections for research and teaching.

#### **1.3. What the CHARTER repository is not**

The repository will not replace the collection management systems (CMS) already in use for the administration and cataloguing of the original artefacts held in Special Collections. This is because the heritage collection management life-cycle requires a complex set of tools (from donor records, to accessions, to inventory, to conservation, to catalogues and so on) which are out of scope of CHARTER, which is designed to meet the need for virtual access to surrogate collections.

DS CALM is the CMS currently used at Exeter for the archive and fine art collections. EVE is the CMS in use for the museum artefact collections. Millennium is the CMS for the book collections.

#### **1.4. What is EVE?**

EVE is an online database and e-learning system that was created for the Bill Douglas Centre with funding from the AHRC, 2003-5. EVE was a pioneer project in the heritage and HE sector and has proved the value of digital surrogates for research and teaching to academics, students and curators.

However, EVE is no longer a stable system as it relies on dated Windows 2000 technology and architecture. CHARTER provides the opportunity to make a key stage move away from this legacy database to a sustainable, open-access solution in line with current best information sector practice and longer term preservation in mind.

### **1.5. What will we find on the repository at the end of CHARTER?**

At the end of CHARTER, the new repository will hold a critical mass of 4000+ digital image surrogates (and associate metadata) all with a popular culture subject theme.

The 2000 new items selected for digitisation through CHARTER will have a focus on the long-nineteenth-century, 1800-1914, and will be drawn from across the University's special collections (Bill Douglas Centre, plus Archives & Rare Books). One of the selection criteria will be that there are no IPR issues associated with these items.

The 2000+ existing images transferred from EVE through CHARTER all relate to popular culture but a proportion have dates post-1914. All will be transferred to the new repository to aid their long-term preservation. As summarised in the Risk Log, there are IPR issues associated with a small proportion of these images, but these were cleared and/or have not been challenged during the 5 years the EVE facility has been available online.

Evidence already exists as to the underlying quality, significance and demand for Exeter's research collections: *'The Bill Douglas Centre is recognised as one of the most important resources anywhere in the world [...] As the numerous conferences on visual culture, Victorian studies and popular entertainment in the region attest, Devon has become the international locus for historical visualist research'* (Professor Dennis Denisoff, Ryerson University, 2007).

On the strength of its collections, the Bill Douglas Centre will be submitting an application to the MLA's Designation scheme in 2009. The testimonials in support of this application attest to the international significance of its holdings which, alongside other rare and unique special collections, CHARTER will make more widely available.

The artefacts selected for digitisation from the Bill Douglas Centre and supporting special collections of archives and rare books will be chosen by an interdisciplinary team of leading academics (English, Geography, History) with a view to ensuring the critical mass of popular culture digital content captured through CHARTER has the broadest possible appeal. The original artefacts will be in a range of media (lantern slide, prints, books, stereocards, playbills, optical toys etc) which in themselves tell part of the story of the dissemination and experience of popular culture. There are three inter-related narrative themes to guide the six selection panels: Empire and Imperialism; Science, Spectacle and Magic; Work, Home and Leisure.

### **1.6. What is the longer term development plan?**

The longer-term plan, outside the scope of CHARTER, is to complete the decommissioning of EVE through a managed project to migrate its SPECTRUM data (60,000 records) to DS CALM. DS CALM will then function as the single CMS for all original museum, art and archive artefacts in Special Collections. The CHARTER

repository will function as the CMS and access point to the digital surrogates created from those collections.

In time, a move away from DS CALM towards a fully sustainable open-access CMS is anticipated, but this is out of scope of CHARTER.

### **1.7. Why the new repository is needed**

Until the new e-repository is constructed there is no single point of access for academics, students, curators, librarians and the wider public community to digitised content drawn from across the collections. Digital surrogates are currently in separate silos which are either not available to the public (e.g. digital artefacts drawn from the archive and book collections) or vulnerable (e.g. images on EVE).

The new repository will meet a recognised need from the user constituency to cross-search and discover relevant digital surrogates drawn from across the special collections regardless of physical location. To ensure the needs of users are met, the project will be demand-led in its selection of content for the new repository and will demonstrate through the build of an e-learning module how academic and student users can incorporate the digitised content into teaching and learning. This workstrand builds directly on the pioneering work of the EVE project which transformed curatorial attitudes to digital surrogates through the evidence value placed on virtual access by users. 'I felt I learnt more from the objects online' was one memorable student comment in response to using the e-learning tools on EVE. The virtual environment provides each user with time and space at their own PC to engage with the material objects in the collections. CHARTER will deliver the next generation of tools and the infrastructure to support virtual access to special collections for research and teaching.

## **2. Aims and Objectives**

### **2.1. Aims**

At the strategic level, the broad aim of the CHARTER is to create the infrastructure for sustainable digital assets management at Exeter in order to widen access to hidden collections for research and teaching. Creating a new digital collections repository to house digital surrogates of the special collections is at the heart of this strategy. The repository will operate as a single, open-access portal to reusable digital surrogates from any source in the University's collections regardless of their physical location or collection origin.

Our aim is to populate the repository with digital artefacts in-demand for teaching and research. The reusability of the digital artefacts is essential in how this project will enable greater access to resources that may otherwise be hidden or underexploited by academics and students. To show how the digital objects in the repository can be reused in the curriculum, we will create an e-learning module as a case-study. By integrating users in to the process of selecting material for digitisation and in the creation of the e-learning module, our aim is to embed the resource within its target user community and to facilitate peer-to-peer (student to student and academic to academic) endorsement. CHARTER will also establish the basis for future expansion and sharing of our materials in an open-access and inter-operable environment.

### **2.2. Objectives**

The specific objectives CHARTER intends to achieve are:

<b>OBJECTIVE</b>	<b>MEASURE</b>
To establish by September 2009 the digital repository as a sustainable portal for users to access online digital artefacts drawn from the University's heritage collections regardless of their physical location or collection-origin.	Delivery of a user friendly, functional facility
To populate by September 2009 the repository with 4000 in-demand popular culture digital artefacts and related metadata (2000 images digitised during the project; 2000 existing images migrated over from a legacy database).	Population of repository with 4000 images (progress measured via project targets & milestones).
To create an e-learning module using the digital artefacts in the repository to demonstrate their value and reusability to academics and students.	Completion and uptake of e-learning module (deposit on Jorum).
To evaluate and disseminate the processes and outputs of the project as case-studies and resources of benefit to research, teaching, e-learning, heritage and technical communities of practice.	Delivery of conference papers, reports, focus groups, newsletters, and workshops as per evaluation and dissemination plans.

### **3. Overall Approach**

#### **3.1. General**

CHARTER will be demand-led by the academic community (a key end-user group for the new repository) and will seek to create and test and embed at Exeter the full digital assets life-cycle.

CHARTER brings together a multi-disciplinary team of academics, web developers, curators, digital assets managers, e-learning experts and librarians. Elements of the project are experimental. Our approach is to plan, review and share findings and to discuss problems early. The project plan will adapt as the work progresses, but this will be done in a managed environment in consultation with the Project Board and JISC.

#### **3.2. Strategy / Methodology**

Six work packages will run through the project to deliver against the project's aims, objectives, outputs and outcomes.

##### ***i. Project Management***

See Section 12 of this document.

##### ***ii. Repository and Web-Front End Workpackage***

The repository will be built using open-source Fedora Commons software hosted on two servers (one for back-up) and with a mirrored file store. The repository and preservation TIFFs will reside on a Linux server, with a mirrored file store. Using Fedora software, the repository provides for OAI compatible harvesting for resource discovery. The web standards, identity and access

standards, relationship modeling and registry interworking standards for the repository and its web-front end are set out fully in Section 8: Standards.

The repository work package will begin with a requirements gathering exercise (Oct 08 to Nov 08), during which a decision will be taken to adapt and use either Dublin Core or MODS as the metadata standard mapped to the repository (see metadata below). During the same period, requirements will be defined for the repository's web front end, search capacity and administration area. These will be agreed and built during and integrated into the repository over four months (Nov 08 to Mar 09).

