



VSM Portal Demonstrator Evaluation

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Background

In recent years JISC has undertaken a number of initiatives in investigating the need for and providing collections of time-based material and still images to the HE/FE community. It has also in parallel researched and provided means by which these collections can be discovered and accessed, for example the Education Media Online service (EMOL), now relaunched as Film and Sound Online.

The VSM portal demonstrator is part of this ongoing work, designed to provide a high quality resource for HE and FE users to find, access and use video, images and sound materials more relevant to their specific needs than those available from generic commercial services.

This is a report of the external evaluation of the portal demonstrator commissioned by EDINA from Rightscom. It complements the usability testing and institutional embedding work which has been carried out by EDINA itself and which will be referred to later in this report. Inevitably, this evaluation and the usability testing exercise overlap, as usability is bound to be discussed with any group which is trying out a resource. The usability test was designed to test the interface and functionality of the VSM Portal Demonstrator and how effectively users could complete a real-world task or project. To that end, each user was given a series of linked tasks to determine whether they could navigate and fulfil their requirements from start to finish i.e. how well the different functions operate in sequence. Our evaluation was more general, with the aim of assessing the potential usefulness of the portal in FE and HE institutions; what its 'unique selling points' might be; to make some comparisons with sources currently used; and to discuss the ways in which both content and features and functionality might be developed to make it more attractive. We also wanted to get some idea of whether there would be a willingness to pay for the resource and whether other means of sustaining it e.g. advertising and sponsorship, would be acceptable.

This evaluation was mainly based on two consultations which took place at Ealing, Hammersmith and West London College, and at King's College London, together with interview results from 3 FE and 18 HE subject librarians and academics who were asked to experiment with the portal demonstrator and answer a series of questions (see Appendix A).

It is important to note at the start of our report that this evaluation took place at a very early stage in terms of developing both a fully functioning tool, negotiating with the providers of collections to agree content for the portal, and integrating the content. This is an ambitious project and has been a challenging process – there is no service which has integrated these three types of content before – but also it makes evaluation more problematic. Although the intention to provide crucial feedback from potential users (and paying customers) before substantial funds are committed is understandable and sensible, there are particular problems in asking users to evaluate something where content is so critical to their perceptions, at such an early stage.

Recent research

The Phase 1 Report on the Demonstrator project was based on an extensive literature review of reports and studies on the use of images, sound and video in education and on issues surrounding metadata and retrieval. It is not part of the scope of this evaluation to repeat any of this work.

We have however carried out some desk research to ascertain if there any more recent studies which have a bearing on the work.

Rightscom itself, together with market research specialists, IRN, carried out a study for the Research Information Network in 2006 into researchers' use of and needs for resource discovery services.¹ This was based on interviews with 400 researchers across a range of disciplines, and 50 librarians. It found that 47% of researchers search for non-text material (images, video, audio, artefacts) in the course of their research, and the leading way to discover these was via Google (27%) or Google Images (24%). 7% used specific image banks and 5% relied on colleagues. Discovery services relating to music generally were seen as lacking, though this was not specifically in relation to audio.

A report entitled "Using Digital Images in Teaching and Learning: Perspectives from Liberal Arts Colleges" was published in 2006². This was based on an online survey of over 400 faculty, and individual and group interviews with 300 faculty and other staff members at 33 US institutions. The majority were in arts and humanities (56%) but 32% were in sciences and 12% social sciences. This study found that 83% used digital images in their courses. Over 90% used their own personal collections and this was the source most often cited as 'always' used. The next most important sources were others' personal collections, and the Web, the latter resources most usually discovered via Google Images and similar tools. The report also found that while personal collections could genuinely include images in very niche areas, their importance also reflected impatience at the slowness of development of institutional collections and quite often, ignorance of the existence of specialist collections which are available. It also discovered that faculty are having difficulties in managing their personal collections and need access to tools and support to do so. It also found that there was a degree of over-cautiousness in relation to copyright which was constraining image use.

JISC has also recently published a study of Web 2.0 for Content for Learning and Teaching in Higher Education³. The relevance of this to the VSM portal is not so much directly in relation to time-based media but more in terms of the general trends towards social networking, user-generated content and collaborative working, using tools such as wikis. In particular, the report highlights the possible educational uses of social bookmarking services to find useful resources on the Internet and media-sharing

¹ Researchers and discovery services, Behaviour, perception and needs, Oct 2006
<http://www.rin.ac.uk/researchers-discovery-services>

² Green, D Using Digital Images in Teaching and Learning <http://www.academiccommons.org/imagereport>

³ Tom Franklin and Mark van Harmelen, Web 2.0 for Content for Learning and Teaching in Higher Education. JISC, May 2007.
http://www.jisc.ac.uk/media/documents/programmes/digital_repositories/web2-content-learning-and-teaching.pdf

services such as YouTube and Flickr; in the latter case, the report mentions not only its use to find Creative Commons-licensed images but also the ability to annotate different areas of images and to make comments on images. The increasing popularity of mashups also poses some issues for permitted re-uses.

Research on user behaviour in image searching

Following the first consultation, see below, it seemed useful to carry out a brief review of the literature on image search behaviour.

A number of studies of user behaviour in image searching have been undertaken in the last few years which highlight the differences between text and image searching. A particularly interesting study⁴ attempted to analyse a very large set of Web queries from both textual searches and image searches, to try to identify differences and draw out implications for developing effective Web image searching techniques. They used the properties 'unique/non-unique' (i.e. was the search for a unique person, place or event or a certain type of person, place or event) and 'refined/non-refined' (i.e. did users refine their search queries based on time, geographical location, action or technical specification) to categorise the queries. An example of a unique non-refined query is given as 'London Bridge', and a non-unique refined query as 'carnivore dinosaur'. The study found that most (75.85%) of the image queries were in the unique category, whereas only 34.22% of the textual queries were unique. On the other hand, refined queries were 5 times more common in image queries than in textual ones. The study also analysed 1000 refined queries from failed image searches. It further categorised refinements into interpretive, perceptual or reactive attributes. Examples of interpretive attributes are location (Canadian flag) time (19th century building), action (riding a motor cycle), event (New Year parade) format (cartoon mouse), product brand (Nike shoes). Examples of perceptual refinements are shape, colour or texture (shaped like a hand, purple feather, steel pan). Reactive or abstract attributes that were used to refine queries include words such as 'cute', 'pretty', 'funny'. The analysis found that interpretive features were the most commonly used in refining queries (83.7%), and formats were particularly frequently found within that category (38%) e.g. file formats such as gif or jpeg, or generic formats such as 'map' 'logo' 'cartoon'. Place (22%) and time (13%) were also important within the interpretive category. Reactive attributes were the next most important (9%) and then perceptual (7%).

