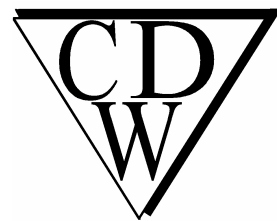


East of England Advanced Content Centre of Excellence

A report by CDW & Associates

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Version information

Version	Date	Author	Purpose of change
V0.1	24/11/05	NS ¹	Initial outline for steering group approval
V0.2	25/11/05	TA ²	Tim's restructuring
V0.3	05/12/05	NS	First content pass – background, needs and barriers to success
V0.4	10/12/05	NS	First content pass – strategy, modes of operation and development phases, success criteria and service profiles (minimum requirements)
V0.5	12/12/05	NS/RW ³	Incorporates RLW/TA feedback
V0.6	14/12/05	NS/all	Revised following steering group meeting
V0.7	05/01/06	NS	Executive Summary, key recommendations, marketing plan, appendices, URL references, glossary and cross-references.
V1.0	T.B.A.	NS/RW/TA	Final report release 1

¹ Neil Sandford, CDW & Associates

² Tim Anderson, Norfolk County Council

³ Roger Wilson, CDW & Associates

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Executive Summary

Overview

This document is a report to the Advanced Content Centre of Excellence Partnership from CDW & Associates. It sets out the business context for establishing a Digital Content Marketplace (DCM) and defines a strategy for establishing such a service.

Vision and purpose

The intended outcome is to stimulate trade in digital content and the creation of new digital materials as well as improving the business case for cost-effective digitisation of existing materials. This is in line with Goal 7 of the regional Economic Strategy, driving forward broadband usage.

The initiative would stimulate and sustain the economic and social value of the skills and digital resources of the region by:

- Providing a platform (including a legal and financial framework) that encourages use and re-use of digital assets
- Facilitating storage and high-performance delivery of digital material, including audio, video and other forms of bandwidth-intensive rich media⁴
- Developing a search and discovery mechanism that covers all media types, region-wide and provides content-providers with alternative routes to market.

The impact of such an initiative would be found not just in providing direct economic benefit to participants but in enhancing the competitiveness of the region and, potentially, improving drives for inward investment.

User acceptance

A service like DCM would engage with a variety of types of user, whose specific needs are discussed in the main report:

- Collection-holders
- Educationalists
- Public bodies
- The creative sector
- Community-based providers and users
- The creative amateur
- Publishers, aggregators and broadcasters
- Application and service providers
- End users (consumers)

⁴ Throughout this report we will use the term Rich Media as shorthand when referring to the intersection of audio, data, and video-related technologies and services. Interaction with rich media may take place in real-time (synchronously, like telephone and teleconferences) or on-demand (asynchronously or non real-time, like e-mail).

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The success of DCM for these different user communities would primarily be dependent on four factors:

- Ease of locating content
- Appropriateness of the material available
- Convenience of any payment mechanism
- Trustworthiness of the service providers

It is likely that different business models will be required in order to address the needs of different types of user.

Needs to be addressed

Based on the consultation undertaken with potential users, we believe that DCM – as envisaged - will help overcome five difficulties currently being experienced in the marketplace:

- Providing access to a “streaming server” offering cost-effective delivery of rich media over the internet
- Stimulating discovery of content through a “meta-catalogue” covering multiple sources of content
- Engagement of potential users through support for multiple “communities of interest and use”
- Protection of investment in intellectual property through effective “digital rights management” facilities
- Creation of a market for digital content that assists the business case for digitisation of existing material

There are four core elements to the relationship between a DCM user and the platform – the types of community that the user becomes a member of, the mix of service required to participate in that community, the level of access required by that mix of services and the way services are paid for. Our analysis is that the DCM should be viewed as a collection of community “spaces” offering facilities based on the level of control over access to the catalogue and to the content, as follows:

		Content		
		No constraints	Access by registered users	Controlled access
Catalogue	No constraints	Free exchange of content	An “open” trading market	Use controlled by license
	Access by registered users	Usage can be monitored	Trading with known users	Secure trading with trustworthy providers
	Private areas	Third-party services		Private trading areas