Digital image and metadata migration from EVE will be sequenced in step with the repository build, beginning with the definition of data for transfer and mapping the chosen repository schema (MODS). From Dec 08 to April 09 the metadata records for EVE will be adapted to the repository and from April 09 to Aug 09 the data from EVE will be imported, confirmed as a match and reusable tools for transfer will be created and documented.

### iii. **Metadata & Digitisation Workpackage**

The metadata and digitisation workpackage is carefully sequenced alongside the repository workpackage through CHARTER's Technical Sub-Group.

Requirements mapping and research since the original application was submitted suggests that MODS is a richer and more appropriate metadata standard to form the repository schema which, because it consists of linked 'container', 'object' and 'part' records, is a better fit to the original objects (books, artefacts and archives will multiple parts). CHARTER originally planned to utilise Dublin Core, but (following discussion with JISC) has now opted for MODS. This will require a more experimental approach, but the changed timetable for repository build allows for this option to be explored and executed (MODS is used in conjunction with fedora repository software at Oxford University).

Two new posts have been created and (following recruitment in October 08) will join the CHARTER team in January 09 to undertake digitisation and metadata creation activities. Their first month will be heavily taken up with induction (to collections, handling, preservation, image manipulation, metadata standards), training (TASI) and preparation of procedural documentation and processes. Their work will be line-managed by the Digital Assets Manager (Ahmed Abu-Zayed - co-investigator on CHARTER and manager of the digitisation and metadata workflow).

Digitisation and metadata creation for the 2000 new digital artefacts for CHARTER will start in February 09 and run to September 09. High-quality digital images will be captured at default setting of 600dpi (varied for smaller or larger objects) in TIFF format for the preservation master files (stored on the server with DVD back-up files) and will appear on the repository as JPEGs (download, preview and thumbnail sizes) resized appropriately for the web. The repository schema will map on to key elements of the descriptive industry standard for

each original object (MARC21 for books; ISAD(G) for archives; SPECTRUM for museum collections and fine art). For a full outline of the standards to be employed in the digitisation and metadata workflow, see Section 8 Standards. The repository schema will be designed for digital assets and will not be as rich in detail as the heritage industry descriptive standards. Export from the repository schema back in to these standards is not anticipated.

The Digitisation Assistant will undertake the majority of the retrieval and return to stores of original objects and image capture tasks. The following equipment will be purchased for CHARTER: slide scanner, large format flat bed scanner, digital camera (raw format) and adobe photoshop licences. The Digitisation Officer will supervise the work of the Digitisation Assistant, liaise with curatorial team for selection and create the metadata for the repository.

The bulk of the selection of items for digitisation will be undertaken in conjunction with academic colleagues through the selection workpackage. Quality review procedures for implementation of image capture, after photography, scanning and ingesting, and to manage image manipulation, are set out in Section 17.

iv. ***Selection Workpackage***

There is a simple and practical methodology for the selection workpackage made up of three linked elements:

1. Scoping meetings and 'hands-on' selection panels (academics, digitisation and curatorial staff) will take place through Oct 08 to May 09.
2. Artefacts used in taught classes in terms 1 & 2 will be recorded and selected for digitisation where they fit the subject focus.
3. Senior curatorial staff will identify outstanding objects from their collection knowledge to enhance the selection.

An MS Excel spreadsheet has been set up to record objects selected for digitisation. All items selected for digitisation through CHARTER will be copyright free. The selection workpackage runs through the course of CHARTER.

v. ***E-Learning Workpackage***

The e-learning workpackage will run during June and July 09. Academic, librarian and e-learning technologists will work together to select relevant digital artefacts in the repository, create the e-learning course materials and to create the module (for deposit on Jorum. This stage will also involve user evaluation of the repository. The e-learning module will be integrated into the curriculum during 2009/10, beyond CHARTER.

vi. ***Evaluation and Dissemination***

The process of review will be built in to each workpackage and will be a regular feature of the Project Team and Project Board meetings, backed up by consultation with and Progress Reports for JISC. User evaluation of the repository will take place during the creation of the e-learning module (June to July 09). From July to August 09 the repository will be publicised widely (see Section 18 on Dissemination).

vii. ***Project Closure & Exit***



The outputs delivered by CHARTER (website, repository and web-front end, e-learning module, documentation) will be maintained and publicly available for a minimum of three years post-CHARTER. It has already been agreed that responsibility for operational care of the repository and web front-end will at the end of the project transfer with full training and documentation from its developers in the Integration and Web Services Team to the Academic Systems team, with strategic development assigned to the Digital Assets Manager. The e-learning module will be deposited on JORUM and the project's documentation will be maintained on the project's website.

### **3.3. Issues to be addressed – Technical Sub-Group to check**

- i. *Open Access*. The repository will be build using fedora commons software which is open-source and freely available. (Subject to publishers' agreements) articles based on the findings of CHARTER will be deposited in ERIC, the University of Exeter's institutional repository see <http://eric.exeter.ac.uk>.
- ii. *Interoperability*. The interoperability of the metadata in the repository will be created in either Dublin Core or MODS to facilitate exchange
- iii. *Evaluation*. Evaluation of the project will be built into its project management framework, consultation with JISC, quality review procedures, user-testing and analysis for publication and conference (see Section 16 for more details).
- iv. *Usability*. Usability testing will take place on the repository itself and on the e-learning module. This will involve a focus group of academics, students, librarians and curators.
- v. *Accessibility*. The web front-end for the repository will conform to WAI's Web Content Accessibility Guidelines to at least level AA. It will also conform to current disability legislation including DDA/SENDA.

### **3.4. Scope and boundaries**

The digital collection created through CHARTER will be based on the special collections (archives, rare books, Bill Douglas Centre museum) in the Old Library of the University of Exeter. The collections on the University's Cornwall Campus and in the affiliated library of The Devon and Exeter Institution are out of scope of this project. All A-V collections are also out of scope during this fixed phase of development.

Decommissioning of EVE is also out of scope of CHARTER.

### **3.5. Critical success factors**

1. Timely agreement over metadata standards.
2. Timely build of the repository.
3. Recruitment of digitisation staff.
4. Successful migration of images and metadata from EVE
5. Successful integration of all content and metadata, including from EVE
6. Usability/accessibility and take up by the academic and student body

## **4. Project Outputs**

CHARTER's agreed deliverables are:

- o An open access repository (using Fedora software) with web interface and search tools
- o 2000 new 'popular culture' digital surrogates chosen by an interdisciplinary team of academics and freely available to all (resized appropriately for the web; Dublin Core or MODS metadata, with locally adapted Library of Congress Subject Headings)
- o 2000 existing 'popular culture' images and metadata migrated from EVE to the repository
- o Sustainable preservation storage of all images in TIFF format on a dedicated server (and 2 copies backed-up on DVD and stored in separate locations)
- o An e-learning module incorporating digital artefacts in the repository
- o Deposit of the e-learning module case-study in Jorum
- o Principles and practices for digitisation and metadata processes and standards documented and freely available to all
- o Technical and user guidelines for the repository
- o Reports to JISC, Project Board & project website
- o Dissemination via conference papers, newsletters and workshops (full texts to be deposited in ERIC, Exeter's research repository)
- o Application of a relevant creative commons end-user licence

## **5. Project Outcomes**

1. Free online access to everyone to over 4000 digital surrogates of in-demand special collections for use in teaching, research and outreach
2. Infrastructure, repository and web-interface to sustain access, delivery and preservation of Exeter's digital surrogates
3. Increased knowledge base of digital assets and project management within the Project Team shared freely with the wider community of interests
4. Preservation of the original objects through use of digital surrogates.