Other studies have focused on specific user groups or searches in specific image collections. For example, a study of users' queries in the Library of Congress' American Memory resource⁵ found that most image content was described in terms of kind of person, thing, event or condition depending on location and time. A study of image querying by image professionals⁶ found less use of unique terms than other research and extensive modification (55.8% of queries); however, tactics seemed experimental and more support for query modification seems desirable.

⁴ Hsiao-Tieh Pu, An Analysis of Web Image Queries for Search. Proceedings of the American Society for Information Science and Technology Volume 40, Issue 1 , Pages 340 - 348

⁵ Choi, Y. and Rasmussen, E. Searching for Images: The Analysis of Users' Queries for Image Retrieval in American History. Journal of the American Society for Information Science and Technology 54(6), 2003

⁶ Jorgenson, C. and Jorgenson, P. Image Querying by Image Professionals ASIST 2003 Contributed Paper

The Evaluation Consultations

Two evaluation consultations were held, one in a Further Education college and one in a university. The consultations were organised through the Information Services/Learning Resources teams. In both cases, Rightscom visited the sites in advance and held discussions with key contacts to explain the project and the evaluation, to do a preliminary demonstration of the portal and discuss what would happen at the workshop. We aimed to be as flexible as possible, as inevitably we would be demanding a considerable commitment of staff time for the events at a busy time of the academic year.

It was planned to hold two workshops at King's College, one with the Information Services team and one with academic teaching and research staff. Only the first consultation took place in the planned time frame, though the other is still under discussion.

On the workshop days themselves, we did not provide any substantial descriptions or explanations of the portal, beyond informing people of its central purpose – to provide relevant visual and sound materials to higher and further education – and the fact that it is a work-in-progress, both in terms of the collections available and the functionality. We also did not ask participants to bring or enter their Athens passwords in advance, nor were they pre-authenticated. Practice on this varied by institution in the usability testing evaluations, and like them, the degree to which users' institutions had subscribed to the relevant collections clearly also differed.

We stressed that the participants' feedback would be used by the JISC to decide on future development. This seemed to be very welcome, and all the participants appeared to enjoy the workshops and find them interesting.

The accounts of the consultations which follow are intended to describe the behaviour, reactions and thoughts of the participants, not those of Rightscom. Our conclusions are to be found later in the report.

Evaluation consultation 1: Ealing, Hammersmith and West London College

This workshop brought together six members of staff from the college, and one person from the Learning Resources team. Ealing, Hammersmith and West London College is one of the largest colleges of further education with over 25,000 students studying courses each year, spread over four sites. It has Centres of Vocational Excellence in Broadcast Media and Animation and in Construction Crafts. The staff taught on courses in media, performing arts, ICT, construction, travel and tourism, and business studies. The workshop was split into a general discussion on the demand for VSM materials in the college, and how it is currently satisfied, and a specific discussion about the portal demonstrator, based on using it to find relevant assets for use.

Workshop discussion

Current need for visual and sound materials

According to the participants, the major need is for video, audio and images which can serve directly as learning materials in courses.

They identified a particular requirement for practically-orientated video materials which support 'traditional' FE courses of a vocational nature such as construction skills, hairdressing, etc. as well as specific assets to support performing arts courses, for example, a video demonstrating voice control techniques, or audio clips for use in drama performances. Even in courses such as business studies and ICT, there is a need for video which can provide hands-on examples of dealing with problems. It was felt that the trend in government policy will only increase that demand, as the emphasis on vocational elements in courses will be greater. The college tends to produce this kind of material for itself, as it is hard to find elsewhere. It is now very easy for staff and students to make their own video clips, and while these are not of broadcast quality they are good enough for the purpose.

Besides the lack of specialist assets to use as learning materials in vocational courses, staff also find it time-consuming to locate more general resources which can be used in particular lesson plans.

Sources currently used

Participants felt that the first sources both staff and students would turn to would be the free services on the Web, such as Google Images, Flickr or YouTube. Music and performing arts students would tend to use music demos or videos of specific dances found on the Internet and especially on YouTube.

Other sources mentioned by participants included:

- College-generated material (staff and students)
- Off-air recording (the LRC has a sophisticated system for recording TV programmes on request by staff, which can then be streamed)
- ITN – this referred to Newsfilm Online (the demonstrator currently online in advance of the full launch). This contains useful material but again it is often too time-consuming for teachers to evaluate the clips themselves for use in particular courses.
- Open University 'free' materials (OpenLearn)
- BBC Archive
- 4OD (Channel 4)
- JISC and BECTA collections
- The Learning and Skills Network's QIA Excellence Gateway

Perceived advantages of current free sources such as Google Images, YouTube

- Instant results – no barriers to accessing the actual asset

Perceived disadvantages

- Relevance can be a problem
- You have the issue already mentioned of having to think about how an image or film clip will fit into a lesson plan
- Trust – is this video clip of ‘how to build a wall’ genuine or is it a spoof?
- Copyright – can we use this? Lots of grey areas

General irritations with Internet resources

- Registration requirements and passwords
- Watermarks in video clips
- Not an easy way of searching across separate resources e.g. BBC archive, 4OD, ITN Newsfilm Online
- Same problem with specifically educational resources – JISC, BECTA, etc – you don’t know who has got what and you have to visit multiple sites; it can also be hard to find things on the sites themselves

Participants’ positive experiences with resources

There was general agreement that the Learning and Skills Network’s (formerly LSDA) QIA is a good source of curriculum related material through its Excellence Gateway, which is a search engine for learning materials⁷. They are cataloguing and also creating and commissioning resources including video clips, learning materials and lesson plans.

The workshop participants felt that materials in the collections made available by the JISC and BECTA don’t always reflect what FE needs; one problem is that FE colleges don’t communicate their requirements as well as HE institutions. It is harder for FE staff to be relieved of everyday responsibilities so that they can involve themselves in developing materials or participating in JISC community activities. It would save a lot of time in the long run but it is hard to spare the time and energy in the first instance.

Sharing content created in-house

EHWLC would find it problematic to share video or images created in-house with other colleges, because in London they are in competition for students with many other colleges. The use of technology and learning resources are seen as key differentiators for the college.