Barriers to success and development path

To be successful, DCM will have to overcome six barriers:

- Demonstration of added value

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- Market acceptance and trust
- Critical mass
- Compliance with good practices
- Affordability
- Sustainability

The proposed strategy for establishing the DCM platform and services considers four development phases:

- Service definition
- Platform launch
- Growth
- Sustainability

Two preliminary tasks are fundamental:

- Creation of appropriate governance structures
- Identification of initial sources of funding to cover the service definition phase

In addition to definition of technical requirements, four issues need to be resolved at an early stage:

- How is the process through to launch to be managed and financed?
- Where are the necessary standards for content-enriching metadata going to emerge from?
- Which standard processes are going to provide the necessary protection of IPR for both commercial and non-commercial users
- What legal frameworks will be required to support the proposed DCM business model(s)? These should be identified, drawn up and market-tested prior to launch.

As a result of the research undertaken for this report, we have identified a related initiative, known as KENDRA, which is attempting to resolve similar issues. It is proposed that collaboration with KENDRA on a technological roadmap should form part of the service definition activity.

Minimum requirements

The body of the report offers a framework for monitoring progress and measuring success of the initiative in terms of the platform itself, the services to be provided, the content that can be accessed, usage levels and financial viability. It also defines eight areas where minimum requirements for the identification and procurement of facilities for the launch and initial operation of the DCM platform are known:

- A streaming server or managed service
- A database to act as the primary discovery interface
- Rights-management tools supporting protocols and agreements for use yet to be defined
- Content-management tools

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- Customer-management tools
- Payment-management tools
- Legal services
- Promotional services

The key elements of the marketing plan for establishing DCM are:

- How to differentiate a regionally-based digital content marketplace from commercially-backed content aggregation platforms and broader community-based environments
- How to demonstrate the value that a regional DCM adds to the digital content value chain
- How to manage the relationship with different parts of the market, and different user communities

Summary

All of these issues are addressed in the body of the report, which is preceded by a set of key recommendations. Additional information is appended, including CDW's terms of reference for this report, documentation of the research and consultation that has been undertaken and a case-study of an existing community-based initiative (the Rural Media Company). Given that this is a jargon-filled subject, a glossary has been provided as a fourth appendix.

Neil Sandford, Angus Doulton, Roger Wilson
CDW & Associates, January 2006

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Key Recommendations

This section summarises 22 key recommendations, cross-referenced to the main body of text.

- A. Our primary recommendation is that there is sufficient evidence to move to the next stage and begin the detailed definition of a Digital Content Marketplace platform based on the following vision (§4):

A regionally-based Digital Content Marketplace would stimulate and sustain the economic and social value of the skills and digital resources of the region by:

- providing a platform (including a legal and financial framework) that encourages use and re-use of digital assets
- facilitating storage and high-performance delivery of digital material, including audio, video and other forms of bandwidth-intensive rich media
- developing a search and discovery mechanism that covers all media types, region-wide and provides content-providers with alternative routes to market.

The outcome will be to stimulate trade in digital content and the creation of new digital materials as well as improving the business case for cost-effective digitisation of existing materials.

- B. A Digital Content Marketplace should serve the needs of the following types of user: collection-holders, educationalists, public bodies, the creative sector, community-based providers & users, the creative amateur, publishers, aggregators & broadcasters, application & service providers, end user consumers, each of which has its own specific needs and requirements (§11).
- C. Dialogue with the MLA community is required in order to understand the opportunities for harvesting important material from content-providers involved with the DCM repository (§13).
- D. For educational uses, reference should be made to the SCORM/CORDRA initiatives (See glossary at Appendix Four and §15).
- E. Public sector partners should be encouraged to help underpin the viability of DCM by utilising its services on a commercial basis (§16).
- F. Particular attention should be played to the role that DCM could have in stimulating the growth and development of the creative industries (§18).
- G. Existing online communities such as those involved with the Community Heritage Store should be investigated and engaged as potential early users of DCM (§22).
- H. The DCM platform can add value for amateur creators of digital content by helping with storage and preservation of material (§25).
- I. Sensitivities regarding rights-management issues should be further explored with publishers, aggregators and broadcasters (§27).

