

# JISC DEVELOPMENT PROGRAMMES

## VSM Demonstrator

### *PROJECT PLAN*

#### Project

<b>Project Acronym</b>	VSM Demonstrator	<b>Project ID</b>	
<b>Project Title</b>	Visual Sound Materials Portal – Demonstrator phase		
<b>Start Date</b>	Jan 2007	<b>End Date</b>	Jan 2008
<b>Lead Institution</b>	EDINA, University of Edinburgh		
<b>Project Director</b>	Co-directors: Peter Burnhill & Christine Rees		
<b>Project Manager &amp; contact details</b>	Tim Stickland <a href="mailto:t.stickland@ed.ac.uk">t.stickland@ed.ac.uk</a> 0131 650 3309		
<b>Partner Institutions</b>	-		
<b>Project Web URL</b>	<a href="http://edina.ac.uk/projects/vsm">http://edina.ac.uk/projects/vsm</a>		
<b>Programme Name (and number)</b>	<i>Portals</i>		
<b>Programme Manager</b>	Balviar Notay		

#### Document

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<b>Author(s) &amp; project role</b>	Christine Rees, Tim Stickland		
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#### Document History

<b>Version</b>	<b>Date</b>	<b>Comments</b>
V1	February 2007	Workplan and Workpackages approved by JISC
V1.a	May 2007	Sections 1 – 13, 16 – 19 updated from Scoping Phase and submitted to JISC

# **VSM Demonstrator phase: PROJECT PLAN**

## **Overview of Project**

### **1. Background**

*Summarise the background to the project (and how it builds on previous work) and the need for it (and why it's important).*

This project is investigating, through initial scoping activity and the construction of a demonstrator, the value and feasibility of a JISC-designated national portal for both time-based media and image collections. Although multimedia, both time-based and still image collections, pose several special demands upon information technology that are different from those made upon the development of the digital library, there is much that can be taken and built on from EDINA's experience of contributing to digital library provision. The project has two phases: a scoping phase followed, after JISC review, by a demonstrator phase. Scoping activity was carried out between October 2005 and January 2006 and resulted in a scoping report. As part of the review an additional supplementary report was produced. Both the Scoping Report and Supplementary Report are available on the project website (<http://www.edina.ac.uk/projects/vsmportal/links.html>). Construction of a demonstrator began in January 2007 and will last for 12 months.

The challenge identified and addressed during scoping was to re-think the means of integrating the user tasks represented by the MODELS verbs (discover, locate, request and access) into a portal in ways that reflect the different and, perhaps competing, requirements of diverse communities of use. The challenge during the demonstrator phase was to investigate the two main aspects of feasibility for the VSM Portal: one technology-focussed, and one user-focussed. The interaction between the two is very much at the heart of a VSM portal. Comments in previous studies have indicated that VSM are used 'a lot by the few, and not a lot by the many'. It is more effective to judge comments from 'potential users' (the many) and specialists (the few) when they are presented with a test system.

The present phase of the project is seen as contributing further steps towards a user-led specification and development of a facility providing a single integrated access point for the range of still-image, moving-picture and sound collections in the JISC IE and those that are freely accessible. It needs to further test out the findings of the scoping study in terms of user requirements, interaction with a cross-section of potential collections and technical functionality to highlight the issues associated with the implementation and delivery of a portal service in this area.

### **2. Aims and Objectives**

The ITT expressed the aims and objectives of the project as:

- *To scope an appropriate architecture and functional specification for a visual and sound materials portal taking into account the JISC funded PIXUS image portal project solution;*
- *To take account of the wider context, for example, approaches being developed by search engine providers, the emerging network of interoperable digital repositories, other service providers and software solutions;*
- *To test the feasibility of serving both time-based media and images from a single portal platform;*
- *Assess the usefulness of new technology that has become available and how far it might meet user needs; and where possible to test and implement new technology based on web services and standards such as JSR168;*
- *Test the embedding of the demonstrator portal within different user environments, for example, university and college portals or web environments;*
- *Consider the range of relevant community (further and higher education and public sector) originated collections alongside formally published material that could form the basis of a collections strategy for the portal;*
- *Conduct user evaluation;*
- *Propose a content licensing and IPR structure suitable for such a portal;*
- *Develop business and sustainability models suitable for future services.*

In particular, the aim of the second phase was defined as:

**Phase two: Portal Demonstrator.** *To implement further and test out the findings of the scoping study by producing a robust and scalable portal demonstrator, paying particular attention to testing the feasibility of the portal in general, looking at functionality, usability and user requirements.*

In addition, the scope and boundaries of Phase 2 of the project have been informed by both the scoping report from Phase 1 and the review process at the end of Phase 1. Hence, this second phase of the project aims, through the construction of a demonstrator that takes account of the outcomes from the scoping phase, to achieve the aims expressed in the ITT.

In particular, the objectives for the Demonstrator phase are:

- To build a demonstrable portal, with supporting policies
- To use the demonstrator in at least two FE/HE institutions
- To ensure that the demonstrator captures user requirements
- To provide formative evaluation of the Visual and Sound Materials Portal Demonstrator
- To provide a business and sustainability plan for a future portal service

### 3. Overall Approach

*Describe the overall approach you will take to achieve the objectives outlined above, including:*

- *Strategy and/or methodology and how the work will be structured*
- *Important issues to be addressed, e.g. interoperability*
- *Scope and boundaries of the work, including any issues that will not be covered.*

An iterative development approach will be taken. There will be two iterations of the development cycle. The first will produce a demonstrator based on the user requirements identified in the scoping phase and informed by initial usability testing using paper prototyping. This initial demonstrator will then be tested by EDINA using the Nielsen Norman group 'walk and talk' method of usability testing. EDINA will aim to draw the group of users involved in testing from as wide a community as possible, including teachers, librarians, staff and students. The usability testing will also include the associate partner organisations. This user testing will potentially be undertaken in parallel with the start of the external evaluation.

The second iteration of the demonstrator will build on this initial usability testing and evaluation, in order to further refine and add functionality and content to the demonstrator. The external evaluation will also review the second version of the demonstrator, providing input into further scoping for any subsequent development of the portal and into the business and sustainability planning.

As raised during the JISC review, EDINA will consider the recommendations of the JISC Information Visualisation Foundation Study during development of the user interface (although noting the dependence on Windows desktop applications for some of its recommendations which will not be possible within a web portal).