Using the VSM Portal Demonstrator

Search behaviour

The teachers (not the LRC staff member) tended to use rather generic single words when searching for items e.g. ‘housing’; ‘marketing’; ‘aeroplane’; ‘computer’. They were

⁷ <http://excellence.qia.org.uk/page.aspx?o=browse>

then easily discouraged when they encountered (in their view) unsuitable results – mainly because they were historical images when they wanted contemporary material, though they did say that they might have occasional uses for historical material – for example, when discussing slum clearance or the historical development of computers. They quickly drew the conclusion that the collections accessed by the portal were mainly historical in nature. In fact, searching using more precise terms e.g. 'Airbus', 'apartment block', 'operating system' did produce some contemporary assets. 'Marketing' was trickier, but 'marketing strategy' yielded a few relevant contemporary results..

The VSM portal demonstrator – features and functionality

Participants expressed the following views on the portal's features and functions:

- It is useful to have the content filtered by media type (i.e. sound, video, still images)
- The presentation of results under each collection heading is actively disliked. Users felt that it does not help with navigation because the collection names and descriptions do not consistently act as a guide to the relevance of the collection to their search and it adds another step (and therefore barrier) between the user and the content (or in the case of some collections, several steps).
- Users seemed more sensitive to repetition/duplication in an image search than they would be in a textual search, probably because the thumbnails make it very obvious. On the other hand, the absence of thumbnails in many cases was negatively commented on. (One recommendation in the usability testing evaluation is that the team should consider carefully whether collections lacking thumbnails should be excluded)
- Users wanted to have a 'browse' function to look across the collections
- It was felt that user-based social tagging would be very valuable in assisting category and subject searching
- Ratings by other users would be useful, including for example 'top ten' lists such as 'this is a list of the top ten video clips to use in BTEC Health and Social Care' and Amazon-style reviews
- Most users wanted all search results to be displayed, regardless of whether the institution has a subscription to the relevant collection or not. But they could also see difficulties with this if students kept seeing assets that they were unable to access
- The function 'find another image like this' was not seen as particularly useful.
- RSS feeds or email alerts to signify the addition of relevant material would be useful
- Personalisation features such as lightboxes, MyVSM are welcome, but the ability to harness the community's wisdom through social networking/social bookmarking features were seen as more important.
- Forums were not seen as a particularly attractive addition. The view was expressed that they "tend to be taken over by bores and eccentrics", and that it would be very time-consuming to use them to identify useful content compared with other methods
- We suggested that the portal could offer tools to modify the content if permitted – but the view was that it is easy to obtain these anyway

- As far as rights information is concerned, it was seen as useful to know what re-uses were permitted, but this was not a major concern to the group. One person felt it was better to have a tool which searched all content on the Internet and allowed users to check and make up their own minds if they are allowed to use it. This was similar to some reactions in the usability testing.

Conceptualising what the portal is

Several of the workshop participants were unsure how to characterise the Demonstrator. Some users thought it was a search engine which looked only for the three types of visual and sound content on the whole Internet. This was similar to some of the users' experiences in the usability testing. For example, "some users guessed that the VSMPD provided a search onto the Internet and others guessed that it searched specialist databases".

In a related point, it was felt that it would be more useful for the JISC to provide a service which searched for VSM materials anywhere on the Internet and had ways of rating them for relevance to particular courses, than to provide access itself to a limited range of resources, a sort of equivalent to Google Scholar for visual and sound materials.

Relevance of the collections

Workshop participants felt that the VSM portal did not give access to the kind of practical learning resources needed in FE and in that respect it was similar to their previous experience with visual image and film resources provided by the JISC. Though they would have some use for what they had found through the portal, for 'A' levels and for contextual material in other courses, they thought it would be more likely to be of use in HE.

There was also agreement that it would require too much time and effort to find assets through the portal which could be used in a particular lesson plan, for example in a health and safety or security lesson. They felt it was not subject-specific enough at the moment; what is needed is something which maps the content to particular subjects and lessons. An example given was dataflow diagrams which are common to both ICT and A level courses and where a good lesson could be put together with dynamic diagrams if it was easy to find them.

Funding and sustainability

Workshop participants discussed how the portal should be funded and who would make decisions in their institution about whether to subscribe. The locus for the decision about whether to pay for the portal would depend on how much it costs – the more it cost, the higher the authority needed to spend the money. Offsetting a fee with contributed content would not be an option in EHWLC because of the competition issue, but other colleges where they were the only one in an area might be prepared to do that. The workshop participants had no problem with advertising being used to support the portal.

Evaluation consultation 2: King's College London

This evaluation workshop brought together eight members of the information services team, mainly subject specialists supporting academics working in the biomedical and clinical research areas, one in the NHS itself (Guy's and St.Thomas's) and one person who supports the use of physical audio-visual resources, in this case in the humanities/visual arts. The Research and Learning Liaison Manager of the team was also present for part of the discussion. The Information Services and Systems team of King's College is a converged information and IT systems department, with a remit to deal with the whole range of research, library and IT queries from users as well as keeping abreast of new technology developments in information management and understanding how research, teaching and learning requirements are changing. King's is also the home of the Centre for Computing in the Humanities, and is now host to the Arts and Humanities Data Service Executive.

Workshop discussion

Current need for visual and sound materials

The workshop participants discussed the current needs for visual and sound materials within their institution and how they are met. The Information Services team has a strong commitment to expanding provision beyond bibliographic and full text materials into multimedia. They are particularly aware of increasing demand for high quality, relevant images. It is also vital that the team provides its users with image resources that they can use in any way they need to without worrying about rights issues.

The team is always looking for good sources of images and to acquire access to collections. They regard current paid-for image collections as 'relatively cheap' to subscribe to. Medicine is a subject area with a lot of demand for images and also for learning objects. As well as copyright, there are sometimes privacy and data protection issues with medical images and video: for example, videos are made of patients in ward visits for clinical training purposes. The NHS separately licences some medical image databases for its National Library for Health, for example Images.MD (though the licence to this is expiring), and Trauma.org. There is of course a longstanding problem for libraries in hybrid university hospital institutions in managing access to e-resources across the HE/NHS divide.

Experience with image collections and free services

The team felt that while images found through Google Images would be fine for the purpose a great deal of the time, what academics want is a way of *ensuring* that the images they find are relevant, of high quality, from trusted sites, and copyright cleared for use in teaching.