## 6. Stakeholder Analysis

<b>Stakeholder</b>	<b>Interest / Stake</b>	<b>Importance</b>
Director of AS & Assistant Director (CRS) & Senior Management Team	Strategic leaders of learning and research infrastructure; prestige for JISC funding; financial investment via existing staff allocated to the project. Meet targets for earned income.	High – with high impact on project
JISC Funders	Financial and strategic investment in the project.	High – with high impact on project
Academics / Schools	Require digital access to special collections for teaching and research for Streatham and Tremough campuses; need digital asset infrastructure to support research bids. Users / customers.	High – with high impact on project & its success
Taught students	Require digital access to the special collections for coursework / dissertations	High importance to success (but low impact on project)
Research students	Require digital access to the special collections for research outputs / conferences / teaching	High importance to success (but low impact on project)
Research Accounting	Project delivered on target and within budget. Keep to targets for earned income.	Low impact on project
Web development & ICT staff	Have a direct role in the delivery of project outputs / maintenance of the outputs post project; professional stake in ensuring success of JISC project.	High impact on project
Learning technologists / E-Learning & CMIT (SELL)	Delivery of the digital content and infrastructure supports e-learning activities & increases buy-in from key	High impact on project

Project Acronym: CHARTER  
Version: Version 1  
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Date: 13 October 2008

	academics & students. Participants in the project. Professional stake in ensuring the success of JISC project.	
Librarians / Curatorial Team (CRS)	Participants in the project. Professional stake in ensuring the success of project. Want to get special collections more visible and widen access via digital technologies. Also potential users of the facility (for managing and marketing the collections). Also hold a stake in reducing physical impact on originals and in upskilling in the area of digital curation.	High impact on project
Other HEI / FE / schools	Potential users / customers. Demand for digital access to the special collections / shared practice in digital curation.	Low impact on project; but of high importance for dissemination of outputs.
Other heritage organisations (e.g. archives / museums)	To learn from the pilot work embedded in the project to increase sector knowledge of digital curation.	Low impact on project; but medium importance for dissemination of findings.
Donors to special collections	Stake in the use and value placed on the items they have donated and in how they are being used / made more widely available via digital medium.	Low impact on project; but medium importance for dissemination of findings.

## 7. Risk Analysis

<b>Risk</b>	<b>Probability (1-5)</b>	<b>Severity (1-5)</b>	<b>Score (P x S)</b>	<b>Action to Prevent/Manage Risk</b>
<b>Staffing</b>				
Recruitment and Retention of staff	2	3	6	Four months allowed for recruitment of digitisation staff. Project Manager to be recruited from the University's Project Team. All practices and processes will be recorded to facilitate knowledge transfer should staff leave during the project
<b>Organisational</b>				
Failure of the Project	1	5	5	CHARTER is aligned to the institution's strategy for research and teaching. The expertise of JISC (AHDS etc) and the Project Board will be utilised to address problems and prevent project failure
Failure to deliver project to JISC procedures and standards	1	4	4	Guidance from JISC to be sought to mitigate this.
<b>Technical</b>				
Metadata Creation	1	3	3	ISAD (G), SPECTRUM, MARC and Dublin Core already established. Team has experience of mapping between metadata standards. A well-documented area of work with high value learning outcomes.
Digitisation	2	4	8	Well-embedded image capture practices. Some items may prove unsuitable for capture (binding too tight or items too fragile). The collection is large enough for alternative selections to be made.
Transfer of images and	2	3	6	This is an experimental part

metadata from EVE				of the project. If necessary, the architects of EVE will be 'bought-in' to help by Academic Services. High value learning outcomes.
Implementation of FEDORA	1	5	5	The Fedora software has been tried and tested in other organisations. Sector advice will be sought. Problems and solutions will be discussed with JISC. The implementation process has been investigated carefully by the Integration and Web Services Team.
Digital Storage	1	1	1	Industry standard digital storage processes and procedures are already in place at Exeter. Back-ups will be made on DVD.
External Suppliers				
Supply of 100 Outsourced digital images	1	1	1	Out-source to another supplier or an alternate selection of objects can be digitised.
Purchase of Hardware and Software	1	1	1	2-3 months allowed for purchasing
<b>Legal</b>				
IPR and Copyright risks: existing images on EVE	1	1	1	A small quantity of the existing images on EVE are in copyright. Rights have either been cleared through the EVE project or are considered very low risk. Images can be removed. An appropriate creative commons licence will also be selected. There are no IPR or copyright risks associated with the new images.

## 8. Standards

Name of standard or specification	Version	Notes
<b>Website standards</b>		
WORD & PDF	Word2003	The documents hosted on the CHARTER

		project website will be in WORD and PDF format (the latter for dissemination, not archiving purposes).
XHTML	1.1	The CHARTER project website will be built using XHTML.
CSS	2.1	Cascading stylesheets will be employed in the design of the CHARTER website.
<b>Repository</b> - The project will be using the Fedora Commons open-source digital repository using the following standards:		
Web Standards: XML and XML Schema	XML 1.0 XML Schema 1.0	To define a FOXML (Fedora Objects XML) XML vocabulary.
Web Standards: SOAP, WSDL, REST		Data flows into and out-of the repository can be effected under the SOAP (Simple Object Access Protocol) or REST (Representation al State Transfer) models, with WSDL (Web Services Definition Language) defining the service.
Identity and Access Management Standards: XACML	2.0	Access control and security use the XACML (eXtensible Access Control Markup Language)

		Standard.
Relationship modelling: RDF (Resource Description Framework) RDQL (RDF Query Language) with a SPARQL (Simple Protocol and RDF Query Language) implementation in development		RDF models internal relationships, and is queryable via RDQL
Registry interworking: PRONOM and GDRF		The repository works both the PRONOM and GDRF registries
<b>Image standards</b>		
TIFF	TIFF 6.0	For uncompressed preservation master files.
JPEG	JPEG version 1.02	For web access as a download, preview and thumbnail.
PDF PDF files are most appropriately used to encode the exact look of a document in a device-independent way (not in use for archiving purposes).	Version 1.3	Proprietary to Adobe Systems.
Capture resolution		A default capture resolution of 600DPI will be used (varied as appropriate for smaller / larger objects).
Scan size		Manuscript material will be scanned at 100%. Negative material will be scanned at least 300%.
Tonality (pixel-depth resolution)		<ul style="list-style-type: none"> <li>• Colour: 24 bits-per-pixel</li> <li>• Greyscale: 16 bits per pixel</li> </ul>
Master archival backups		DVD-ROM and Linear Tape
File Naming Guidelines at: <a href="http://www.tasi.ac.uk/advice/creating/filenaming.html">http://www.tasi.ac.uk/advice/creating/filenaming.html</a> will be used for creation of file names and directory		



structures for master and surrogate files.		
<b>Repository Schema - Metadata Standards</b>		
<p>Encoded Archival Description (EAD)  <a href="http://www.loc.gov/ead/">http://www.loc.gov/ead/</a></p> <p>Maintains the hierarchical structure of archival collections.</p>	Version 2002	Allows for the establishing of web finding aids.
<p>Metadata Object Description System (MODS)  <a href="http://www.loc.gov/standards/mods/">http://www.loc.gov/standards/mods/</a></p> <p>This would maintain consistent levels of cataloguing and allow structural relation between a “container” record, “object” record and “part” record.</p>	Version 3.3	MODS exceeds DC with the use of controlled lists for attributes and sub-elements and allows detailed record of the resource.
<p>Metadata Authority Description Schema (MADS)  <a href="http://www.loc.gov/standards/mads/">http://www.loc.gov/standards/mads/</a></p> <p>An XML schema designed to hold authority records and corresponding variants for names, places and subjects.</p>	Version 1.0	MADS will serve as a companion to MODS.
<p>Metadata Encoding &amp; Transmission Standard (METS)  <a href="http://www.loc.gov/standards/mets/">http://www.loc.gov/standards/mets/</a></p> <p>Maintains the unity of a complex digital object by wrapping all components (images, metadata, etc.) into its structure.</p>	Version 1.7	Allows for import and export of complex objects between digital repositories.
<b>Ingested Descriptive Metadata Standards –</b>		
These standards will be mapped across to the repository schema for import/data entry. Export back into these standards is not anticipated as the repository schema is not as rich.		
ISAD (G) International Standard for Archival Description		Mapped to repository metadata standard (DC or MODS) to describe archival objects.
MARC 21 / AACR2 (Anglo-American Cataloguing Rules)		Mapped to repository metadata standard (DC or MODS) to describe library

		collections
SPECTRUM (museum standard)		Mapped to repository metadata standard (DC or MODS) to describe museum collections
LCSH (Library of Congress Subject Headings)		Will be used as the standard subject classification scheme on the repository (where established local classification scheme is unavailable).
<b>Rights Standards</b>		
Creative Commons (CC)	2.0	An appropriate CC licence will be chosen for the repository to the University to display and distribute digital images while assigning specific restrictions on use.
<b>E-Learning Standards</b>		
XHTML	1.1	Online e-learning content will conform to XHTML 1.1 standards
CSS	2.2	Cascading stylesheets will be employed in

		the design of all content.
IMS Content Packaging	1.1.3	The e-learning package will be submitted to JORUM as an IMS content package
Dublin Core		All materials will have meta data confirming to Dublin Core standards
Multimedia standards - flash		Any multimedia content within the e-learning package will use multimedia standards based on flash as required
Raster Image Standards - JPEG	JPEG (JIFF) 1.02	Any new images used within the materials will conform to JPEG standards