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- J. Dialogue with potential application and service providers is required regarding the kinds of standards and good practices that the DCM services should adopt (§28).
- K. Dialogue with providers of streaming services is required in order to ascertain the relative advantages of capital investment in streaming technology and use of managed services (§35).
- L. Involvement of the MLA community is required in order to reach a critical mass of content and dialogue regarding the form of the proposed meta-catalogue is essential (§39).
- M. DCM should provide services intended to build and nurture communities of interest and use (§43) as well as the proposed server/catalogue and these communities should be a key target for marketing activities (§44).
- N. The question of rights-management is crucial and the recommendations of the DigiCULT FORUM (§51) should be taken into account in establishing the scope of rights-protection to be offered (and enforced!) by the DCM platform.
- O. There is an economic argument for encouraging the creation and use of one or more “preservation factories” in the region, as proposed by the PRESTOSPACE project (§55).
- P. The development of the DCM facility should be guided through four business phases: service-definition, platform launch, growth and sustainable operation (§65). Growth and development of additional services should be planned incrementally (§64).
- Q. From the outset, a governance structure that gives a voice to the client-base should replace or augment the role of the existing informal steering group (§67). A Community Interest Company (§69) may be an appropriate vehicle.
- R. The DCM platform must be capable of supporting various different business models suited to different modes of use (§71) and the characteristics of each type of marketplace “zone” (§75) should be clearly understood by all user groups.
- S. Further research, based on dialogue with potential content-providers, service-providers and users of all types, is required in order to define the scope of DCM at the point of launch (§81). A field-test will form an important part of this dialogue as well as reinforcing marketing efforts (§83).
- T. The question of an exit strategy, or long-term ownership of the platform, should be considered before sustainable operation is reached (§85).
- U. Collaboration with the KENDRA Initiative (§86) should be investigated.
- V. Minimum requirements for the launch platform are presented in §§92-104 and an outline marketing plan is presented at §§105-125. The key objectives to be addressed in a detailed communication plan are differentiation of the platform, demonstration of benefit (added value) and capturing informed user requirements.

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A Digital Content Marketplace

- 1 Goal 7 of the East of England Regional Economic Strategy involves the promotion of the region as a leading Knowledge Society. Among other activities, this includes encouraging the development and delivery of content initiatives that will drive forward broadband usage.
- 2 This document is the result of a period of consultancy undertaken by CDW & Associates on behalf of the Advanced Content Centre of Excellence (ACCE) Partnership. It gathers together a range of opinion and evidence in support of a regional Digital Content Marketplace (DCM). The terms of reference for the consultancy project and the membership of the ACCE Partnership can be found at Appendix One.
- 3 The methodology has included discussions with key stakeholders and intermediaries as well as desk research. Vitality, three user-consultation meetings were also held, engaging 35 representatives from the creative, educational, MLA (Museum, Library and Archive) and publishing sectors – see Appendix Two.
- 4 **Our primary conclusion is that a regionally-based Digital Content Marketplace would stimulate and sustain the economic and social value of the skills and digital resources of the region by:**
 - Providing a platform (including a legal and financial framework) that encourages use and re-use of digital assets
 - Facilitating storage and high-performance delivery of digital material, including audio, video and other forms of bandwidth-intensive rich media
 - Developing a search and discovery mechanism that covers all media types, region-wide and provides content-providers with alternative routes to market.

The outcome will be to stimulate trade in digital content and the creation of new digital materials as well as improving the business case for cost-effective digitisation of existing materials.

- 5 The impact of such an initiative would be found not just in providing direct economic benefit to participants but in enhancing the competitiveness of the region and, potentially, improving drives for inward investment. Furthermore, in the context of the EC's i2010 programme, aggregation of content at the regional level may give content providers political visibility currently only available to national collection holders.
- 6 One example of the transformational effect of concerted effort to engage with communities of interest is the Rural Media Company, documented at Appendix Three.