In parallel with development and usability testing, potential content will continue to be identified and contact with providers established, to ensure there is a range of suitable content. The direction given in the ITT will be followed – it indicated:

*“It is envisaged that a portal in this area should point users not only to JISC licensed material but also to free community collections from publicly funded programmes such as the BioScience Image Bank and public sector resources such as those funded under the NOF-digitise programme and the JISC Digitisation Programme.*

*There is significant activity in the creation of digital repositories for different types of materials to support learning and research and it will be important for a portal to be capable of interacting with digital repositories. This cross-disciplinary discovery across a mixed economy of collections would significantly enhance the use of this material in learning, teaching and research. ”*

The ability to adapt and/or convert existing content metadata to allow searching will also need to be considered. The project is taking into account the many varied schemas already in use, in order to streamline the user experience as far as possible when navigating a heterogeneous range of collections.

The influence of rights issues on both the opportunities for producers of media to release material into the FE and HE community, and on the opportunities for students, tutors and lecturers to use such material will need to be considered and will provide input into policies needed to support the portal. The ITT indicated:

*JISC information environment portals have either cross searched or harvested metadata, but in the JISC User Requirements Study for a Moving Pictures and Sound Portal (mentioned earlier) users have indicated that they want to be able to download resources from a repository of content to deposit content for sharing and to use editing/manipulation tools. Consideration needs to be given to the role of the portal in providing this functionality and in particular how this might relate to other services such as Education Media On line (EMOL) or the JISC learning materials repository, JORUM (<http://www.jorum.ac.uk/>);*

The JISC review determined that the VSM portal should be a 'thin' portal: that it should not provide functionality and facility to collect and give access to content created within the community.

The demonstrator project activity will be organised into 12 work packages as follows:

- 1) Project Management
- 2) Metadata, technology and standards watch
- 3) Ongoing investigation of legal issues
- 4) Portal Software review
- 5) Content negotiations and initial collections strategy
- 6) Design and initial testing (specification and paper prototyping of portal)
- 7) Version 1 Demonstrator
- 8) Usability testing
- 9) Institutional embedding (with associates – University of Hull, Glasgow Caledonian, St Helens FE College)
- 10) External Evaluation
- 11) Version 2 Demonstrator
- 12) Further Scoping (for both Demonstrator phase and beyond)
- 13) Exit activities (to include software packaging and sustainability issues)

Further description of the work to be undertaken in each of these workpackages and a timeline is included in Appendix 1.

#### *Critical success factors*

It will not be sufficient when judging overall success to develop a VSM portal. Potential users must be motivated to visit with the expectation that it will be productive and that they will discover useful resources; content providers must be persuaded of the benefit of allowing and enabling their resources to be searched and displayed in the portal. To be successful, the demonstrator must offer a working example of what a visual and sound materials portal might deliver and so the demonstrator must:

- be viewed by potential users as easy to use and to add value over and above a Google search.

- offer effective engagement with content providers, both JISC-licensed and open access, resulting in sufficient breadth and depth to provide useful results – or at least with the prospect of this beyond the demonstrator.
- allow embedding in various user environments in order to increase awareness of the VSM portal.

#### 4. Project Outputs

*List the tangible deliverables (including reports) your project will create, and the less tangible knowledge and experience you hope to build and share.*

##### **Tangible deliverables**

- Access to a demonstrator interacting with a cross section of collections, providing an assessment of functionality and user reaction. It is noted that the ITT indicated: *There may be a level of simulation in providing the demonstrator, however the intention is for the demonstrator to involve real service interactions where possible.*
- A final report, to include:
  - a set of user requirements;
  - a draft functional and technical specification for a portal service;
  - a draft collections policy (including a strategy to increase the range of content available; priorities and key criteria for a collection policy);
  - a draft content licensing model;
  - recommendations for future development and requirements, including a range of appropriate business and sustainability models (including the level of user support required for full service) to help inform future decisions.
- Software developed during the project. The ITT indicated: *Any software developed should be documented and made available for further use by JISC.* During the JISC review this was determined as:
  - a document describing the architecture of the demonstrator
  - a document providing a specification for the demonstrator
  - content configuration information, or information about other methods of access used in the demonstrator
  - details of the open-source software used
  - an inventory of software dependencies
  - the software developed during the project
- The project website

##### **Knowledge and experience gained:**

- The project team will gain knowledge and experience during development of the demonstrator, including technical standards, metadata, the required and feasible functionality and the technical implementation and interoperability issues. Direct contact with embedding institutions will provide valuable information on the end user experience of the portal.
- The associates will also gain knowledge and experience through the embedding activity of how valuable their users might find a single national portal platform with a focus on visual and sound materials.
- The outcomes of the VSM portal project will be of continuing interest to many communities, both nationally and internationally. The learning of the project team will be disseminated through the project website and other appropriate publication.

## 5. Project Outcomes

List the outcomes you envisage, including their impact on the teaching, learning, or research communities, and what change they will stimulate or enable.

Continuing from the Scoping Phase:

- An account of different audiences and of user requirements for a VSM portal.
- A documented understanding of the appropriate architecture and functionality for a VSM portal that takes account of the wider context;
- Documented exploration of the legal issues, especially licensing issues, associated with a VSM portal;

From the Demonstrator Phase:

- An understanding of the feasibility of serving both time-based media and images from a single portal platform;
- Understanding of the comparative value of available technologies for delivering the functions specified;
- Understanding of the issues associated with embedding a VSM portal in different user environments;
- A documented account of the responses and search techniques of different user groups (eg, students, teachers, researchers);
- Documented understanding of business models and requirements for sustainability of a VSM Portal within the JISC community;
- Documented exploration of the range of policies required to operate a VSM portal.

## 6. Stakeholder Analysis

List key stakeholder groups and individuals that will be interested in your project outcomes, will be affected by them, or whose support/approval is essential, both within your institution and in the community, and assess their importance (low/medium/high).

Stakeholder	Interest / stake	Importance
Service providers	Data to be exposed through portal These are rights-holders; terms and conditions of use need to be met	High
End-users: teachers, learners, researchers	Seek to discover, locate, access and use resources through the portal	High
Users finding resources for others including librarians, learning technologists	Finding resources for others or to use in production of learning materials/objects	Medium
JISC Collections	Seeks to maximise value of VSM resources that have been licensed or are otherwise available within JISC community	Medium
JISC	Funder and Project sponsor: to enhance and support vsm policy and provision As funders, to determine the value and feasibility of a single portal platform for image and time based media and how such a service might operate within the IE	High
JISC Images Working Group	Seeks to enhance profile of and maximise use and value derived from image collections within community	Medium
JISC Film and Sound Working Group	Seek to enhance profile of and maximise use and value derived from MPS collections within the community	Medium

## 7. Risk Analysis

List factors that could pose a risk to the project's success, assess their likelihood and severity, and how you will prevent them from happening (or manage them if they occur). Cover the types of risks listed and any others that apply.