The team has noticed that members of the academic staff are very concerned about the copyright status of images and what they are permitted to do with them, as there is increased awareness that images they use in teaching and presentations may now find their way on to the public Internet. Staff may also want to have data about the image itself, in terms of resolution, depth and format. This can be important for assessing research validity.

Users felt that Flickr is an 'amazing' resource in terms of the amount of material it contains because of the pool it taps into, but the search function is 'rubbish'. One team member had obviously considered the advantages and disadvantages of the service, including its use of Creative Commons licences, in some depth:

"The advanced search gives you the ability to find images you can use, but there are different types of Creative Commons licences, so in terms both of using the advanced search and understanding what you are allowed to do by the licence, it requires a high degree of information literacy. It is not so much that it's difficult to learn as that most users have no interest in doing so, just as most people who use Wikipedia aren't interested in checking the page histories and the discussions; they just want to get to the content quickly. Information professionals probably enjoy doing all that, but end users mostly wouldn't bother."

As might be expected in a group of information staff, there was a high degree of awareness of the role of metadata; for example, it was noted that search in image databases is often very text-based rather than being related to the visual aspects of the image e.g. colour and shape.

There was an extensive discussion about whether good results can be achieved through user-generated tagging. The general view was that it depends on the expertise of the user, on the capabilities of the service itself in terms of how tagging is implemented, and also on the level of interest and commitment of the users in the tagging process itself:

" Tagging in YouTube is not good; you can't use a whole phrase to tag something, for example. Also, most people putting up content don't want to do much tagging, they just stick one or two words on the video. Consequently the metadata is very poor and it's very hard to find anything. Compare that with LibraryThing, where the tagging is very good, because that is the kind of thing that interests those users."

While the participants generally felt that only information professionals would have enough commitment to do tagging properly and consistently, there was also a recognition that in many scientific areas, only a subject specialist would have the knowledge to tag an image properly.

Another issue raised in the discussion was domain-specific metadata tagging. Participants suggested, for example, that a microbiologist and a chemist will look at the same image and see different things there, so it is important that they are able to tag the image with something that makes it meaningful in the context of their own subject domain.

There was also some scepticism about the usefulness of ratings and comments.

Participants commented that ratings and comments can be useful in theory, but it all depends on the nature of the user group; on YouTube the comments are “mainly crass and annoying” and “take up half the page”, while clips can get ratings just because someone’s friends rate them, so it can be abused. While there’s nothing necessarily wrong with this sort of functionality, it does depend on who is using it.

Critical mass

Participants considered that critical mass is very important. If users investigate a new service and there is not very much content in it, then they will be disappointed and they are not likely to go back to it later to see if it has improved.

User-generated content/in-house collections

The team is aware that academics are undoubtedly creating their own materials all the time, but at the moment that is entirely separate from the activity of the Information Services team and also there is no repository at the moment (though this is something that is planned) into which they can place material for others to use; they might be putting them on Flickr, for example, or other public services, but they would only be found by other staff in exactly the same way as anything else is found. Academics are probably not very keen on filling in forms cataloguing the images they put up, nor filling in another one about copyright clearance, so the chances are they haven’t done much to make the images easy to find or use for anyone else. On the other hand, they believe that services like Connotea and CiteULike show that academic tagging can work well.

The team identified a need for an audit to discover what the resources are in-house. There are some big digitisation projects going on in King’s – for example, all the pathology slide collections held by the Gordon Museum (a department of the college) are being digitised. There are major rights issues which the College has to deal with in terms of medical images. There are also many images held in the Centre for Computing in the Humanities. The idea is that at some stage the collections will be brought into a repository, organised and made available. It is not clear to the workshop participants if they would be shared beyond the college community.

Using the VSM Portal Demonstrator

The search behaviour of the King’s staff was very different from that of the users in Ealing, Hammersmith and West London College. They were immediately concerned with how the search function worked, in particular whether it defaulted to an ‘OR’ search rather than an ‘AND’ search, and whether it supported phrase searching. When they encountered the unexpected in response to a search, they wanted to get to the bottom of why the demonstrator had returned those particular results by carefully inspecting the metadata. There was probably less of a focus among the group on what was in the collections themselves than in the way the portal operates. At the moment, they felt, there is not much in the collections that would be useful to their particular users (except for the staff member from humanities, who found a lot of relevant material), but they were able to consider the portal as a potential service rather than being put off by the

lack of relevant current content (though they felt that this wouldn't be the case with end-users). They were keen to suggest additional functionality, even when this was not immediately related to the content found via the portal at the moment.

The VSM portal demonstrator – features and functionality

The participants made the following points on the features and functionality of the portal demonstrator:

- The search function is flawed. Simple search should default to 'And'
- There should be an advanced search capability
- A feature which 'corrects' the search terms would be useful, like Google's 'Did you mean to search for this?'
- Search terms should be highlighted in the results
- A way into the content by subject would be best. A faceted 'on the fly' search would be ideal e.g. a search involving 'communications' would divide the results into 'technical' 'business' and 'media' for example.
- The grouping of results into collections was disliked by almost everyone, (except the humanities specialist). There were a number of perceived problems: the descriptions of the collections was not very informative; there were too many steps between the search and the asset; sometimes a result was identified in a particular collection but when that collection (VADS) was searched, nothing relevant was retrieved;
- It was a nuisance encountering the need for authentication when accessing some of the collections after entering the search terms once (though clearly users may already be pre-authenticated)
- As in the first consultation, there was a discussion about whether it would be preferable to display all the results, regardless of whether the institution has a subscription to the relevant collection or hide results which the user cannot access. No firm conclusion was reached. Other services such as Science Direct offer users the option of whether to display or hide results according to subscription status. This issue is obviously connected with authentication and link resolvers and how the VSM portal would be integrated into the overall presentation of library e-resources to the end user.
- The interface is very clean and uncluttered and this should be preserved; more complex functions should be kept away from the initial screen, as Google does with its advanced search, for example. Intute was cited as an example of a cluttered interface
- It would be useful to be able to refine the search of images by type of image e.g. map, chart/graph, diagram
- Personalisation is useful, but only if it is well integrated and not if it sets up another barrier; this is again an issue connected with where the log-in takes place and if it can be done once only
- Results should be exportable not only to email but also to bibliographic packages such as EndNote, which now support citation of images
- Community features such as forums need a critical mass of people to make them work properly. Social tagging and rating were extensively discussed and

- generally felt to have some uses, but that their usefulness would depend on both the 'quality' of the participants and their willingness to invest time in the activity
- The facility to 'find other images like this one' was not seen as a priority, though the notion of searching on visual properties such as colour, texture and shape was viewed as intriguing, whether it was achieved by descriptive metadata or by the use of Content-Based Image Retrieval (CBIR) tools such as imgSeek or Behold Image Search on Flickr.
 - It was felt that it would be useful if the portal could search podcasts and videocasts, as there are now some very useful ones being produced by, for example, the BBC and the New Scientist.