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Quoting from the RMC web-site at <http://www.ruralmedia.co.uk>:

Why We're Different

What sets us apart is the people we work with: marginalised groups and people isolated by poverty, social disadvantage or disability - particularly young people. We partner them with the Midlands' best media professionals - graphic designers, photographers, multi-media designers, actors, writers and filmmakers - and the end results are authentic, accessible and entertaining.

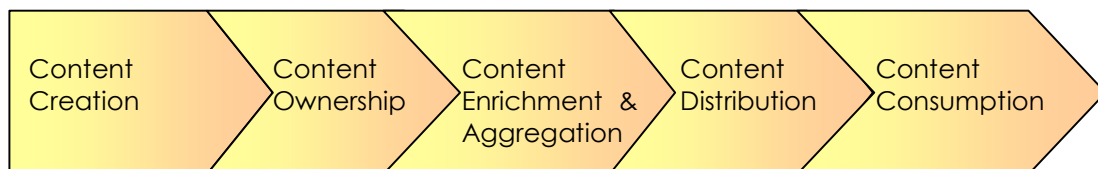
The Rural Media Company has produced over 250 high-quality, media projects at the cutting edge of social policy. Our work has won awards, been broadcast on BBC2 and Channel 4, and our educational resources have received DfES approval and plaudits in the Times Educational Supplement.

The content industries in the East of England

- 7 The region has a population of 5.5 million, of whom 60% have internet access at home or at work. 50% of these connections are broadband enabled. Within the region are four major regional or national broadcasters and publishers and some 1,800 SMEs employing around 145,000 people in the creative and cultural sector. There are sub-regional clusters for the film industry (Hertfordshire), television (Norfolk), animation (Norfolk), computer games and multimedia production (Cambridgeshire and Essex) and a broad range of media-related skill-sets.
- 8 In terms of existing and potential collections of digital content, there are ten public authorities and several regional universities with digital content and a further five repositories with nationally or internationally important digitised collections who are looking to stream rich media on a sustainable platform with embedded DRM and secure e-Commerce. We estimate the scale of this resource to be hundreds of hours of movie and audio and many thousands of images. There are also several hundred collections worthy of digitisation and a range of local community groups developing digital archives.

User definition

- 9 DCM is envisaged as a platform where digital content can be stored and made accessible, discovered and utilised. The basic content-distribution value chain can be represented as follows (source: IDC, 2005):



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- 10 The user-base for a service like DCM consists of both content-providers and content-seekers who will judge DCM on four overriding factors that will affect acceptance of the services:
- Ease of locating content
 - Appropriateness of the material available
 - Convenience of any payment mechanism
 - Trustworthiness of the service providers
- 11 The types of user whose specific needs would have to be addressed will include the following and their initial requirements are discussed below:
- Collection-holders
 - Educationalists
 - Public bodies
 - The creative sector
 - Community-based providers and users
 - The creative amateur
 - Publishers, aggregators and broadcasters
 - Application and service providers
 - End users (consumers)

Collection holders

- 12 The museum, library and archive community is strongly represented in the region and there are several significant collections of rich media content, sophisticated archives of text or image-based documents and physical objects that can be rendered digitally as still or moving images. Providing a larger audience with access to this material is a major requirement. In cases of material with a high perceived value, that access should provide mechanisms for copy-protection, verification of provenance and auditing of use.
- 13 Stimulating access to material is not the only requirement, as collection-holders are also faced with the need for cost-effective mechanisms for digitisation and preservation of their assets. This is equally true for holders of very large collections as it is for specialist providers of material that may be rarely used at present. Aggregating important content into a single virtual collection also provides opportunities for harvesting new material from previously unknown sources.

Educationalists

- 14 Providers of educational content have wholeheartedly embraced the concept of e-Learning. This provides opportunities for radical re-engineering of the traditional relationship between content-producers, educators and the learner. Not only are traditional centres of learning now involved in the creation and delivery of online learning materials, accessible to individual learners as needed, but there is increasing use and re-use of materials from a wide range of sources, often on an ad-hoc basis rather than as pre-packaged curriculum-support material.

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- 15 To be useful, educational content of this kind must carry a wide range of metadata defining the context for use, the type of learner that the material is intended for and so on. Moves towards federated repositories of learning materials, underpinned by initiatives such as SCORM and CORDRA, provide significant opportunities for educational institutions to improve the cost-effectiveness of their delivery and add value to their existing content.