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
<i>Staffing:</i>				
Loss of key project staff / difficulty in recruiting suitable staff	2	5	10	Share knowledge amongst staff; clear technical documentation; prompt recruitment/replacement.
<i>Organisational:</i>				
Project creep	2	5	10	The different stakeholder requirements of the portal will need to be managed and prioritised within project resources, whilst still remaining flexible to emerging requirements and issues.
Miss project deadlines for deliverables	3	5	15	Within the constraints of the 12 month overall project timescale, re-prioritisation of activity to release resource; investigate additional resource.
<i>Technical:</i>				
Adopting and becoming locked into previously untried/untested software for the demonstrator	2	3	6	The risk of each software component will be assessed prior to deployment where a balance between the functionality provided, the level of dependence that will be introduced, knowledge of the developers/source of the software against the time/risk of development by the project.
Selecting software that will not offer all the required functionality, or has insufficient flexibility or extensibility to allow adaptation as the requirements of the project develop	2	3	6	Some requirements for functionality will only become apparent during the course of the project. Look for explicit statements about adherence to standards and protocols, in order to achieve the required interoperability.
System does not scale (performance)	3	4	12	We are conscious of the importance of the longer-term technical sustainability (in terms of scalability, robustness and ongoing support) of the technical platform(s) for the VSM Portal, but this is a risk assessment to be included in the final report from the project.
<i>Portal Content:</i>				
External service providers	4	3	12	Using existing agreements, ensuring user needs are met by content selected.

Legal	3	3	9	Legal, IPR and copyright issues are inevitably a possibility when providing access to other's content. Our means of mitigating the risk is to establish an Advisory Group with expertise from the community.
Differing metadata formats	4	4	16	Indication of where guidelines need to be produced, arising from scoping study.

## 8. Standards

List the standards the project will use in the table below. Also indicate:

- Any deviations from the standards that JISC recommends.
- Where choices exist in an area, the reasons for the standards selected.
- Where proprietary standards are selected in an area where open ones are available, the reasons for their use and their scope of deployment.

Name of standard or specification	Version	Notes
XML	<a href="http://www.w3.org/XML/">http://www.w3.org/XML/</a>	For data export
W3C Web Accessibility Initiative	<a href="http://www.w3.org/WAI/">http://www.w3.org/WAI/</a>	For a fully compliant web interface
Persistent URLs		For linking/identification. The ITT indicated: " <i>Investigate how to provide a guaranteed reference service (such as persistent URLs)</i> "
The Dublin Core Metadata element set	<a href="http://dublincore.org/">http://dublincore.org/</a>	The adaptation of available metadata so that it conforms to standards will enable systematic presentation will be a key aspect of functionality within the VSM portal.
Metadata Encoding and Transmission Standard (METS), originated in academic libraries	<a href="http://www.loc.gov/standards/mets/">http://www.loc.gov/standards/mets/</a>	A common attribute of these is their ability to describe digital objects made up of many parts, which suits the often complex nature of many visual and sound materials.
MPEG-21, in the entertainment industry	ISO 21000; <a href="http://www.chiariglione.org/mpeg/standards/mpeg-21/mpeg-21.htm">http://www.chiariglione.org/mpeg/standards/mpeg-21/mpeg-21.htm</a>	Defines an open framework for multimedia delivery and consumption for use by players in the delivery / consumption chain
JSR 168	<a href="http://jcp.org/en/jsr/detail?id=168">http://jcp.org/en/jsr/detail?id=168</a>	Enables interoperability between portlets and portals: for embedding information in institutional portals.
Web Services for Remote Portlets (WSRP)	<a href="http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp">http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp</a> " <i>Standardizing presentation-oriented Web services for use by aggregating intermediaries, such as portals</i> "	Standards addressing the presentation of information in different environments.

OAI Protocol for Metadata Harvesting (OAI-PMH)	V2.0 ( <a href="http://www.openarchives.org/OAI/openarchivesprotocol.html">http://www.openarchives.org/OAI/openarchivesprotocol.html</a> )	Open protocol which allows for the communication of metadata and data. For m2m access to the metadata
Search and Retrieve for the Web (SRW)	V1.1 ( <a href="http://www.loc.gov/standards/sru/">http://www.loc.gov/standards/sru/</a> )	Open protocol which allows for the communication of metadata and data. A possible further m2m interface
Z39.50	ANSI/NISO Z39.85 -2001 <a href="http://lcweb.loc.gov/z3950/agency/">http://lcweb.loc.gov/z3950/agency/</a>	Open protocol which allows for the communication of metadata and data.
RSS	Either V1.0 <a href="http://web.resource.org/rss/1.0/">http://web.resource.org/rss/1.0/</a> or V2.0 <a href="http://www.rssboard.org/rss-specification">http://www.rssboard.org/rss-specification</a>	Possibly for new ingests; Newsfeeds and other associated services that might add value to a portal service that goes beyond cross searching;

The project will adhere to the general guidelines and standards specified for developments within the JISC IIE (<http://www.ukoln.ac.uk/distributed-systems/jisc-ie/arch/standards/>);  
The baseline portal specification (<http://www.ukoln.ac.uk/distributed-systems/jisc-ie/arch/portal/spec/>);

## 9. Technical Development

*Indicate how the project will follow best practice for technical development, and any specific technologies or development approaches the project will adopt and why.*

Specification of the portal functionality gathered as the result of our study of user requirements will be refined through use of paper-based prototyping during the demonstrator phase. Two iterations of development will lead to production of Versions 1 and 2 of the portal demonstrator, Version 2's development being informed by usability testing, the institutional embedding and the external evaluation

## 10. Intellectual Property Rights

*Indicate who will own the intellectual property created by the project. List any intellectual property owned by third parties that will be incorporated into project outputs, when/how you will obtain permission to use them, and any implications for project outputs after the project ends.*

The content-providers to the portal demonstrator own the rights to the metadata and thumbnail images harvested and displayed by the portal demonstrator, together with rights in the databases relating to the databases of the collections of metadata and thumbnail images. The project team is negotiating permission in writing from the content-providers during the project, aiming in each case, if possible, to secure permission for the content to continue to be used by the portal demonstrator for another two years after the end of the project.

## Project Resources

### 11. Project Partners

*List all project partners (including sub-contractors), their roles, and the main contact. Indicate the date a consortium agreement was signed (or will be signed), and send a copy to the programme manager.*

#### **EDINA**

EDINA is conducting and managing this project with contribution from a number of Associate Partner organisations and consultants.

In addition to the Project Manager and Project Co-Directors, the following staff at EDINA contribute to the project.