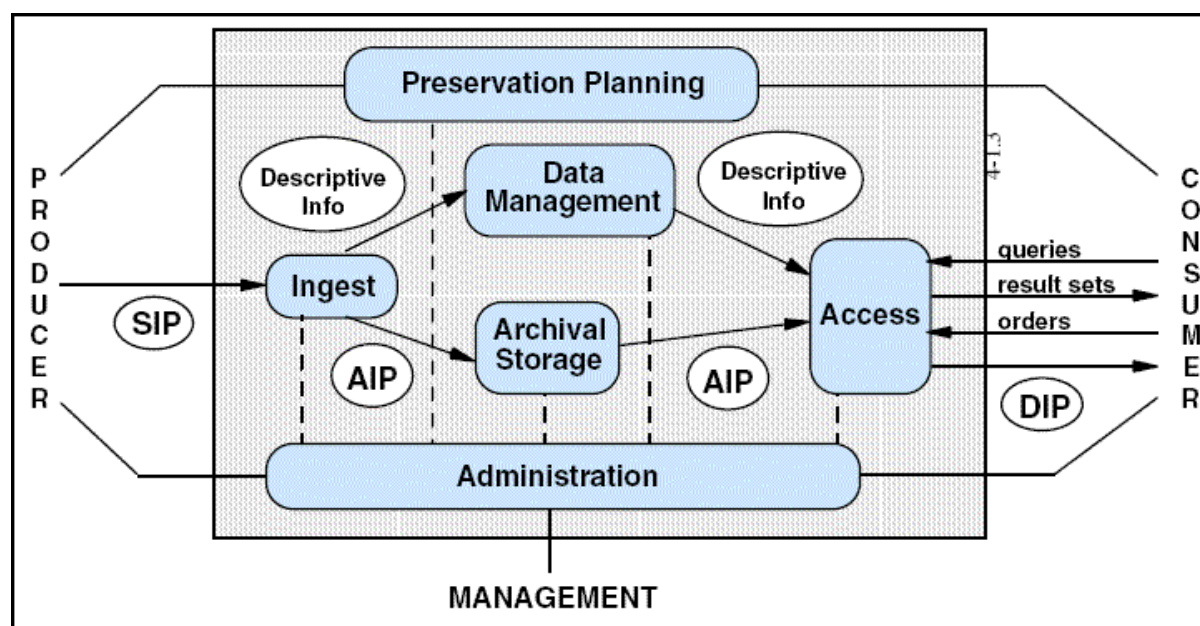
## 9. Technical Development

### 9.1. OAIS

CHARTER will adopt the reference model for Open Archival Information System (OAIS). This model is composed by four principal functions: Ingest, Data Management, Archival Storage and Access. The **Ingest** process is responsible for accommodating the created and acquired material in the repository and takes care of the necessary tasks to adequately store and preserve that information. For example, during this stage, an OAIS repository may transform the submitted objects to normalised formats adequate for long-term preservation and request the submitter to add descriptive metadata to those objects to facilitate their future retrieval by search engines. New entries come in SIPs (Submission Information Packages). When the ingestion process terminates, the SIPs are transformed into AIPs (Archival Information Packages), i.e. the actual packages that will be kept within the repository.

The **Data Management** component is responsible for providing services and functions for populating, maintaining, and accessing a wide variety of metadata that is stored by the repository. Some examples of this information are catalogues and inventories on what may be retrieved from **Archival Storage**, processing algorithms that may be run on retrieved data, access statistics, security controls, and OAIS schedules, policies, and procedures.

The **Access** component establishes an interface between the archive and the end user. This function is able to locate an AIP by querying the Data Management component and retrieve it from the Archival Storage component. The AIP is then transformed into a DIP (Dissemination Information Package) and delivered to the consumer.<sup>1</sup>



## 9.2 Digitisation

Newly scanned coloured items will be captured at 24 bits per pixel colour, at a default setting of 600dpi resolution (varied as appropriate for larger/smaller physical objects) and stored as uncompressed TIFFs.

Newly scanned greyscale items will be captured at 16 bits per pixel greyscale, at a default setting of 600dpi resolution (varied as appropriate for larger/smaller physical objects) and stored as uncompressed TIFFs.

Each scanned item will be produced as a set of four digital images:

- 1- An uncompressed preservation master image in TIFF format that will be created within the scanning workflow.
- 2- A compressed reference image for web access as a download in JPEG format that will be created within the image processing workflow.
- 3- A compressed reference image for web access as a preview in JPEG format that will be created as separate batch processes.
- 4- A thumbnail image in JPEG format that will be created as separate batch processes.

It is intended that during scanning time, basic metadata will be entered into an interim database.

Items will undergo quality assurance during the digitisation cycle. Due to the fact that 2,000 items will be digitised, each file will be checked on a one-to-one basis

<sup>1</sup> <http://public.ccsds.org/publications/archive/650x0b1.pdf>

Project Acronym: CHARTER  
Version: Version 1  
Contact: Jessica Gardner  
Date: 13 October 2008

and checklists used to ensure completeness of collection, legibility, correct cropping and rotation.

### **9.3 Metadata**

The gradual convergence in metadata standards towards XML based schemas was noted by the Project Team and seen as a means to ensure future interoperability and metadata harvesting.

The CHARTER originally planned to map its metadata requirements to the Dublin Core (DC) schema. A decision has been made to adopt the MODS schema. Its Hierarchical structure & sophisticated element set make it applicable to a wide variety of resources including complex objects. It also allows rich description including record management information. MODS is developed and supported by Library of Congress as well as compatible with existing library standards.

An interim database will be designed to store metadata for future export as an XML file incorporated into the Library of Congress Metadata Encoding & Transmission Standard (METS).

### **9.4 Repository**

All applications installation and configuration sequences will be captured and recorded in a content management system (CMS). This will be particularly important in understanding how to write instructions for the project web site. Dependencies on version numbers of applications will be easier to diagnose using his methodology. The CMS will form the heart of the project web site.

A Change Management Tracking System will be used to ensure that any changes to system settings are planned, approved and scheduled. An issue tracking system will also be employed.

A CVS code repository will be used to version control and archive all locally generated script development. Installation, configuration and validation of component packages will follow repository guidelines at all times.

### **9.5. E-Learning**

The e-learning package will draw on materials already digitised and stored within the repository. Academic content will be converted to online delivery linked to these materials. Ongoing QA during the development of these materials will ensure that they are of a high standard and evaluation with staff and students will be undertaken.

## **10. Intellectual Property Rights**

### **10.1. New digital artefacts created through CHARTER**

The 2000 popular culture digital artefacts created during CHARTER have no IPR issues, as all items selected will be copyright free. The IPR associated with these digital surrogates (as photographs created through the project) will be owned by the University of Exeter and governed by an appropriate creative commons licence to allow free access at the point of use.

### **10.2. Existing digital artefacts on EVE**

A small proportion of the digital surrogates hosted on the Bill Douglas Centre's EVE website are still in copyright. The rights to publish the images online were either cleared via the EVE project or are considered of very low risk. In over 5 years, there have been no requests from copyright holders to take down the images but these same images can be suppressed from public access on the repository if required as part of CHARTER's 'take-down' policy.

### **10.3. Free at point of use**

All digital surrogates hosted on the repository will be freely available to public via the repository in JPEG format appropriately sized for the web. The provision of high resolution TIFF files for commercial publication may be subject to a reproduction fee.

### **10.4. Repository**

There are no IPR issues in the repository which will be built using freely-available open-source fedora commons software.