Public bodies

- 16 DCM would contribute to the policies of local authorities and other agencies in three ways: by stimulating community development, by reducing barriers to growth of the creative industries and by providing an additional, regionally-based, route for accessing content owned or held by the organisation. Public sector organisations could, additionally, utilise some of the DCM storage capacity on a commercial basis to provide a revenue stream for the operation, thus reducing the risk of failure prior to reaching sustainability.

The creative sector

- 17 Content creators are increasingly living in an ICT-enabled world. This is impacting on the behaviour of the supply chains they operate within as well as the markets they provide services to - take as an example the way Sohonet has enabled UK-based animators to service the requirements of Hollywood. The success of Renderosity (<http://www.renderosity.com>) which will typically have several thousand people online at any point in time and similar specialist online trading environments have been enabled partially by the internet and partially by the development of processes that are based on content that is digital from "end-to-end".
- 18 The creative industries are also being subjected to change by new models of "programme" distribution, especially in the form of IP-TV (internet-enabled entertainment:- education and information services that have evolved from the video-on-demand model pioneered by the cable-TV industry). As the content-based economy grows and evolves, participants need "places" in which to experiment, showcase their capabilities and participate in the kind of knowledge-sharing through virtual communities that has been a critical success factor for the development of geographical industry clusters.

Community-based providers and users

- 19 One of the basic premises of DCM is that it will benefit from engagement with both commercial and non-commercial communities of interest and use that exist within the region rather than just a geographically-defined user base. The Community Heritage Store (CHW) initiative (<http://www.localchs.co.uk>) is an example of the way in which the internet can stimulate non-commercial geographical and thematic communities to develop around an online resource.

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- 20 Engagement with such communities can, of course, extend far beyond the fairly limited level of ambition of CHS. Teen and sub-teen culture provide examples such as fictionalley.org – a Harry Potter site that has grown from a dozen founding members in 2001 to 60,000 registered users and now carries some 20,000 items of artwork and stories written by 6,000 authors. Central to the success of such sites are the community-building facilities such as bulletin boards, chat rooms and, of course, enthusiastic editorial contributions and oversight. Based on voluntary labour, the site costs just \$1,000 a year to operate.
- 21 These communities, which are not geographically restricted, provide one way of reaching a potentially global audience. Shared interests, such as genealogy, local history, sport or photography are examples of the kinds of thematic structures that could be used within the DCM catalogue. Appropriate use of rich metadata schema would make it possible to organise the material as a browse-able⁵ rather than just searchable resource. Moreover, reciprocity is a key characteristic of online communities and participants may well wish to share their own content with others.
- 22 Sites such as fictionalley.org are not created by simply making community-building tools available and hoping that a user-base will mushroom from them. Providing existing communities with useful facilities and nurturing their growth should be part of the start-up strategy for the DCM platform. Investigation of CHS-based communities should provide some insight into target groups.

The creative amateur

- 23 Digital cameras have transformed the way people take photographs and replaced darkroom skills with the ability to use photo-processing software. The latest generation of mobile phones have (as recently demonstrated with the London bombings) transformed news gathering as comprehensively as analogue videotape did in the 1980s. A similar transformation has taken place in music-making that can be traced back to the introduction of MIDI and now provides sophisticated multi-track recording studio facilities on a home PC.
- 24 These changes are not just about modifying existing processes and skill-sets or democratising media-production, but signal a fundamental shift in the relationship between the individual and the digital content they can produce using contemporary technology. It is not inconceivable that a new type of user for DCM services will emerge – the amateur photographer with 10,000 digital images, the ornithologist with an iPod full of bird-song recordings or the football fan with handheld footage of every match played by their favourite team over a season, two seasons or a lifetime.