Software development	EDINA technical staff have completed a software review, have established, are maintaining relationships with resource providers and are building a demonstrator, as specified during the scoping study.
Technical support	EDINA technical staff also offer support for the implementation of the demonstrator at the partner institutions. In particular, support and expertise in implementation/use of technologies relating to the embedding of portlets at Glasgow Caledonian University.
Dissemination	To include the project on the EDINA website, in our regular newsletter <i>Newsline</i> and at the EDINA stand at conferences.
Admin and other support functions	EDINA helpdesk is experienced and effective at establishing, maintaining and managing contact with all sites and organisations that engage with EDINA through services and projects The EDINA administration team handles project administration.

### **University of Hull**

The broad objectives of e-SIG at Hull University are to work with colleagues across sections of Academic Services, and the broader University community, to lead and co-ordinate the development of online services for the University.

The University of Hull will provide a test reference portal implementation based around a JSR168 and WSRP conformant portal framework, together with sufficient developer effort to enable portlet embedding. This reference implementation will enable further investigation of technical and non-technical issues surrounding embedding in:

- an institutional portal
- an institutional portal integrated instance of the Sakai Collaboration and Learning Environment deployed for the purposes of supporting research in the Hull/UEA Virtual Research Environment project (VRE Programme)
- conjunction with other institutional portal search tools, such as those library and resource search tools provided by the CREE Project (Portals Programme), and search interfaces to an institutional repository being augmented by the RepoMMan Project (Repositories Programme)

Hull staff will also offer consultancy based around expertise in portal and repository deployment, including appropriate common specifications and standards, and the international open source software community.

e-Strategy and e-Services Integration	To provide consultancy based around expertise in portal and repository deployment, and the international open-source software community; to set up and collect data for a survey of user response to the project recommendations
Architecture	To provide consultancy based around expertise in architecture, including appropriate common specifications and standards; to help set up user testing
Technical development support	To implement a test reference portal based around a JSR168 and WSRP conformant portal framework

The main contacts at Hull are Ian Dolphin and Chris Awre.

### **Glasgow Caledonian University**

Based in Learning Services and the Saltire Centre at Glasgow Caledonian University, the SpokenWord@GCAL provides digital audio for higher education by integrating appropriate search, collection and multimedia annotation applications to contemporary digital repositories. In particular it acquires items from the BBC Sound Archive (with which it has a Legal Deposit Agreement) to augment it with metadata appropriate to academic use. Spoken Word has actively piloted a range of procedures related to rights clearance. The group is particularly concerned with new approaches to learning and reports directly to Les Watson (Pro Vice Chancellor).

Through expert negotiations, which have taken place in the SpokenWord@GCAL project, this VSM portal project will be able to benefit from access to and use of sound materials from the BBC Sound

Archive. Spoken Word can also offer the use of tools developed for annotating and adding value to sound materials. The Spoken Word project team have gained extensive experience of rights clearance of BBC materials, and contributed a case study to the HEFCE sponsored International IPR project in 2004 <http://www.intrallect.com/HEFCE-IPR/index.htm>.

In collaboration with Academic Technologies at Northwestern University, Spoken Word has developed a 'secondary repository' in Fedora, which is accessing BBC Audio, and serving metadata to teachers in a large variety of subjects (including Biology, English Language, Anthropology and Law) in the UK, USA and Italy. The demonstrator portal should be able to access this local repository.

The SpokenWord@GCAL will contribute expertise on licensing and IPR throughout the project and, during the demonstrator phase of this project, as an access provider with substantial expertise in a range of related areas. The Spoken Word project team would also aim to implement a test reference portal based around a JSR168 and WSRP conformant portal framework, with EDINA providing technical support and expertise to enable portlet embedding. The engagement of the Spoken Word project is on a non-cash basis through mutual exchange and expertise and experience which are highly complementary with respect to this activity. In it's budgeting of resources EDINA has made sufficient provision to staff and meet these requirements and is confident of equivalent commitment by the Spoken Word project.

Metadata and delivery issues	The University will contribute direct experience of the use of a range of technologies directly related to the call, in particular to provide consultancy based around expertise metadata and delivering sound materials for teaching
Technical development	To provide consultancy based around expertise in architecture, including appropriate common specifications and standards; to help set up user testing
Teaching staff and students	To take part in user evaluation of the demonstrator. It is hoped that experienced <a href="#">SpokenWord@GCAL</a> staff will be used for this, as they can offer views from their experience with that project.

The main contact at Glasgow Caledonian University is David Donald.

### St Helens College

In terms of the implementation of the demonstrator in an FE environment, we will also work with St Helens College, one of the largest providers of Further and Higher Education and Training in North West England. St Helens College was funded by Becta under the NLN Transformation Project funding programme to develop a Managed Learning Environment (MLE) or Learning E-tool, which integrates learning systems (VLE) with college information systems, and is available through a front-end portal, providing access to learning materials and course and student relevant information. The College is currently developing a staff portal, using Microsoft Portal.

At St Helens, the project seeks to implement the portal demonstrator through a home-grown student portal and Microsoft Portal (Sharepoint) for the staff portal, in conjunction with other learning e-Tool developments at the college.

St Helens will also undertake user evaluation of the demonstrator with up to eight staff members or students accessing materials and considering how they would use them in their learning and/or teaching.

Teaching staff (5-7)	To take part in user evaluation, from a variety of subject areas, common to FE
Technical development support	To implement a test reference portal based around a JSR168 and WSRP conformant portal framework
Administrative support	To set up the user evaluation and liaise with the evaluation team

The main contact at St Helens College is Marianne Green.

### **Advisory Panel on IPR, DRM and related issues**

An advisory panel will contribute expertise on IPR, DRM and other relevant issues. This group will consider such issues raised by the scoping study and suggest topics and mechanisms for exploration during the demonstrator phase. Membership consists of:

- Rachel Ellaway (eLearning Manager, College of Medicine and Veterinary Medicine, University of Edinburgh and Director of JISC-funded Study to define a framework for deposit of sensitive and clinical recordings);
- Andrew Charlesworth (Centre for IT and Law, University of Bristol);
- Charles Duncan (Director, Intrallect and Director of JISC-funded study of Digital Rights Management);
- Charles Oppenheim (Professor of Information Science, Loughborough University);
- Charlotte Waelde (Co-Director, AHRB Centre for the Study of IT and Technology Law, University of Edinburgh); and
- Ralph Weedon, Director, JISC Legal, Strathclyde University.

## **12. Project Management**

*Briefly describe the project management framework, including organisation, reporting relationships, decision process, and the role of any local management committee.*

The demonstrator phase will follow the JISC project management guidelines for the development of the overall project plan, effective communication and co-ordinated working between the project team and reporting progress to the JISC. Liaison at many levels, with project partners and the various user and content providing communities that will need to contribute to a successful demonstrator, will be an important aspect of project management.