Funding and sustainability

Workshop participants discussed how the portal should be funded and who would make decisions in their institution about whether to subscribe:

- It was felt that the portal has a long way to go before it would be considered worth spending money on
- Judging whether the portal would represent value for money is a decision that would need to go to higher level committees and could not be taken by Information Services itself
- In principle, King's would be interested in sharing some material via the portal, but it would have to be well established as a service first
- There is no objection in principle to sponsorship or advertising on the portal, as long as it is relevant, ethical and appropriate, and doesn't obscure the results or take up too much screen space.

Interviews

In addition to the consultations, we approached a number of other people to give feedback on the demonstrator. Originally we hoped to source contacts from relevant JISC email lists, such as VIDEO and BUFVC-MOVIES but these appeared to be mainly used to make announcements. We then trawled lists of subject librarians and identified people who supported academic subjects which could be expected to make a disproportionate use of images, video and sound e.g. media, communication, visual arts, music, art history, design. Several media and visual arts academic staff were also approached through personal contacts. In all we received feedback from 18 people in 15 HE institutions across England, Wales and Scotland, and from learning resources staff in three FE institutions.

We have grouped the comments made under broad headings.

Higher Education

Needs

There is a high and growing need for video/film, sound and image materials.

One interviewee singled out news footage for student reports and projects as a particularly common request. Overall, there seems to be most demand for still images at present and least for sound, but this is not a representative sample.

How needs satisfied/how material currently discovered/accessed

- Updates via BUFVC email lists
- Film and Sound Online – very good subject search
- Off-air recording in-house: news systematically recorded to supply student needs
- ARTStor
- New York Public Library picture collection
- Expect that Newsfilm Online will be very useful
- Bfi's ScreenOnline is 'amazing' for classic TV and film

Problems

- If a programme is missed then the very valuable BUFVC Off-Air Recording tokens have to be used
- Can be very difficult to search for particular video clips which are requested e.g. footage of a soldier collapsing on parade
- Retrospective access to broadcast TV programmes and news e.g. a student might need a sample of news content once a night for a month 2 years ago

Usefulness of existing free services e.g. Google Images, YouTube

- 'Pretty hopeless' – too many quality and copyright issues
- In my field, [mass communication] I find it quite easy to find relevant, interesting things to show and discuss in lectures or seminars, using YouTube. So that's my point of online video comparison.

Advantages of bringing together VSM

- Only one URL needed/one stop shop
- Whole may be greater than sum of parts e.g. might be possible to use still images plus sound to answer a need that originally demanded a video clip

General views of the Portal Demonstrator

- 'impressed by quality and clarity of metadata'
- 'I like the concept and would certainly use the service.'
- 'I was able to find some really useful results from my searches'

Search and presentation of results

- Needs an advanced search capability/will there be an advanced search?
- More explanation of how the search box works, what kind of searches can be done, with examples
- Would like a list of the "targets" it will cover

- Would be helpful to have a subject search/would like items to have subject headings to click on to get related items
- Date of image would be useful
- Being able to specify which media type is useful
- Good to have permitted uses displayed but also information that enables a direct approach to the rightsowners for particular uses would be helpful
- Not really necessary to filter results by permitted use as most material can be used under licences permitting use for assessed work (unless for use in shows, exhibitions and competitions)
- 'images like this one' would be useful as it would increase the chances of finding something relevant
- Saving results – probably only used by a minority (as in other services) but still worth having
- Download or export results by email – essential for students
- Would be good to have some way of alerting users in an institution in advance that they have or don't have access to a particular collection to avoid disappointment
- Having to repeat the search terms for particular collections e.g. VADs – would help to know upfront if this is going to happen
- The list of results was divided into (I guess) different archives. This was not very helpful ... I just want a complete list of top relevant results, with a short description, like when you search in Google. So then I had to guess which set of results to try first (although normally I would have already lost interest because I am entering the realm of guesswork, whereas I want a system that just finds me the best results).

Other functionality

- Authentication – it would be useful to be able to carry authenticated use over for all the services being accessed
- RSS feeds/alerts – possibly. Site more likely to be used when driven by an assignment or project
- Personalisation
 - not convinced people will put in the effort compared to what they spend on Facebook etc
 - MyVSM works well – how long would results persist in that area? How does it work – through Athens? What happens using a generic account?
- Reviews and ratings – good idea but staff don't have much time to devote to this

Other suggestions

- Creating tools to be used in assessed work e.g. find images and critique, creating lists of images on a theme. This might work more in terms of a particular institution than generally on the portal itself.

Funding

- One user said they would pay less than £1500

- Test subscription followed by analysis of user statistics over a full academic year would provide evidence of value for money
- 'Relevant' and 'not too intrusive' advertising would be acceptable

Further Education

Needs

The need for such material is growing.

How needs satisfied/how material currently discovered/accessed?

- Internet, publisher catalogues, personal recommendation

Problems

- Copyright
- Technical problems
- Lack of availability of some resources.

Usefulness of existing free services e.g. Google Images, YouTube

- Google images can be useful.
- Copyright restricts what we can legally use Google images for. You Tube and Flickr are not designed for educational purposes.

Advantages of bringing together VSM

- One stop shop

Search and presentation of results

- Should be by relevance
- Useful to have permitted uses displayed
- No point showing results for material we don't have access to
- Not keen on the display of results by collections – would prefer uncluttered and grouped all together
- Need to be able to save results between searches and to export results by email

Other functionality

- Personalisation – yes important
- Reviews and ratings – good idea

Funding/sustainability

- Value for money would be assessed by relevance to the curriculum and cost. If the service has an element of user interactivity it would also be a plus.
- Advertising would be acceptable if it brings down the price and the adverts are not too intrusive and do not slow down the service too much.