⁵ Exploration of a body of information based on the organization of the collections or scanning of lists rather than by direct searching. Also "*the act of feeding by continual nibbling*"

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- 25 As the scale of these collections grows, so the need for storage/preservation and for cataloguing becomes more apparent. So, perhaps, does the need for other people to recognise value in the content. That is not a fanciful thought, as the London bombing example shows. The creative amateur offers as much potential for harvesting as a local museum and at least one national newspaper (the Daily Telegraph) has launched a facility allowing readers to submit newsworthy⁶ images by phone or email. Whether the creative amateur sees themselves as part of a thematic community, as part of the creative sector or an individual enthusiast, DCM has a role to place in explaining and facilitating the processes of archival and online publishing.

Publishers, aggregators and broadcasters

- 26 Trade in digital content is not restricted to simple supply to an end-user and the enrichment and aggregation of content (the central box in the value-chain of §9) is a complex and valuable element in the kind of hybrid on-demand and non-linear media-consumption enabled by the internet. DCM would provide two interfaces within the value-chain – a way of acquiring content and a way of distributing it.
- 27 For packagers and aggregators, copy-prevention may be important depending on their business model, just as prevention of unauthorised re-use is important for providers of original material. Essentially, management and control of the rights associated with digital content can be categorised according to the risk of consequential loss arising from unauthorised copying and this is explored in §47

Application and service providers

- 28 Providers of added-value services and application developers may well use DCM in similar ways to publishers and broadcasters – locating and acquiring rights to use digital content and subsequently making available some “package” that includes the material. They also have potentially important roles in augmenting the functionality of DCM itself, ranging from enhanced catalogue information about material available through DCM to provision of tools for manipulating content to provision of advisory services for new entrants into the digital content supply-chain. For these potential partners, compliance of the platform with agreed standards and recognised good practices will be paramount.

End users

- 29 Content consumers will play a critical part in the success or failure of DCM, regardless of the type of content and business models that they require. Given the trend for people to depend on an ever smaller number of information and service sources on the internet based on the quality of the customer experience, DCM faces an enormous task in stimulating uptake of its services. This is discussed in §89.

⁶ Inevitably, given that the announcement happened the same week as the relaxation of licensing hours, anti-social behaviour was one of their suggested news themes.

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Needs to be addressed

- 30 From the preceding analysis of user types and from research conducted with potential clients for DCM services, five key needs or areas of current market failure have been identified. These areas broadly relate to the components of the DCM vision articulated in §4.
- Difficulties in delivering rich media over the internet
 - Difficulties in discovering content
 - Engagement of potential users
 - Protecting investment in intellectual property
 - Cost effective digitisation

Shortcomings of the “traditional” world-wide web based on HTTP and TCP/IP

- 31 The world-wide web is made possible by two important standards, the internet protocol (IP) that allows messages to be sent from machine to machine across a world-wide network and Hyper Text Transfer Protocol (HTTP) which is the mechanism by which items of content are requested and transferred. Unfortunately, HTTP has two drawbacks. As implied by its name, it was designed for transfer of blocks of text – small chunks of data that are not time-critical – and the internet protocol called Transfer Control Protocol (TCP) gives no guarantee about the timeliness of delivery of data. This makes it unreliable as a way of delivering a stream of high-bandwidth data. Secondly, HTTP “rebuilds” the original file on the user’s computer making it possible for the content to be copied without authorisation.
- 32 The relatively recent development of “streaming servers” and the availability of client-side browser plug-ins that support streamed content address both of these drawbacks. By replacing TCP with User Datagram Protocol (UDP) which has a higher priority over the internet, data streams can be issued more reliably although data-loss and the need to resynchronise will still occasionally occur. Also, because there is no need to cache data files in the same way as is done by conventional HTTP, there is nothing on the client machine to be copied. This is a major attraction to programme-makers and broadcasters and an inherent element of IP-TV (see §18). As an added bonus, streaming servers support 3GPP, the industry standard for delivering rich media content to 3G mobile devices.
- 33 Content-providers seeking to deliver material using a streaming server are faced with two alternatives, either installing their own hardware and software connected to a high-bandwidth internet connection (facing maintenance and periodic upgrade costs) or renting capacity from a service provider. A service provider typically offers packages calculated on the basis of the amount of data storage required and the bandwidth consumed during delivery. Obviously, the cost will increase as the volume of material grows, the longer each clip is and the more people who access content simultaneously.