The Demonstrator Phase will be managed by Tim Stickland who will report to the project Co-Directors Peter Burnhill and Christine Rees.

The project Co-Directors are responsible for overall strategy and leadership of the project, and the Project Manager for planning and implementation, including that of risk management and contingency planning. The Project Manager is responsible for ensuring that the project produces the products detailed in Appendix 1, to the standard of quality specified in consultation with other members of the team, within budget and on schedule.

Members of the team will report progress on a monthly basis. The Project Manager will alert the Co-Directors to any proposed deviation from the plan and will propose revision of the plan to ensure timely completion of the work within budget. The Project Manager will provide written reports to the JISC at the end of the Project. Informal reporting will also be used as required to ensure that the Programme Manager is aware of project progress throughout.

*List all members of the project team, their roles, and contact details. Indicate the proportion of time the project manager will spend on project management.*

Those from the associate institutions are:

- Marianne Green, Main Contact at St Helens College, will contribute as indicated in section 11 above, [MGreen@sthelens.ac.uk](mailto:MGreen@sthelens.ac.uk)
- Ian Dolphin, Main Contact at Hull University will contribute as indicated in section 11 above, [i.dolphin@hull.ac.uk](mailto:i.dolphin@hull.ac.uk)
- David Donald, Main Contact at Glasgow Caledonian University, will contribute as indicated in section 11 above, [d.donald@gcal.ac.uk](mailto:d.donald@gcal.ac.uk)

Those from EDINA are:

- Peter Burnhill (EDINA), Project Co-Director
- Christine Rees (EDINA), Project Co-Director
- Leah Halliday (EDINA), will provide advice on legal/copyright issues and liaise with the Advisory Panel on IPR/DRM

- Tim Stickland (EDINA), Project Manager, will also contribute expertise on standards and metadata and will contribute to implementation of the demonstrator.
- Ben Soares (EDINA), will contribute technical expertise to the design and contribute to building the demonstrator
- Mark Allan (EDINA), will contribute to implementation of the demonstrator.
- Jackie Clark (EDINA), will contribute to design of the demonstrator user interface,
- Helen Chisholm (EDINA), will contribute expertise on user requirements throughout the project
- Peigi MacKillop (EDINA), will contribute to work on user requirements and user testing,
- Rick Loup (EDINA), will provide advice on multimedia and user issues and will identify and liaise with potential content providers.
- Paula Cuccurullo (EDINA), will staff the helpdesk for queries during the demonstrator phase,

The project management activity has been budgeted at .4FTE.

### **Steering Group**

A Steering Group is to be set up to provide advice and input to the project.

### **JISC Review Group**

The JISC Review Group will continue to provide input during the demonstrator phase.

## **13. Programme Support**

*Indicate if there are specific areas where you would like support from the programme or programme manager.*

The project team would value support from the Programme Manager as follows:

- Facilitate liaison with other JISC projects working in the area, and with contacts throughout the UK academic community and European Community.
- Facilitate liaison with the Images Working Group and the Film and Sound Working Group.

## ***Detailed Project Planning***

### **14. Workpackages**

See Appendix 1.

### **15. Evaluation Plan**

*Indicate how you will evaluate the quality of the project outputs and the success of the project. List the factors you plan to evaluate, questions the evaluation will answer, methods you will use, and how success will be measured. Expand as appropriate on how you will conduct the evaluation.*

The ITT requires that an external evaluation of the demonstrator be commissioned. This evaluation will assess both the usability and the viability of a full portal service by:

- Working with two institutions (from HE and FE) to assess the user experience
- Gathering feedback on the demonstrator and assess the needs of the community for a VSM portal service
- Assessing how visual and sound materials might be used within learning, teaching and research within both HE and FE. The ITT provides an example of the lightbox developed within the Pixus Image Portal that addressed how users save images
- Aiming to identify benefits, gaps, strengths, weaknesses, risks and opportunities for a full portal service.

The project team will also carry out its own usability testing of the portal demonstrator to determine whether it meets the needs of users and to ensure a good fit between user behaviour and the interface and functionality of the demonstrator.

## 16. Quality Plan

Explain the quality assurance procedures you will put in place to ensure that project deliverables meet quality expectations and acceptance criteria. Complete the table below for each of the major deliverables providing as much detail as possible. Repeat the table as many times as necessary to accommodate all deliverables.

Deliverable	Compliance With	QA Method(s)	Evidence of Compliance
Portal demonstrator	Fitness for purpose	Will be determined with reference to the specification in the Scoping Study report and subsequent internal usability testing/external evaluation. Quality assurance methodology for metadata.	Compliance with final functional specifications.  External evaluation.
	Accessibility legislation	Demonstrator tested against W3C accessibility guidelines	Must pass level 1 or above
Supporting policies (content, licensing)	Fitness for purpose	Reviews. Feedback from stakeholders.	Documented policies that content providers will consider/agree to.
Demonstrator software	Fitness for purpose	Review by EDINA technical staff.	Technical documentation.
	Adherence to specifications	Adopt technical development processes. Comparison of output with technical specification.	Key points of comparison will be documented.
	Adherence to standards	Documented methods/comparitors for assessing adherence to the standards. Conformance testing of software.	The demonstrator adheres to the tests set for the selected standards.
Project website	Fitness for purpose & Accessibility legislation	Internal QA process to evaluate content and presentation. Tested against W3C accessibility guidelines.	External evaluation; Stakeholder feedback.  Passes accessibility tests.

## 17. Dissemination Plan

Explain how the project will share outcomes and learning with stakeholders and the community. List important dissemination activities planned throughout the project, indicating purpose, target audience, timing, and key message.

A variety of dissemination strategies that are appropriate to a 12-month development project will be used throughout the project. However, recognising that the wider academic community will likely be mainly interested in the project findings related to the feasibility of a VSM portal, the continuation of the project website with access to the final report and the demonstrator will be the focus of project dissemination activity.

Timing	Dissemination Activity	Audience	Purpose	Key Message
Jan 07— Jan 2011	Project website	JISC Community and those outside the JISC community (in UK and beyond) with an interest in portals, and visual and sound materials. Potential content providers.	Dissemination of project activity and outputs.  How content providers can engage with the VSM portal.	Project updates and progress. Final project outcomes.
Jan 07— Jan 08	EDINA's newsletter <i>Newsline</i>	All institutions subscribed to one or more EDINA services	To raise awareness of the project and its progress within the JISC community	EDINA and its associate partners are active within this area on behalf of the JISC for the HE/FE community

## 18. Exit and Sustainability Plans

Explain what will happen to project outputs at the end of the project (including knowledge and learning). Focus on the work needed to ensure they are taken up by the community and any work needed for project closedown, e.g. preservation, maintenance, documentation.