Sustainability and business models

The VSM Portal, on its current funding basis, presents the normal low actual value→low use→low perceived value problem common to all starting services that do not have the resources for a long development period followed by a major launch. This problem is exacerbated when there are potential competitors that have the resources to invest heavily in their offerings in the relevant sector.

Almost all innovative or technology-based services face one major challenge in their lifecycle: moving beyond the small, enthusiastic “early adopter” market, which is influential but too small to be lucrative, to the “early mass market”, where the first volume users are found. The growth curve is hardly ever a smooth one; indeed, it has been called the Chasm by its main theorist, Geoffrey Moore⁸. Moore, along with the earlier writer on high technology marketing, William Davidow⁹, argues convincingly that one of the major factors in a product or service’s ability to cross the Chasm is “completeness”. The users should find all that they need for that task in a single solution, and it should work without the user having to undertake any integration (“straight out of the box”). Services and products that appeal to early adopters, in contrast, often require high levels of integration and are far from complete.

In information services terms, this points to the need to “complete” the VSM Portal offering in terms of its functionality, and, most importantly, its content. Users will turn to it if it can meet the large majority of their desire for relevant A-V and related content in a single place. If the service cannot do that, it will stand much less chance of success. . In particular, it will be vulnerable to competitors who might offer more nearly complete solution: for example, a generic search engine might well find more relevant images as it ranged more widely across sources and indexed a much larger number of images or audiovisual material.

There is a further challenge here: as noted, several participants in the research indicated that they (and their users) had found that services which did not have substantial content were of little interest to end-users: they would be investigated once or twice, found lacking, and then not used again even if they had grown in scope in the meantime: users tended to stick with their early impressions. This is borne out in many other failed product launches.

Similarly, issues such as the lack of integration of search (having to repeat searches already carried out in the portal on the chosen collection) would need to be overcome as

⁸ <http://www.chasmgroup.com/whoWeAre/history/>

⁹ <http://www.amazon.com/Marketing-High-Technology-William-Davidow/dp/002907990X>

a matter of urgency: it is a classic case of expecting the user to do the integration – in this case, by remembering and retyping the search terms, rather than the service handling it as it should.

If a service such as the VSM Portal is to be sustainable at any level above simple maintenance, it must be able to deliver the “complete” experience more or less at launch, or at any rate as soon as the major promotional campaign starts. This implies that the service provider has spent some considerable time, resource and capital populating it before the launch (and thus without income). Our consideration of the sustainability is based on the principle that in order to be sustainable in the long term, the VSM Portal has at the very least to offer the most nearly complete experience, as well as compete with other services and find an identity that allows it to provide a unique service.

We have identified three models under which the service might be sustained:

- Tick-over
- Simple continuation with incremental content development
- Advanced

It is worth noting that in order to succeed, all of these require resources beyond simple technical development: it is important to commit resources to development of a strong brand that makes it clear what the service delivers; and then to commit yet greater resources to actively communicating the brand to potential users. This is essential even if the service is a free one: users need not only to be made aware of it in the first place, but that awareness needs to be reinforced continuously to build up a user-base that will justify further investment.

The project has not had the resources to invest in such brand development. A generally useful heuristic is that around 25%-30% of the total project budget should be set aside for communication and promotion activities: with anything less, we would assess the risk of failure to be high or very high. Digital services have failed in the past because their sponsors, shareholders or managers expected a new service to act as a centre of gravity, drawing users to itself by presence and scale alone. This error caused them to under-invest in the proactive aspects of promotion.

Tick-over

In this model, the service as it will stand at the end of the current round of funding is maintained, but software maintenance is kept to the bare minimum and content is not sought, although may be added if creators or compilers make it available.

It is unlikely that this model would attract many new users, nor additional content.

Costs

- Provision of IT infrastructure
- Other IT charges made on a commercial or quasi-commercial basis
- Software maintenance

- User support (help desk)
- Passive promotion to users and content owners

The required resources would amount to around one-third FTE according to Edina's estimate. There would be additional hosting and connectivity charges, but these would be small.

Revenues

It is very unlikely that this model would attract any commercial or quasi-commercial sources of revenue, and would be likely to require a small periodic grant to keep it going.

Simple continuation with incremental content development

This model assumes no further technical development for the time being (other than maintenance releases and addressing a small number of key UI issues, such as the search logic), but continuing growth in content as more effort is applied to both content development and promotion to users.

Costs

- Provision of IT infrastructure
- Internet access charges
- Limited systems overhaul – especially the UI
- Software maintenance
- User support (help desk)
- Content development (a business function: content will not increase without positive promotion)
- Promotion to users and content owners

A small number of part-time staff could probably keep this level of service going. Technical work would be limited to systems maintenance and the platform would be hosted by a host service which would also provide connectivity.

A part-time content development manager would identify good sources to be included in the portal, and assist content owners.

The total cost would be limited, but growth would be slow and the service would at best become incrementally more attractive: this is not likely to drive much greater uptake or to persuade users that subscriptions are justified.

There would be no attempt to do anything other than the most basic metadata management in this model: content providers would be expected to self-serve by creating relevant tags of their own and ensuring that their content had sufficient descriptive text to be useful., and user-generated tagging would be the main indexing model.

Comments from interviewees and workshop participants suggested that user-generated tagging or other metadata creation may be acceptable if the users are held to be sufficiently expert in the domain. The advantage of concentrating metadata creation with

professional indexers aiming for the highest possible quality, rather than enthusiasts with domain knowledge may increase quality, but at the expense of coverage. If information is building up quickly, then it may be essential to allow enthusiasts to create the metadata simply to cope with the scale.

Revenue potential

Very limited: some advertising via AdSense or a similar service may generate a small revenue, but as usage is likely to remain low with the limited content development resources there is not likely to be a great deal of click-through activity.

Advanced model

This model assumes greater financial resources are available on an investment basis, allowing much greater development in three core activities:

- Content development
- Marketing and promotion
- Technical development: enhancing functionality and features and redesigning the user interface

Costs

- Development of production-standard platform
- Enhanced hosting and connectivity
- Indexing and tagging costs
- Provision of IT infrastructure
- Software maintenance
- User support (help desk)
- Content development (a business function: content will not increase without positive promotion)
- Promotion to users and content owners

The development of a more advanced service will be costly: it will require extensive software development, and a larger team for content development. If usage increased, it would also demand additional customer support staff.

There would be much stronger editorial intervention with regard to indexing and tagging; this would be essential to effective use – although it would not replace the user-generated model.