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34 Stream UK offer a package for £2,400 a year aimed at providers who “have a number of clips ranging from 10 minutes to half an hour and expect a thousand people per month will view these, perhaps sometimes with 50 people watching at a time”. That package offers storage of around eight hours of broadband-quality video and about 7,000 minutes of “viewer time” per month.

35 Packages vary in cost from £600 to £5,000 per year (with additional charges for exceeding the bundled bandwidth) making the selection of the most appropriate package critical. A managed service that aggregates demand from within the region could reduce the risk associated with budgeting streaming services and an analysis of the potential for aggregation should be undertaken in consultation with service-providers.

Inclusion in a digital content catalogue

36 The web is growing at an unprecedented rate of about 40% per year, according to figures recently released by NetCraft (<http://www.netcraft.com>). They found 74.4 million sites online in October 2005 (17.5m more than in January) of which almost half are deemed to be active. Achieving visibility in such a crowded marketplace is, to say the least, challenging. As predicted in the mid 1990s (e.g. ESPRIT EP22.270, MAGPIE), the three critical success factors for a commercial web-site are the strength of the brand, success in restructuring supply chains and aggregation of a critical mass of content. These are seen in the most successful web businesses such as eBay, Google, lastminute.com and amazon.com.

37 For owners of cultural and creative content, the same criteria apply – and brand-recognition and critical mass are often found together. In 2003/4 the British Library created over 490,000 digital images, and delivered over 4,700,000 pages of digital material over the web.

38 Specialist collection holders, without a strong name, tend to be at the mercy of search engines. A request for Google to find “*East Anglia during World War Two*” returned half a million pages, headed by the BBC’s WW2 microsite. The DMOZ Open Directory portal appeared second. Sixth on the list on the first page of Google results was the community site for the East Cambridgeshire village of Wood Ditton (<http://www.wood-ditton.org>). The site does not even use meta-tagging and its prominence is perhaps serendipitous given the large number of other sites that do not appear.

39 Many commentators have proposed that specialist sites need to be syndicated to succeed. Web-rings provide one common solution, a content-site portal like Open Directory is another. The DCM proposition is that a meta-catalogue, addressing the content requirements of a wide range of communities of use, could become the best way of allowing discovery of areas of specialist content.

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Access to communities of interest and use

- 40 One theme emerging from the consultation workshops (see Appendix Two) was the importance of thematic communities. An interesting current example of an online community of interest, merging personal and public-sector content is Moving Here (<http://www.movinghere.org.uk>). The site offers free access, for personal and educational use, to online versions of original material related to migration, including photographs, personal papers, government documents, maps and art objects, as well as a collection of sound recordings and video clips. Equally importantly, much of the content comes from community members themselves.
- 41 Tools for discovering content need to be supported by tools for stimulating engagement with the target community. Where multiple communities are targeted, we return to the problem identified in §36 – branding and engagement.
- 42 One of the challenges to be addressed by DCM is how a single platform containing content from a variety of sources can offer value to multiple communities of interest, not just one.

Expert opinion suggests that offering easy to use services and tools able to integrate the research and learning needs and behaviours of their users may form one of the heritage institutions' answers to the dominance of general-purpose global search engines. However, along with ensuring state-of-the-art interactive access and presentation, the heritage sector will also need to raise the public's awareness to, and visibility of, its online resources in a more profound manner. Otherwise it faces the risk that the large investment required in creating digital collections, rich descriptive metadata, study and learning material, will fail to realise a high return - in terms of interest and appreciation, discovery and valuable uses of heritage resources. From DigiCULT Thematic Issue #6, Resource Discovery.

- 43 Another IST-funded project, CIPHER (<http://cipherweb.open.ac.uk>), gives four reasons why so many website and portal initiatives aiming to provide access to cultural content have failed. Two are commercial: inadequate sustainability beyond an initial funding period and poor business models. The others are more concerned with engagement with potential users, which they describe as *"failure to enthuse associated communities and insufficient benefit for the regions they support."*
- 44 Another point which must not be overlooked when considering ways of nurturing online communities is the potentially critical role of one-to-one and, especially, face-to-face communication. This, of course, is easier with geographically localised communities than it is with more diffuse groups of people but leverage through networking events should be considered as part of the DCM marketing mix. Although the business case for DCM initially focuses on regional activity, inter-regional and international communities should also be encouraged as a means of growth.