### **10.5. Metadata & Documentation**

The IPR in the metadata and project documentation will be invested in the University of Exeter's ownership. This metadata on the repository will be freely available to use by everyone, governed by an appropriate creative commons license. The project documentation will be shared freely and widely with the communities of interest.

## ***Project Resources***

### **11. Project Partners**

**Not applicable**

### **12. Project Management**

#### **12.1. Project Management Framework**

The CHARTER project sits within the Academic Services (library, IT, student and research support services) division of the University's Professional Services. Martin Myhill (Assistant Director of Academic Services) will be institutional sponsor and will sit on the CHARTER Project Board.

CHARTER will bring together a multi-disciplinary team (academics, curators, technical experts, educational technologists) under the strategic lead of the Principal Investigator, Dr Jessica Gardner (Head of Special Collections). She will hold responsibility for reporting directly to JISC and the project's internal sponsor, Martin Myhill.

A professional Project Manager has been appointed to CHARTER to provide the project management expertise in support of the Principal Investigator / Project Team. Assigned to the project for one day a week, the Project Manager will be responsible for creating a robust project infrastructure around people, processes and budget, following the University's own established project management framework and audit process ([www.offices.ex.ac.uk/spo/](http://www.offices.ex.ac.uk/spo/)). The Project Manager is qualified in PRINCE2 and (as a secondary outcome of CHARTER) will help to

Project Acronym: CHARTER  
Version: Version 1  
Contact: Jessica Gardner  
Date: 13 October 2008

develop the project management skills of the project team. In addition, a Senior Project Manager (Chris Austin, Deputy Head of Projects) has been appointed as a mentor to the Project Manager. Her role is not costed in to the project but is designed to help ensure the learning outcomes about working with JISC are embedded into the institution via the Projects Office.

On award of funding by JISC, the University's established project management processes came in to effect. This included agreement of a 'Project Initiation Document' (PID), which includes a risk log and project action plan. The Project Manager will use these tools, with this JISC plan, to monitor progress and assist in the sequencing of actions.

The project website will host all project documents and will evolve as a tool for project management and dissemination. To aid that process, a project blog and group email has been set-up. The project website will be hosted in the Digital Assets area of the Academic Services website, alongside the website for the University's institutional repository, ERIC.

### **12.2. Technical Sub-Group**

The most critical stage of the project is the conceptualisation and construction of the new repository and web interface. This work will be planned and delivered through CHARTER's Technical Sub-Group (reporting to the Project Team meetings) which has been set up to coordinate the overlapping repository, server, metadata and digitisation workflows to ensure effective sequencing of the integration to the repository of the new and existing digital artefacts and metadata.

Sue Milward (Head of Integration & Web Services and Co-Investigator on CHARTER) will lead the Technical Sub-Group. Following her lead, the repository workpackage will now extend over a longer time frame to allow closer integration and overlap between the build of the repository and the metadata/digitisation work package. This involves one change of personnel on the repository workflow which has been discussed with Alastair Dunning, Programme Manager, JISC.

### **12.3. Project Board**

The Project Board will meet not less than six times during the course of CHARTER and will receive and comment on progress reports, help to problem solve and will act as representatives of the wider communities of interest in the project.

<b>Board Member Role</b>	<b>Name and Job Title</b>
Chair	Jessica Gardner (Head of Special Collections)
Professional Services Representative (s)	Ahmed Abu-Zayed (Digital Assets Manager) Martin Myhill (Assistant Director Academic Services)
School Representatives	Ian Cook (Geography) Gary Stringer (Creative Media & Information Technology Unit – SELL)
Project Manager(s)	James Green (Projects Office), with input from Chris Austin (Projects Office)

## 12.4. Project Team

The Project Team will meet not less than once a month during the course of the project and will report on progress, problem solve and make decisions as required.

Project Role	Name
Project Manager(s)	James Green ( <a href="mailto:j.green@exeter.ac.uk">j.green@exeter.ac.uk</a> ) (Projects Office), with input from Chris Austin ( <a href="mailto:c.e.austin@exeter.ac.uk">c.e.austin@exeter.ac.uk</a> ) (Projects Office)
Principal Investigator	Dr Jessica Gardner ( <a href="mailto:j.p.gardner@exeter.ac.uk">j.p.gardner@exeter.ac.uk</a> ) (Head of Special Collections)
Work Stream Managers	
Repository	Sue Milward ( <a href="mailto:s.a.milward@exeter.ac.uk">s.a.milward@exeter.ac.uk</a> ) (Head of Integration and Web Services)
Metadata and Digitisation	Ahmed Abu-Zayed ( <a href="mailto:Ahmed.Zayed@exeter.ac.uk">Ahmed.Zayed@exeter.ac.uk</a> ) (Digital Assets Manager)
Selection	Philip Wickham ( <a href="mailto:p.j.wickham@exeter.ac.uk">p.j.wickham@exeter.ac.uk</a> ) (Curator of the Bill Douglas Centre)
E-Learning	Matt Newcombe ( <a href="mailto:m.j.newcombe@exeter.ac.uk">m.j.newcombe@exeter.ac.uk</a> ) (Head of E-Learning)
Other resources	Other project resources (see below) will be co-opted to the Project Team meetings as required



## 12.5. Project Resources

The project resources include all those with a role in CHARTER.

<b>Project Role</b>	<b>Name</b>	<b>Days required or % of time</b>	<b>Timescale required</b>
<b>Project Manager</b>	James Green (Projects Office) (with input from Chris Austin – Projects Office – as required)	20%	1 year
<b>Principal Investigator</b>	Dr Jessica Gardner (Head of Special Collections)	10%	1 year
<b>Repository Workflow</b>	Sue Milward (Head of Integration & Web Services)	10%	October 08 until completion
	Ray Burnley (Web Developer / Systems Programmer)	50%	November 08 until completion
	Bill Edmund (Digital Storage Manager)	10%	October 08 until completion
<b>Digitisation and Metadata Workflow</b>	Ahmed Abu-Zayed (Digital Assets Manager)	15%	1 year
	Digitisation Officer and Assistant	100%	January 09 for 9 months
<b>Selection Workflow</b>	Philip Wickham (Curator of the Bill Douglas Centre)	5%	1 year
	Joanne Parker, Paul Young, Joe Kember, Nicola Thomas, Jude Hill, James Ryan, Bruce Coleman, Richard Noakes, Richard Toyne, Caroline Gale and Diane Workman. (Academic Schools & Academic Support Consultants)		4 – 8 hours
<b>E-Learning Workflow</b>	Matt Newcombe (Head of E-Learning)	10%	June 09 for 2 months
	Simon Tapper (Educational Technologist)	100%	June 09 for 2 months
	John Plunkett (School of Arts, Languages & Literature)		30 hours June-July 09
	Diane Workman (Academic Support Consultant)		June 09 for 2 months – part-time contribution as required

## 12.6. Training Needs

The two digitisation posts created on the project will undergo in-depth induction to the collections and the project in January 2009. The project's training budget includes funds for up to four TASI courses as required by the digitisation postholders. The dissemination budget for the project contains funds that can be viated to training if required and for workshops and conference attendance to share findings with others.

### 13. Programme Support

There are no specific areas where we currently need support from the programme manager, but CHARTER anticipates consulting regularly with the JISC and will benefit from its support and from interaction with parallel projects.

### 14. Budget – See Appendix A

The rising cost of inflation means that the cost of the two digitisation posts employed on CHARTER are marginally higher (£1364) than originally anticipated. The cost has been born by the University and has not been added to the budget agreed with JISC (Appendix A).

The other alteration is the replacement of Ray Burnley (Integration and Web Development Team) for Kevin Evans (named in the original application) as the Web Developer attached to the repository workpackage (as agreed with JISC). Ray will work over an extended period (from Nov 08 to completion of the repository) as a minimum 50% attachment to CHARTER. The costs to the project remain unchanged.