Project Outputs	Action for Take-up & Embedding	Action for Exit
Final version of demonstrator (to be made available until Jan 2010) including functional/technical specification  [It may not be possible to maintain availability of content used for the demonstrator, either due to content provider agreement or technical changes for gathering/searching content]	Document, publish and publicise.	Link to demonstrator from project website.
Project reports including portal policies; evaluation	Publish, or distil for publication.	Publish on website and explorer publication in relevant online publications such as <i>Ariadne</i> . Publicise in EDINA's newsletter, <i>Newsline</i> .

List any project outputs that may have potential to live on after the project ends, why, how they might be taken forward, and any issues involved in making them sustainable in the long term.

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
Basic specification and architecture for demonstrator	May be sustainable as may be proven to meet needs of community and to be viable	Business models proposed for a VSM Portal Service Development project	<ul style="list-style-type: none"> <li>▪ Scalability of demonstrator</li> </ul>
Supporting policies (content, licensing)	As above.	Models for sustainability of a VSM Portal Service	<ul style="list-style-type: none"> <li>▪ Retention of demonstrator content</li> <li>▪ Identifying and adding new content</li> </ul>

<p>Demonstrator software</p>	<p>May provide the basis for a portal service. Would potentially be a starting point for other developers of such a portal.</p>	<p>To be made available as described in Section 4 Project Outcomes.</p>	<ul style="list-style-type: none"> <li>▪ Scalability and performance may need addressing.</li> <li>▪ Further scoping may produce requirements that need additional software components/ software development.</li> </ul>
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## **Appendix 1: Work Packages**

Work packages 1 to 4 appear in the phase 1 project plan. WP1 is continuous through both phases; WP2 and WP3 are work that we were asked to extend in phase 2. Earlier versions of the plan included a review of software in phase 1 (work package 4), which was subsequently rescheduled for phase 2. All remaining work packages are work to be started for phase 2.

### **WP1 Project Management**

**Objectives:** To deliver the objectives of the project within the agreed timescale and budget.

**Brief Description of Work:** The project will follow the JISC project management guidelines for the development of the project plan, effective communication and co-ordinated working between the project team and reporting progress to the JISC. This will include close contact with the Review Panel throughout the development of the demonstrator portal. Liaison at many levels, with project partners and the various user and content providing communities that will need to contribute to a successful demonstrator, will be an important aspect of project management.

#### **Tasks**

- Project planning
- Progress reporting for JISC
- Assigning tasks; monitoring progress
- Internal communication (team meetings *etc.*)
- Communication with Review Panel
- Set up and communicate with Steering Group
- Dissemination of project findings

#### **Outputs:**

- Project progress reports for JISC
- A regular Weblog of progress for the Review Panel and Steering Group

#### **Responsibility:**

Christine Rees, Tim Stickland

### **WP2 Metadata, Technology and Standards watch**

**Objectives:** To maintain a watch on relevant developments in metadata schemas, technology and standards.

**Brief Description of Work:** Metadata issues were reviewed and scoped in phase 1. The conclusion, in agreement with the Review Panel, was the Dublin Core was suitable for the current needs of the project; it was also agreed that it would be desirable to maintain a watch on developments in the area, particularly with METS but also MPEG21. A watch will be kept on technological developments and innovations relevant to VSM.

#### **Tasks:**

- Maintain awareness of developments in these areas
- Evaluate relevance to VSM

#### *VSM Portal Demonstrator Phase*

- Determine feasibility of adapting the portal to take advantage of relevant developments
- Where adaptations are not feasible, report on developments relevant to further work

#### **Outputs:**

- Possible contributions to Technical Plan
- Contributions to Final Report

#### **Responsibility:**

- Tim Stickland, Ben Soares

### **WP3 Ongoing investigation of Legal Issues**

**Objectives:** To explore effective means of presenting heterogeneous terms of use to users in a manner that is as coherent and transparent as possible (in the face of heterogeneity and complexity).

**Brief description of work:** The project team will continue to work with an advisory group on legal issues related to the portal. Terms and conditions of use for the different collections delivered through the portal will vary. Users want clear, uncomplicated information about what types of use are permitted. Content providers want to be certain that their terms of use are communicated clearly to users of their content. The project team will endeavour to develop a way of roughly codifying rights information so that users may conduct a search based on permitted uses, e.g. to search only for content that may be used in perpetuity. The team will also explore the balance between risk and responsibility of content provider and portal to develop an Agreement on rights and responsibilities of portal and content providers.

#### **Tasks:**

- to organise and administer advisory group meetings
- to develop a template of permitted uses that allows content providers readily to identify the permissions granted in relation to their content
- to develop an Agreement between the portal and content providers.

#### **Outputs:**

- template for specifying permitted uses to be used for broad codification of permissions
- agreement on rights and responsibilities of portal and content providers
- section of the final report indicating why certain clauses were included and excluded from the Agreement