Revenues

These are still hard to predict. Potentially:

- Advertising income: increased from simple model, as additional traffic brings more pay-per-click revenue.
- Possible recruitment advertising for employers seeking graduates with specific skills in media

- Sponsorship: opportunities for sponsors with related content (e.g. publishers, commercial image libraries) or foundations/trusts
- Content hosting revenues

Advertising revenues are not certain. There are many new places to advertise, but the overall advertising market remains static. The web's share of advertising revenue is growing, but in the UK nearly 60% of this goes to major search engines (and this proportion is increasing rather than decreasing).

Content hosting revenues are a possibility. Academic content creators wishing to reach users might be willing to pay a small fee for the right to store either larger volumes than standard terms and conditions allow, or different media types. The advantage would be the combined search-and-access facility would bring more usage of content.

There is no information about users' willingness to pay for such services, but commercial services have found moderate success with such "basic/premium" models. However, given the low potential number of users the charge might have to be unattractively high to generate any significant revenue.

New entrants into the subscription marketplace are finding that they are gaining little traction, as almost invariably existing subscriptions need to be cancelled or reduced to make way for anything new.

It should be noted that all business models relying on payment above a certain level also incur the costs of marketing and promotion. The exceptions are business models that rely on very low value (and thus low risk) transactions carried out in large volumes. These models can become self-marketing – but in general, only once they have established a presence.

During the course of the study, we have not found any indication that there is a major gap in the market for a commercial service broadly similar to the VSM Portal. It undoubtedly has potential for some users, but the range of content would need to be greatly increased before it became an attractive proposition. As revealed in the second workshop, users are prone to be particularly dismissive of any service that is not well-populated with relevant content. An initial impression along these lines is very likely to result in no further visits: other services that had already encountered this problem were mentioned. It is also common experience among commercial electronic resource vendors: part-formed services do not generally attract subscription support.

In considering subscriptions, it should be borne in mind that there are three key metrics:

- Number of initial subscriptions
- Retention at the end of the first subscription period. This is often lower than 50%, as many institutions will subscribe on a trial basis and then assess value.
- Retention at the end of the second subscription period and beyond. This should be much higher: 90% is a reasonable target.

Therefore any potential subscription service should build its business model to allow for a long slope in the early days to reach a critical mass of subscriptions, followed by a rather brutal attrition rate at the end of the first subscription period. After that, the value should be reasonably predictable.

As can be seen, this is an inverse of the investment requirement, which is acute during the build-up phase and almost as acute during the first renewal cycle until stable revenues are acquired several years after launch.

Competition

Competition for the service would appear to be mainly indirect rather than direct: a number of services cover part of the range of the VSM portal, but none duplicate it entirely. However, this is no guarantee that it is needed: the niche may be vacant for very good reasons. There are many other routes for users to locate similar (or even the same) content. Although many of these present some problems (for example, relevance, trust and accessibility) they have the strong advantage of unrestricted access. The usability of the current platform would need to be improved to maximise any advantage over generic search services, but range of content is likely to be even more significant.

The main advantage of the VSM Portal over potential competitors may be that users would know that content they found through the portal would be genuine, and it could be made clear what rights they had to use, copy, re-use or modify the item. However, they do not seem to be committed enough to the improvement in quality of service to undertake to pay for these facilities. If these advantages over the competition are to be effective in the market, they must be well communicated and promoted. Developing the brand values to reflect this would be essential

Potential strategy: niche development

There seems little doubt that the demand for the type of material identified by the portal will rise rapidly, especially in HE. There are many different types of usage, including in teaching materials and in research outputs.

It seems to us that the most likely route to success is through focus on particular groups of users and therefore on particular content and features. The current very general range makes it very hard to convince serious users that they will find a suitable depth of content within the portal. To overcome this across a wide range of disciplines would be financially exhausting, with little real evidence that it would be rewarding or rewarded.

Developing a niche market or markets would allow a much greater chance of developing a more “complete” solution with a depth of suitable content and appropriate functionality focused on a defined market requirement than a generic service model will allow.

A corollary of the niche model is that just as it incurs less cost than trying to develop a full-spectrum service, inevitably it will be a much smaller business. Niche business models can be very effective, however, under the right conditions. We are not in a position to propose any particular niche at this stage, and much of the potential would depend on the niche chosen. However, we do consider that more than one niche model

would be sustainable if the initial development capital is available to take it through to the launch.

The costs of a niche model are less in terms of both content identification or acquisition, and metadata activities such as tagging and indexing. However, the technology development cost may well be very little less as all the main features and functionality are still required. Promotion resources are still required, but can be focused, allowing more to be achieved with the same money.

However, once the platform has been established and core staff are in place, new niche services can be based on it and developed at less cost.

We do not, however, consider it likely that at this stage private or venture investors would be interested. Even with a niche strategy, considerably more focus and investment is needed to develop a service with commercial potential.

Long-term developments

Other, more imaginative, approaches are possible in the longer term, although their sustainability may not be as easy to establish as their value to the community.

As noted elsewhere in this analysis, users are interested in scholarly variants of key tools in general community use. An example is Connotea, which fulfils a similar function to del.icio.us but concentrates on the academic user, or Google Scholar. Although we would be cautious about making a large commitment to such a strategy without some form of evidence, we believe that there is value in investigating opportunities to develop services that combine some of the usability benefits of general services such as Flickr or YouTube with a stronger academic focus than any of those services have.

Some thought would need to be given as to the relationship between generic and specialist content, as users might want the best of both to be available through a single search rather than having to go to two search services or portals.

The business model would need careful consideration: there is no reason why these models will either change the game with regard to personal or institutional subscriptions, or attract substantially more advertising and/or sponsorship.

This obviously goes beyond the simple development of the VSM Portal, but does address a need for a more complete service than the portal alone may do.