### *Detailed Project Planning*

### 15. Workpackages – See Appendix B

### 16. Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
Ongoing from Nov 08	Repository built and fit for purpose for users (curators, academics, students etc)	Does it meet user need?	Review by multi-disciplinary Project Team / Board / Resources	User satisfaction; repository delivered on schedule
Ongoing from Dec 08	Functionality and value to user of the repository web interface and search tools	Does it function as required? Does it meet user need	Review by Project Team; Review within e-learning cycle	User satisfaction; searchability of the repository.
Ongoing from	Quality and quantity of the	Image quality, esp. JPEGs resized for	Quality review	100% of images meet required

Feb 09	2000 new digital surrogates	web use Delivery / timeliness	methodology; Project timetable	quality; Images delivered on schedule.
Ongoing from Feb 09	Quality and quantity of 2000 new metadata records	Fit for purpose / meeting user need (curators, academics, students, e-learning team)	Review by multi-disciplinary Project Team / Board / Resources	User satisfaction; metadata delivered on schedule; searchability of the content.
Ongoing April to August 09	Quality and quantity of transfer of metadata and 2000+ images from EVE	Migrated data matches source	Review by Technical Sub-Group	Migrated data matches source.
June to July 09	Value of the e-learning module	Module matches requirements of academics and students	User testing with E-Learning Team	Module meets user requirements.
Ongoing	Documentation		Peer Review	

## 17. Quality Plan

Repository					
Timing	Quality criteria	QA method(s)	Evidence of compliance	Quality responsibilities	Quality tools (if applicable)
As required	Fitness for purpose	Presence of errors, user activity, service validity.  Load testing. Availability & Resilience Testing  Project Management  Project Review.	Adoption by customers.  Activity and error log verification.  Helpdesk request monitoring.  Service Availability Monitoring  Traffic Analysis.	Project Technical Team	Badboy  Apache JMeter
Throughout repository	Best practice for	Use of latest supported	Latest stable version of	Project Technical	

build (Nov 08 to Mar 09)	processes	<p>Fedora versions.</p> <p>Documentation of all local scripts and amendments.</p> <p>Change management tracking system for service alterations.</p> <p>Integrated Helpdesk Support.</p> <p>Project Management Committee review.</p>	<p>Fedora and supporting software running.</p> <p>Repository for local scripts and amendments.</p> <p>Change Management System with archive of updates.</p>	Team	
Throughout repository build	Adherence to specifications	<p>Compliance with project plan.</p> <p>Regular reporting.</p> <p>Discussions with JISC.</p>	Approval of plans and milestones.	Project Technical Team	
Throughout the repository build	Adherence to standards	Use of latest software versions.	Upgrades to latest versions.	Project Technical Team	
Throughout the repository build	Accessibility Legislation	<p>AA formal design and approval procedures.</p> <p>Accessibility testing</p>	Signed legal agreements.	Project Technical Team	
Regularly	Repository	Fault report system that allows faults to be checked	Achieving the required results.	Head of Web Team	
Before implementation	Technical metadata	Selecting technical	Comply with established	Digital Assets Manager	

on		metadata according to the best practice guides	standards and best practice guides		
At the time of batch ingest	Presence of images and metadata files	The ingest scripts	Verify metadata files against corresponding images	Web Developer Digitisation Officer/Assistant	
	Checking XML document for errors	Validating XML against the schema or an XML parser. Check that free text entries follow the local rules and style guidelines	XML error free. Free text complies with the rules and guide lines.	Web Developer	

<b>Digitisation &amp; Metadata</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
After scanning and before ingesting	Master files	Checking files properties against the digitisation guidelines.  Visually checked and signed off with name and time recorded within audit history.	Comply with the digitisation guidelines	Digitisation Officer/Assistant	
Image manipulation	Surrogates	Visually checked and signed off with name and	Images comply the guidelines	Digitisation Officer/Assistant	

		time recorded within audit history.  Reliable software for the creation of surrogates.			
Before implementation	Digitisation workflow	Establishing digitisation guidelines	Comply with established standards and best practice guides	Digital Assets Manager	
Ingesting	Accurate capture of metadata	Reviewed and signed off with name and time	Comply with established guidelines by the Archivist.  Training staff and encouraging a pride in quality of work.	Digitisation Officer/Assistant  Digital Assets Manager	

<b>E-Learning Module</b>					
<b>Timing</b>	<b>Quality criteria</b>	<b>QA method(s)</b>	<b>Evidence of compliance</b>	<b>Quality responsibilities</b>	<b>Quality tools (if applicable)</b>
Throughout package build	Academic content	Evaluation with academic staff and students	End materials will be of high quality	Educational Technologist, Academic, Head of e-Learning	
Throughout package build	Adherence to standards	Compliance with project plan.  Regular	Validation of content with relevant tools	Educational Technologist, Head of e-Learning	W3C validation tools CSS - <a href="http://jigsaw.w3.org/css-validator/">http://jigsaw.w3.org/css-validator/</a> XHTML -

		reporting.			<a href="http://validator.w3.org/">http://validator.w3.org/</a>
IMS content package	Adherence to standards	Compliance with project plan and requirements for JORUM repository	Package submitted to JORUM repository	Educational Technologist, Head of e-Learning	RELOAD tools – <a href="http://www.reload.ac.uk">http://www.reload.ac.uk</a>

## 18. Dissemination Plan

Timing	Dissemination Activity	Audience	Purpose	Key Message
Sept 08	For Your Information (newsletter report) & announcement at Divisional Meeting	Academic Services teams at local institution	Raise awareness	Funding secured
Nov 08	Institutional Research Newsletter	Local Institution	Raise Awareness	Funding Secured
5 Nov 08	Project Website launched	All interested parties	Raise awareness, tool for Project Team communication, keep all interested parties up to date on developments	Updates on project news
5 Nov 08	JISC Project Website	All interested parties; JISC	Raise awareness and contribute to creation of a community of interest in Digitisation Programme	Raise awareness
5 Nov 08	Project Blog	All interested parties; Project Team	To ask questions, share findings, update on project.	Essential information and project development
Monthly	Reports at staff meetings	Service colleagues &	Raise awareness	Raise awareness

		managers		
Summer 09	Presentation	CILIP SW University College & Research Group Conference	Raise awareness, share practice, encourage use of resource	Strategy and practice; value to researchers
Summer 09	Workshop on heritage collections & digitisation	All interested parties (possibly with Devon Museums Group or SW Society of Archivists)	Raise awareness, share practice, encourage use of resource	Strategy and practice; value to users and curators.
Summer 09	Workshop on repository and e-learning	All interested parties (possibly hosted with partner projects on Digitisation Programme)	Raise awareness, share practice and problems	Strategy and practice
As scheduled by JISC	JISC Programme Meetings	Meetings	Share information with other similar projects and practitioners	Strategies and practice
Summer 09	Sconul Newsletter	SCONUL members	Raise awareness	Raise awareness
September 09	Subject email lists via academic participants on CHARTER	Academics	Raise awareness of value for research and teaching	Raise awareness of value to users
September 09	For Your Information / Extra	Institutional newsletters	Raise awareness	Raise awareness of value to users
Ongoing post project	Promotion via library & e-learning	Academic schools and students	Raise awareness; embed use in academic community	Value to users

\*The plan above concentrates on activities planned for the 12 month duration of the project. In practice, the budget allows for wide conference attendance and presentation of findings will be encouraged throughout the project team and will extend beyond the close of the project. These might include annual conferences of Digital Resources in the Humanities, CILIP Rare Books and Special Collections Group, for example. Contact and collaboration with other similar projects will be actively sought and encouraged.



## 19. Exit and Sustainability Plans

<b>Project Outputs</b>	<b>Action for Take-up &amp; Embedding</b>	<b>Action for Exit</b>
'Digital Collections' Repository & web-front end	Promote repository through infoskills training for academics and students via library & others as per dissemination plans; demonstrate e-learning potential; deliver training for curatorial team; effect handover of technical support from Integration & Web Services Team to Academic Systems Team.	Ensure user instruction and technical documentation is written and up to date and available on website and internal team documentation. Effective training & handover from Integration & Web Services Team to Academic Systems Team.
Digitised Images	Ensure web hosted images are of a high quality and fit for purpose as a research and teaching tool.	Ensure image capture follows agreed standards and preservation files are backed-up and secure. Ensure image capture manuals are complete and accessible. Apply appropriate Creative Commons Licence.
Metadata	Ensure metadata conforms to standards and is relevant to target audiences (ie HE and FE) and enables effective searching of the repository.	Ensure metadata support documentation is complete and accessible, via the web and within teams. Apply appropriate Creative Commons Licence.
E-Learning Module	Ensure module is built using standards required for deposit in JORUM. Ensure module is built in partnership with its users (academics and students). Promotion of the module via academics, e-learning team and library staff.	Deposit module on JORUM.