#### **Responsibility:**

- Leah Halliday

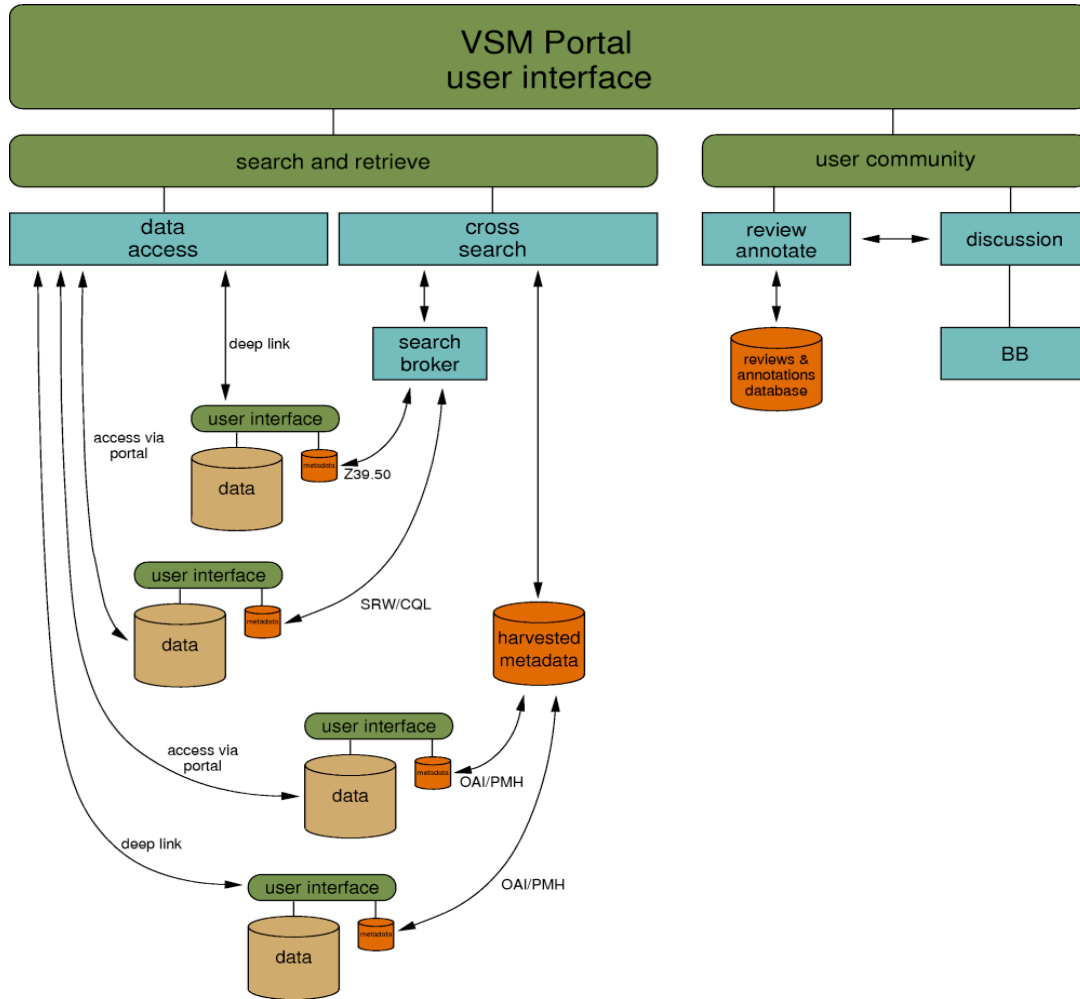
### **WP4 Portal Software Review**

**Objectives:** To review portal software

**Brief Description of Work:** An approach using open source software components was agreed with the Review Panel, and a range of suitable components have been identified.

### VSM Portal Demonstrator Phase

Software with an open, component based architecture and public APIs will be



most suited to the development required to meet the specific needs of the project. The architecture diagram below (revised from the Phase 1 report) indicates the main components.

#### Tasks:

- determine requirements (functionality; support for appropriate open standards/open APIs; flexibility; extensibility; *etc.*)
- select the appropriate software for each component
- prepare technical plan

#### Outputs:

- Technical plan

#### Responsibility:

- Tim Stickland, Ben Soares

## WP5 Content negotiations and draft collections strategy

**Objectives:** to reach agreements with a range of providers for inclusion of content in the portal

**Brief Description of Work:** During phase 1, we carried out some preparatory work for the demonstrator, in order to ensure a quick start to Phase 2, by seeking agreement from an initial selection of content providers to

### *VSM Portal Demonstrator Phase*

provide examples across the range of sectors and media types. Our initial list of content providers was based upon those that we could reasonably expect would co-operate with the project. This also gave us opportunity to consider service providers and suppliers of content as potential users of the portal.

- SCRAN (Pixus), inc RLS and AMICO; images, moving pictures and sound; agreed in principle
- AHDS - Visual Arts (Pixus); images; agreed in principle
- Wellcome Medical Photographic Library (Pixus); images
- Bristol BioMed Archive (Pixus); images; agreed in principle
- BGS (Pixus); images
- Courtauld Institute (Pixus); images
- Film and Sound Online (JISC); moving pictures and sound; agreed in principle
- EIG (JISC); images; agreed in principle
- NewsFilm Online (JISC); moving pictures and sound
- The Spoken Word (JISC); sound; agreed in principle
- Creative Archive (BBC); moving pictures; agreed in principle
- Creative Archive (bfi); moving pictures; agreed in principle
- Screenonline (bfi); moving pictures
- Creative Archive - Open University; moving pictures
- Creative Archive - Teachers' TV; moving pictures; agreed in principle
- Creative Archive - Channel 4 moving pictures
- British Library Sound Archive; sound; agreed in principle
- British Pathe Archive; images and moving pictures; agreed in principle
- Open Video Project; moving pictures
- Freesound Project; sound; agreed in principle
- AHDS - Archaeology (JISC); images; agreed in principle
- BioScience image bank (JISC); images
- HotBed (JISC); sound; not agreed
- Lifesign (JISC); moving pictures
- ARKive; images, moving pictures and sound
- English Heritage - Images of England; Viewfinder; Pastscape; images

In this phase we will seek to agree a timetable to finalize technical and legal issues, with a target date for including materials in the portal. We will seek agreement for availability to continue within the demonstrator service for 24 months beyond the end of the project. The experience gained will be used to make recommendations for a collections strategy.

#### **Tasks:**

- Phase 1
  - Aim to secure agreement with content providers already contacted in Phase One of the VSM Project.
  - Develop terms of engagement for reaching agreement with content

providers.

- Invite suggestions for other content providers from Steering Group and Review Panel.
- Identify target range of technical qualities required of providers to fit purpose of the demonstrator.
- Formulate initial draft collections policy from outcomes of Phase One of the VSM Project.
- Phase 2
  - Issue call for potential content providers via JISCMail and other outlets.
  - Review outputs of phase 1
  - Identify, contact and secure agreement with further content providers.
- Phase 3
  - Review outputs of phase 2 above.
  - Review outputs of other project workpackages, such as WP11 External evaluation.
  - In light of these reviews, re-formulate a draft collections policy to inform WPs 14 and 15, including consideration of the requirements for a pilot service and its sustainability.

**Outputs:**

- Draft collection strategy

**Responsibility:**

- Richard Loup, Leah Halliday

## **WP6/7 Design and testing**

**Objectives:** A specification for the demonstrator portal.

**Brief description of work:** A functional specification for the portal will be prepared, and a set of use cases described. Paper prototyping will be employed at an early stage to develop and evaluate design options.

**Tasks:**

- Prepare functional specification
- Prepare use cases
- Conduct paper prototyping
- Evaluate design options

**Outputs:**

- Functional specification

**Responsibility:**

- Tim Stickland, Ben Soares, Peigi MacKillop

## **WP8 Version 1 Demonstrator and Initial Testing**

**Objectives:** A working portal with basic functionality and sufficient meta-data

for a meaningful demonstration.

**Brief Description of Work:** Creation of a working portal interface with basic search and retrieve functionality across a significant collection of meta-data. This meta-data will be harvested and indexed locally, or searched 'on-the-fly' using federated searching techniques.

Harvested meta-data will be preferable since then indexing and record format is controlled centrally, however harvesting of meta-data may not always be available. Harvested meta-data will be converted into a common format and indexed within a local database.