Conclusions

1. As we have stated in the introduction to the report, although we understand the motivation for such an early evaluation exercise, we believe that it has probably been premature, in that it is very difficult for potential users to separate their perceptions of a 'discovery' tool such as this portal from that which it is discovering. Adding content, especially where so much of it is highly valuable and expensive to produce, is a time-consuming process of negotiation and integration.
2. The presentation of the results under separate collection headings has also been dictated by the collection owners, and this was the aspect of the current implementation most disliked by the majority of users in our evaluation. It was also a negative factor found in the usability testing exercises. In our view, this will have to be changed in any future implementation. Ideally, users would be presented with a single set of results ranked by relevance. At the very least, they would be alerted more strongly by the initial interface to the fact that the content is divided into collections and the collections would be explained and described much more clearly to guide searchers as to which collections were most appropriate to their search.
3. The confusion by many users as to whether the VSMPD is a search engine or a portal needs to be considered in any redesign. While the clean, uncluttered lines of the initial page and the simplicity of the search were admired, in reality they probably contributed to this confusion. This was also found in the usability testing. It may be that ways can be found to retain this interface, but to make clear to the users that they are not searching the totality of the Internet for particular media types.
4. It is very clear that Google, Google Images, YouTube and Flickr and similar services, for all their limitations in terms of relevance, quality, trust and copyright problems, represent the dominant 'competition' for any discovery resource, especially among students. These tools will only continue to evolve, with Google in particular able to devote massive resources to development.
5. The consultations also confirmed that Google conditions people's expectations in a range of ways: what they will see when they carry out a search; the speed with which results are delivered; and a host of other functions such as suggested corrections to misspelled search terms, an advanced search, a search for maps etc. It may be thought that the one way in which a more specialised service would score over Google is in producing a smaller set of more relevant results, but there is not much evidence that this is a major factor affecting user satisfaction. Rightscom's previous research on the use of discovery services, cited above, found that researchers (as distinct from librarians) actively prefer huge sets of results to trawl because they feel they are getting access to everything and because they value serendipity (also see point 8). While it is likely that this applies less to VSM than journal articles, the point remains that researchers and especially students have grown used to putting the balance of their search efforts into sorting wheat from chaff rather than having it done for them.
6. At present, the most positive response to the VSMPD came from subject librarians in the media, visual arts, design and communications areas, which probably reflects both the current collections accessed by the portal and the

- demand for images and especially film clips which these users have to try to satisfy.
7. The expressed need for **high quality** and **copyright cleared** images in biosciences and medicine also suggests that the portal should emphasise these aspects of its offer in order to distinguish itself more sharply from the competition
 8. **Relevance** is more problematic as a unique selling point, partly for the reasons outlined in point 5. It also appears from the feedback we have had that there is a demand for subject-based routes into the collections, and this may be needed in order to convince users of their relevance to their particular needs. That would require additional metadata beyond what is supplied by the collection owners, and since they would be unlikely to want to provide this, it would have to come either from professional indexers or through social tagging by the user community.
 9. It seems to us unlikely that the portal will meet the needs of FE without considerable changes, both in terms of content and added metadata and navigation. Given that the prospects for revenue from FE would be small, the portal should probably not try to satisfy FE as well as HE institutions, except in niche subject areas which overlap with HE, rather than in the vocational areas
 10. Getting a critical mass of content, possibly in one niche at a time, will be necessary in order to avoid disappointing the initial user groups.
 11. Considerable investment will be needed in branding and in marketing the portal; there can be a temptation to see such spending as a waste of money compared with technical development and content acquisition, but that can simply result in a good service passing almost unnoticed by the target user groups.
 12. There appears to be no objection from potential users to seeing the portal funded by advertising or sponsorship within reasonable limits; however, its attractiveness to such advertisers or sponsors clearly depends on its success with users, and it will be in competition with many other online services which hope to sustain themselves through advertising.

Appendix A

EDINA VSM portal demonstrator evaluation project: questions to potential users

1. How important are video/film, still images and sound materials to your area of work? (Rate 1-5 where 1 is of most importance)
 - a. Video/film
 - b. Still images
 - c. Sound

2. Are they growing in importance or not?

3. How do you currently find out about these types of materials?

4. How do you currently access these types of materials?

5. What factors limit your use of these materials at the moment (e.g. can't find good quality or relevant resources easily; not allowed to use them in course materials/VLEs; discover them but then can't access them as they are subscription resources)?

6. How useful do you find services like Google Images, YouTube and Flickr in a work context?

7. What are their major deficiencies, if any, from the point of view of teaching/learning/research use?

8. What really irritates you about any online service you currently use (doesn't have to be for images, video or sound)?

9. What features of any online services you currently use (doesn't have to be for images, video or sound) are most useful or have impressed you the most?

10. Is a portal dedicated to providing visual and sound materials relevant to teaching, learning and research a good idea *in principle*?
11. What are the advantages and disadvantages, if any, of combining time-based visual media (i.e. film, video), still images, and sound materials in one portal?
12. How should results be displayed?
13. Would it be useful to have information about the permitted use(s) of a piece of VSM content displayed next to it?
14. Would it be valuable to filter searches by permitted use?
15. Would you like to see results filtered by type of content (video, sound, still image)?
16. Would you like to see results sorted into categories according to a particular collection of material or put into an aggregate pool?
17. Would you prefer to see only results for materials which you/your users can access or all search results including subscription-based ones that your institution may not have access to?
18. Would a facility to 'find other images like this one' be useful or not, assuming it could be made to work properly?
19. Do you think that the ability to save searches between sessions is important?
20. Should you be able to export search results e.g. to email?

21. Is continued refreshing of the content important or is it more crucial to have stability of material?
22. Would you find alerts/RSS feeds when new material is added useful if it was subject-specific?
23. Is it important for users to be able to personalise the portal? If so, in what ways (e.g. lightboxes, auto-generated information based on other users' searches)?
24. Would you like to be able to rate, recommend and discuss such resources with your peers via the portal e.g. through Amazon-like reviews, an online forum or other community features?
25. Would it be useful to have access to tools via the portal for editing or manipulation of content if this was permitted?
26. What factors would influence your view on whether your institution would be likely to pay for using such a service?
27. What criteria would you use to decide if the service represented value for money?
28. Who would make that decision?
29. How much would you be prepared to pay?
30. Services such as Google are financed by advertising; what would your attitude be to services such as this portal being funded through commercial activities e.g. sponsorship? Would it make any difference how conspicuous or subtle the advertising was, or is a question of principle?
31. Do you currently create video or images in-house to use in teaching/learning?
32. Do you make these available externally at all? If so, who uses them?
33. Would you like to be able to make materials that you/others in your institution have created available via such a portal?
34. What licensing would you put in place?

35. How much work would you be prepared to undertake to do this?
36. Would you be interested in offsetting access to your materials against any fee?
37. Would it be valuable to have persistent details of how to contact the creator of the file? What would you be likely to use that for?
38. *Any other comments on the VSM portal demonstrator as it currently appears, bearing in mind that it is a work-in-progress both in interface and content?*