<b>Project Outputs</b>	<b>Why Sustainable</b>	<b>Scenarios for Taking Forward</b>	<b>Issues to Address</b>
Web front-end to repository	Essential tool for promoting and	Operational responsibility for web-	Need to ensure all technical

	searching the repository. Costs of maintenance are low.	front end will transfer to the Academic Systems Team, with technical support from the Integration and Web Services Team. Digital Assets Manager will be responsible for strategic development.	documentation is up to date at the end of the project and training delivered to Academic Systems Team.
Repository	Central component of digital assets management infrastructure created through CHARTER.	Operational responsibility for web-front end will transfer to the Academic Systems Team, with technical support from the Integration and Web Services Team. Digital Assets Manager will be responsible for strategic development. Source code will be made available to others, with other tools / documentation.	Need to ensure all technical documentation is up to date at the end of the project and training delivered to Academic Systems Team.
Digitised images	Captured with preservation in mind (TIFF format for preservation masters)	The preservation master files on the server will be backed up on DVD and stored in multiple locations. These files will be available as required.	None
E-Learning module	Built to meet standards required for deposit on JORUM.	Deposit on Jorum.	None
Documentation & Evaluation	Will be completed within the project and made available publicly via CHARTER's website. The findings of the project – its successes and the problems it faces – will be	Ensure documentation is up to date and available via the website.	None

	shared widely within the communities of interest to help develop best practice.		
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## Appendixes

### Appendix A. Project Budget – unchanged from application

<b>Directly Incurred Staff</b> (Post, Grade, No. Hours & % FTE)	<b>April 08 – March 09</b>	<b>April 09 – Sept 09</b>	<b>TOTAL £</b>
Project Manager, Grade G, pt 39, 7.3 per day hours or 20% FTE for 12 months	£ 4726.08	£ 4726.08	£ 9,452.16
Digitisation Officer, Grade D, pt 14, 100% FTE 9 months	£ 5585.36	£ 11170.72	£ 16,756.08
Digitisation Assistant, Grade C, pt 6, 100% FTE over 9 months	4446.00	8892.00	13,338.00
<b>Total Directly Incurred Staff (A)</b>	<b>£14,757.44</b>	<b>£24,788.80</b>	<b>£39,546.24</b>
<b>Non-Staff</b>	<b>April 08 – March 09</b>	<b>April 09 – Sept 09</b>	<b>TOTAL £</b>
<b>Travel and expenses (final figures show inflation added via TRAC costing)</b>	£	£	£
<u>Travel &amp; expenses from Cornwall to Exeter</u> to attend Selection Panels (academics) (4 trips of 210 round trip miles, plus lunch)	£298.49	-----	£298.49
<u>Travel &amp; expenses from Exeter to London</u> to attend JISC days (up to five per project) (Standard Open Ticket is £179.00; £5.00 per trip expenses)	£473.47	£473.47	£946.94
<u>Travel &amp; Expenses from Exeter to Bristol</u> (TASI Training – 4 x £25 for train & 4 x £5.00 expenses)	£123.51	--	£123.51
<b>Hardware/software (inc VAT)</b>	£	£	£
<u>New workstation x 2</u> for new members of directly incurred project staff (2 x desktop PC (2 x £550.00) x 2; 1 x networked colour laser jet printer (£240.00)	£1340.00	---	£1340.00
<u>Large format flatbed scanner</u>	£1500.00	---	£1500.00

<u>Slide scanner</u>	£800.00	--	£800.00
<u>Digital camera</u> (raw format)	£1500.00	--	£1500.00
<u>Adobe Photoshop CS3 Extended licence</u> £150 x 2	£300.00	--	£300.00
<u>Server</u>	£2,500.00	--	£2,500.00
<u>File Store (mirrored) – 1TB</u>	£4000.00	--	£4000.00
<u>Licensed back-up Provision for 12 months – 1 TB</u>	£400.00	--	£400.00
<b>Dissemination (final figures show inflation added via TRAC costing)</b> <u>Workshops &amp; Symposiums &amp; Conferences</u>	£ ----	£ 10,292.83	£ 10,292.83
<b>Evaluation</b> <u>Book voucher rewards</u> for student focus group evaluation (£15 x 20) (i. FEDORA usability testing; ii. E-learning testing)	£ £90.00	£ £210.00	£ 300.00
<b>Other (final figures show inflation added via TRAC costing)</b> <u>Training</u> (up to 4xTASI courses)	£ 617.57	£ ---	£ 617.57
<u>Digital image capture</u> – outsourcing of 100 large items (no VAT) (£4.00 per unit)	£411.71	----	£411.71
<b>Total Directly Incurred Non-Staff (B)</b>	<b>£14,354.75</b>	<b>£10,976.30</b>	<b>£25,331.05</b>
<b>Directly Incurred Total (C) (A+B=C)</b>	<b>£29,112.19</b>	<b>£35,765.10</b>	<b>£64,877.29</b>
<b>Directly Allocated</b>	<b>April 08 – March 09</b>	<b>April 09 – Sept 09</b>	<b>TOTAL £</b>
<b>Staff</b>	£	£	£
<b>Principal Investigator:</b> <u>Researcher 1</u> (PI) (10%FTE across 12 months / average 3.5 hours a week) (Dr Jessica Gardner, Head of Special Collections)	2588.64	2588.64	5177.28
<b>Selection workflow:</b> <u>Researcher 2</u> (Co Investigator) (5% FTE across 12 months – average 2 hours per week / 96 hours in total) (Phil Wickham, Curator)	987.23	987.23	1974.46
<u>Selection panels (via timesheets) – Oct 08 to March 09</u> (10 Academic Researchers participating – totally 50 hours input)	50 hours in total on timesheets Total: 1556.37	--	1556.37

Joanne Parker (English) – 8 hours Paul Young (English) – 4 hours Joe Kember (English) – 4 hours John Plunkett (English) – 8 hours Nicola Thomas (Geography) – 6 hours Jude Hill (Geography) – 4 hours James Ryan (Geography) – 4 hours Bruce Coleman (History) – 4 hours Richard Noakes (History) – 4 hours Richard Toye (History) – 4 hours			
<b>Digitisation &amp; Metadata workflow:</b>	3652.61	3652.61	7305.22
<u>Researcher 3</u> (CI, Digital Assets Manager) (15% FTE for 12 months – average 3.5 hours per week) – Ahmed Abu-Zayed	2012.88	----	2012.88
<b>Digital Repository Workflow: October 08 to Jan 09</b>			
<u>Researcher 4</u> (CI, Head of Integration and Web Services) (10% FTE for 4 months – average 3.5 hours per week) – Sue Milward	13,975.43	----	13,975.43
<u>Researcher 5</u> (Systems Programmer / Web Developer) (50% FTE from November to completion – Ray Burnley	1213.49	---	1213.49
<u>Researcher 6</u> (Digital Storage Manager) – 36.5 hours / 1 week in total – Bill Edmunds	--	811.85	811.85
<b>E-Learning Workflow: April 09-May 09</b>			
<u>Researcher 7</u> (CI - Head of E-Learning) (10% FTE for 2 months / average 3.5 hours per week) – Matt Newcombe	--	5665.48	5665.48
<u>Researcher 8</u> (Educational Technologist) 100% FTE for 2 months – Simon Tapper	--	933.82	933.82
<u>Researcher 9</u> (Academic) John Plunkett (Senior Lecturer, English) – 30 hours (timesheets)			
Estates	£2046.5	£1380.5	£3427.00
Other	£ --	£--	£--
<b>Directly Allocated Total (D)</b>	<b>£28,033.15</b>	<b>£16,020.13</b>	<b>£44,052.28</b>
<b>Indirect Costs (E)</b>	<b>£26,979.00</b>	<b>£18,189.00</b>	<b>£45,168.00</b>

Project Acronym: CHARTER  
 Version: Version 1  
 Contact: Jessica Gardner  
 Date: 13 October 2008