A scheme to map common indexes across federated searches will be devised. This is likely to be based on simple Dublin Core elements. Returned meta-data will also have to be converted to a common format on the fly.

Meta-data and access to the object will be presented to the user in a navigable form.

A web interface will be developed for simple searching and retrieving, displaying and navigating the meta-data returned from the harvested and remotely searched resources.

**Tasks:**

- Ascertain harvesting or federated search mechanism for each collection
- Convert harvested meta-data into common format
- Map core indexes to non-harvested resources indexes
- Build local database of harvested meta-data
- Create conversion utilities for incoming results from federated search resources
- Creation of usable portal with basic functionality on to the harvested and remote resources

**Outputs:**

- Version 1 demonstrator portal

**Responsibility:**

- Tim Stickland, Ben Soares

## **WP9 Usability testing**

**Objectives:** To ensure that the demonstrator captures user requirements

**Brief Description of Work:** User testing will be carried out in an iterative fashion. This will feed into the development of the demonstrator to ensure that the interface design captures the needs of the user community. User testing will involve regular contact with a group of users, to include teachers, researchers, librarians and learners at the test sites.

We may include usability workshops and, as the prototype develops, field testing of the demonstrator portal.

**Tasks:**

- Liaise with user group at test sites
- Hold usability workshops
- Conduct field testing

**Outputs:**

- Refined portal design
- Contribution to final report

**Responsibility:**

- Peigi MacKillop

## **WP10 Institutional embedding**

**Objectives:** To implement the demonstrator within institutional portals at [list institutions]

**Brief Description of Work:** This package will investigate the feasibility of embedding the portal in different user environments. This will include creating a portlet for inclusion in institutional portals which support the JSR168 or WSRP standard. The standard chosen will depend on the portal frameworks in use, and will be agreed in discussion with our project partners. Testing and evaluation will need to consider both the technical aspects of deploying VSM as a portlet, and the users' experience of the service when accessed in this context.

**Tasks:**

- Consult with partners agree the portlet technologies to be employed
- Design and implementation of a portlet
- Deployment and alpha testing (iterative)
- User testing and evaluation of portlet
- Determine whether this a viable and useful mechanism for delivering the service

**Outputs:**

We will provide at least one of the following

- JSR168 portlet
- WSRP portlet
- Report on issues which lead us to determine that this was not a viable or useful mechanism for delivering the service

**Responsibility:**

- Tim Stickland, Ben Soares

## **WP11 External evaluation**

**Objectives:** To provide formative evaluation of the Visual and Sound Materials Portal Demonstrator

**Brief Description of Work:** This work package will start by consulting the Steering Group and Review Panel over the choice of external evaluator.

The external evaluator will be commissioned to work over six months to:

- Work with two institutions from the higher and further education sector to assess user experience in different user environments.
- Carry out consultation to receive feedback on the demonstrator and assess the needs of the user community for a full portal service. The user needs analysis will be included in the final business plan for the VSM portal service. This will include some detail on the ways in which users

### *VSM Portal Demonstrator Phase*

may wish to draw on visual and sound materials for their teaching. Further, the evaluation will address search techniques amongst learners, teachers and researchers.

- Assess the ways in which visual and sound materials might be used within learning, teaching and research across HE and FE. For example, the lightbox that the PIXUS Image Portal developed addressed ways in which users save images.
- Feed back into the testing/usability phases.
- Focus on the viability of a full VSM portal service and on business issues related to such a service.
- Provide an analysis of the business context indicating benefits, gaps, strengths, weaknesses, risks and opportunities for a full portal service.

#### **Tasks:**

- External evaluator evaluates Version 1 of the portal demonstrator and reports to project team.
- External evaluator liaises with usability testing and institutional embedding work packages.
- External evaluator delivers interim report to project team to inform development.
- External evaluator produces final report, including user needs and business analyses.

#### **Outputs:**

- External evaluation report

#### **Responsibility:**

- 

## **WP12 Version 2 Demonstrator**

**Objectives:** A working portal with demonstrably useful advanced functionality.

**Brief Description of Work:** This work package will complete the development of the portal demonstrator. The focus of the demonstrator will be to provide useful and innovative functionality in an accessible way to the user, rather than building a fully robust package that could meet service level requirements. The functionality specified in the portal design will be implemented and made available to the user, incorporated into the search and retrieve interface (where appropriate).

#### **Tasks:**

- Implement raw functionality specified in portal design
- Design and create user interface to access functionality

#### **Outputs:**

- Version 2 demonstrator portal

#### **Responsibility:**

- Tim Stickland, Ben Soares

## **WP13 Further scoping (as required)**

**Objectives:** To support the development of the portal

**Brief Description of Work:** Continue scoping activities from phase 1, where the need arises to support the development of the demonstrator portal.

**Tasks:**

- Examine issues arising from new developments, recommendations of the review panel or guidance from the steering group; agree suitable course of action
- Make agreed alterations to project plans and portal specifications

**Outputs:**

- Possible contributions to Functional Specification
- Possible contributions to Technical Plan
- Contributions to Final Report

**Responsibility:**

- Tim Stickland, Leah Halliday, Richard Loup, Peigi MacKillop, Ben Soares

## **WP14 Exit activities**

**Objectives:** To document the project work, “package” the software, analyze the requirement for a VSM portal service and prepare the portal for the extended demonstrator phase.

**Brief Description of Work:** A final report will be written, including considerations such as scalability, robustness of various solutions and sustainability, in particular with regard to delivery of access to content. This report will summarize findings from the demonstrator phase, including the results of any further scoping studies. The report will also draw conclusions from the external evaluation and user testing. Finally recommendations will be made regarding the requirement for a VSM portal service, and how such a service may be delivered.

The portal architecture and software specifications will be described in detail. The methods by which portal content is accessed (harvesting, search and retrieve protocols, or other) will be described, along with issues relating to the use of various metadata schemes. The use of Open Source software and software dependencies will be described. Software written during the project will be made available.

The portal demonstrator will be adapted to the EDINA service environment; this will not ensure compliance with a service level agreement, but it will provide service monitoring, automated start up/restart procedures and usage logging. This will prepare the portal for the extended demonstrator phase beyond the end of the project.

**Tasks:**

- Write final report
- Write documents describing: architecture of the demonstrator; specification of the demonstrator; methods used and configuration details for accessing content; details of open source software used; software dependencies
- Make software written during the project available.

*VSM Portal Demonstrator Phase*

- Implement usage logging, service monitoring and automated start/stop/restart (to ensure availability in the event of service failure or server downtime)

**Outputs:**

- Final report
- Technical documents and software archive
- Portal suitable for demonstration beyond the end of the project.

**Responsibility:**

- Christine Rees, Tim Stickland, Leah Halliday, Richard Loup, Ben Soares