<b>Total Project Cost (C+D+E)</b>	<b>£84,124.34</b>	<b>£69,974.23</b>	<b>£154,098.60</b>
<b>Amount Requested from JISC</b>	<b>£42,062.17</b>	<b>£34,987.07</b>	<b>£77,049.24</b>
<b>Institutional Contributions</b>	<b>£42,062.17</b>	<b>£34,987.19</b>	<b>£77,049.36</b>
<b>Institutional Contributions (must equal at least 50%)</b>	<b>JISC 50 %</b>	<b>Partners 50 %</b>	<b>Total 100%</b>
<b>No of FTE used to calculate indirect and estate charges and staff included</b>	<b><u>No FTES?</u> 1.12</b>	<b><u>Which Staff?</u> Researchers 1-9, plus Project Manager &amp; academics named in 'selection' panels</b>	

## Appendix B. Workpackages



### JISC WORK PACKAGE

<b>WORKPACKAGES</b>	<b>Month</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	
<b>1: Project Management</b>		X	X	X	X	X	X	X	X	X	X	X	X													
<b>2: Selection</b>			X	X	X	X	X	X	X	X	X	X	X													
<b>3: Repository</b>		X	X	X	X	X	X	X	X	X	X	X														
<b>4: Digitisation &amp; Metadata</b>		X	X	X	X	X	X	X	X	X	X	X														
<b>5: E-Learning</b>										X	X															
<b>6: Evaluation &amp; Dissemination</b>		X			X					X	X	X	X													

Project start date: 1 October 2008

Project completion date: 30 September 2009

Duration: 12 months

				Milestone	Responsibility
YEAR 1					
<b>WORKPACKAGE 1: Project Management</b>					
<b><i>Objective: To ensure effective internal communications and project success</i></b>					
1. Project management activities	Oct 08	Sept 09	Manage progress of CHARTER		JG / JPG
2. Create & approve JISC Project Plan	1 Oct 08	5 Nov 08	Complete <b>JISC Project Plan</b>	<b>M1</b>	JPG, with JG
3. Create CHARTER website at Exeter	1 Oct 08	5 Nov 08	Publish <b>CHARTER website</b> on UoE site.		AA-Z
4. Provide content for JISC website	1 Oct 08	5 Nov 08	Publication of <b>CHARTER website</b> on JISC site.		JPG
5. Set up Project Team meetings	Oct 08	Oct 08	Series of monthly Project Team meetings		JG
6. Set up Project Board meetings	Oct 08	Oct 08	Series of 6 Project Board meetings		JG
7. Set up CHARTER internal-email lists & Blog	Oct 08	Oct 08	Group email lists & blog for internal comms		JG / BE
8. Monitor Finance	Oct 08	Sept 09	Keep financial expenditure with budget		JG
9. Project closure		Sept 09	Closure of Project CHARTER		JPG / JG
<b>WORKPACKAGE 2: Selection</b>					



<b>Objective: To ensure selection for digitisation is demand-led by the academic community</b>					
10. Set up procedures to record & process to digitisation team artefacts selected for digitisation through selection panels, teaching and outreach events, with additional recommendations from curatorial team	Oct 08	Sept 09	Record of unique identifiers and key descriptive information for CHARTER's digitisation team.		PW
11. Schedule scoping meetings and selection panels with academic colleagues	Oct 08	May 09	Series of academic panels to inform selection of artefacts for digitisation		PW
<b>WORKPACKAGE 3: Repository &amp; web front end</b>					
<b>Objective: To build an e-repository for digital image assets</b>					
12. Purchase and install server(s) and mirrored file store	Oct 08	Nov 08	Server and mirrored file store installed.		BE
13. Requirements gathering for repository, including adaptation of Dublin Core or MODS metadata fields	Oct 08	Nov 08	Repository requirements agreed		AA-Z, JPG. RB et al
14. Set-up repository and create content model	Dec 08	Mar 09	Repository infrastructure in place.		RB, SM
15. Define requirements for web front end	Nov 08	Nov 08	Web front end conceptualised		RB

Project Acronym: CHARTER  
Version: Version 1  
Contact: Jessica Gardner  
Date: 13 October 2008

16. Build web front end	Nov 08	Dec 08	Web front end delivered		RB
17. Build search capacity	Nov 08	Nov 08	Search capacity built		RB
18. Define and build administration area	Nov 08	Nov 08	Administration area built		RB
19. Integrate with repository	Dec 08	Dec 08	<b>Web front end and repository integrated</b>	<b>M2</b>	RB
<b>WORKPACKAGE 4: Metadata Migration from EVE</b>					
<b>Objective: To migrate 2000 images and metadata from EVE to the repository</b>					
20. Define data held on EVE & mapping to Dublin Core	Oct 08	Nov 08	Data for migration identified.		AA-Z, JPG, PW
21. Adapt metadata records for EVE to repository	Dec 09	April 09	Mapping completed between EVE and repository.		A.A-Z, JPG, PW
22. Import images & metadata records from EVE & create processes and reusable tools for transfer and quality review (2000+images)	April 09	Aug 09	Data extracted and reviewed.		RB, AA-Z et al
23. Confirm data in new repository matches extracted data in EVE	Aug 09	Aug 09	Quality review check on match between EVE and repository.	<b>M3</b>	AA-Z, RB
<b>WORKPACKAGE 5: Digitisation &amp; Metadata</b>					
<b>Objective: To supply the metadata and new digital image content to the repository</b>					

24. Purchase scanners, cameras and workstations	Oct 08	Dec 08	Set up equipment for CHARTER digitisation team		AA-Z
25. Recruit digitisation assistant and officer	Oct 08	Dec 08	Digitisation staff in place by Jan 08.		AA-Z
26. Train digitisation staff in handling artefacts, image capture, cataloguing and metadata creation	Jan 09	Jan 09	Competency in artefact handling, image capture, cataloguing and metadata creation		AA-Z, PW
27. Digitisation of 2000 objects and creation of metadata and quality review processes	Feb 09	Sept 09	Creation of 2000 new digital images, with associate metadata	<b>M4</b>	AA-Z, DT
<b>WORKPACKAGE 6: E-Learning</b>					
<b>Objective: To create an e-learning module incorporating digital image content from the e-repository</b>					
28. Creation of the e-learning course materials	June 09	July 09	E-learning course materials created		MN, ST et al
29. Digitise any outstanding course materials	June 09	July 09	Complete digitisation of course materials		DT
30. Create e-learning modules using digital artefacts from the repository	June 09	July 09	Complete <b>e-learning module and deposit in Jorum.</b>	<b>M5</b>	MN, ST et al
<b>WORKPACKAGE 7: Evaluation and Dissemination</b>					
<b>Objective: To review the success of the</b>					

Project Acronym: CHARTER  
 Version: Version 1  
 Contact: Jessica Gardner  
 Date: 13 October 2008

<b>project and to widely disseminate outputs and findings</b>					
31. User evaluation for the repository and e-learning module	June 09	July 09	Evaluation and feedback on the repository and e-learning module		Users, with Project Team
32. Publicise the repository and e-learning module	July 09	Sept 09	Repository and e-learning module publicised widely.		Project Team, Academic Schools etc
33. Progress report 1 to JISC	Jan 08	Jan 08	Submit <b>Progress Report 1</b> to JISC		JPG / JG
34. Progress Report 2 to JISC	July 08	July 08	Submit <b>Progress Report 2</b> to JISC		JPG / JG
35. Draft & complete Final Report to JISC	Aug 08	Sept 08	Submit <b>Final Report to JISC</b>	<b>M6</b>	JPG / JG

**Members of Project Team:**

*JPG - Jessica Gardner – Principal Investigator*

*JG – James Green – Project Manager*

*SM – Sue Milward – Repository Workflow Manager*

*RB – Ray Burnley – Web Developer on repository workflow*

*BE – Bill Edmunds – Server manager on repository workflow*

*AA-Z – Ahmed Abu-Zayed – Digitisation and Metadata workflow manager*

*DT – Digitisation Team (Project Digitisation Officer & Project Digitisation Assistant)*

*PW – Phil Wickham – Selection Workflow Manager*

*MN – Matt Newcombe – E-Learning Workflow Manager*

*ST – Simon Tapper – Educational Technologist on the e-learning workflow*