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- 45 Even assuming that the relationship with communities of use can be successfully stimulated, the mechanics of building a meta-catalogue remain challenging. We are moving into the area identified by the current round of Calls for Proposals for the DTI's Technology Programme⁷ and Call 6 of the IST Programme⁸ in 2006.

Semantic-based systems, capable of interpreting the localised context, will be of considerable importance as will systems which combine intelligence about users with that about content. Research is also needed into systems to support the self-description of cultural content, including the use of non-textual content analysis and description. – from the CALIMERA Research Roadmap, 2005 – <http://www.calimera.org>

- 46 The scale of this problem was identified by one commentator as follows:

Delivering the Semantic Web to the heritage sector depends upon (a) the syntactical and semantic mark-up of content, (b) the development of better knowledge analysis and modelling tools, (c) widespread adoption of interoperable knowledge representation languages, and (d) the construction of suitable ontologies.

In most of this the heritage sector is lagging behind. We have not yet successfully represented sufficient quantities of our data in ways that makes it accessible to human web users, let alone in ways that would make it feasible for 'mechanised agents' to reason about in meaningful ways. – Seamus Ross, HATII. [http:// www.digicult.info](http://www.digicult.info)

Rights management services

- 47 Protection of intellectual property rights (IPR) is a major problem for suppliers of digital content. Even where the internet has not significantly increased the risk of rights-violation, IPR is still perceived to be a problem. Essentially, the complexity of content and rights management issues can be reduced to a simple set of questions about whether the owner wishes to:

- Restrict access
- Prevent modification of the content
- Control re-use of the content for profit
- Be identified as the owner
- Assert the provenance of the material
- Have a means of policing and enforcing terms of use
- Negotiate the access-rights and charges on a case-by-case basis or according to a standard rate-card

⁷ development of primarily semantic-based tools, techniques and technologies that address the challenges of archiving, aggregation, search, navigation and discovery for producers and consumers of multimedia content

⁸ advanced solutions for organising, searching and accessing large-scale, distributed digital audio-visual content and objects

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48 Rights-management in the context of digital content is normally referred to as Digital Rights Management, or DRM. As defined by the IST-funded TIRMISU Project (<http://www.tiramisu-project.org>) *“the overall goal of DRM systems is to enforce licensing and ensure proper compensation to the media rights owner. Without such compensation the media industry will dry out. License enforcing is a combination of social conventions, legal measures and technology.”*

49 The IST-funded PRESTOSPACE consortium (<http://www.prestospace.org>) also has recommendations to make in terms of rights issues and is an advocate of encouraging access through agreements such as Creative Commons:

- Archives should lay plans for wider access (because ‘access funds preservation’, if anything does)
- These plans should be discussed with rights owners and the rights protections agencies
- The methods for protecting the legitimate, legal rights of rights holders should be clearly defined
- The prospects or methods for generating extra rights income should be clearly examined or defined
- The proposal should be explained in terms of lose-lose (if rights issues prevent progress) versus win-win (if there is both more general access, and an increase in rights income)
- Rights owners should be invited to “invest in the project and in the proceeds”.

50 Commons licenses (<http://www.creativecommons.org>) resolve the expectation of the content-owner in the following ways:

- **Attribution.** You let others copy, distribute, display, and perform your copyrighted work — and derivative works based upon it — but only if they give credit the way you request
- **Noncommercial.** You let others copy, distribute, display, and perform your work — and derivative works based upon it — but for noncommercial purposes only
- **No Derivative Works.** You let others copy, distribute, display, and perform only verbatim copies of your work, not derivative works based upon it
- **Share Alike.** You allow others to distribute derivative works only under a license identical to the license that governs your work

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- 51 The DigiCULT Technology Watch briefing summarises the requirements of a Digital Rights Management system as follows:

A DRM system should meet the following seven tests:

1. Prevent or inhibit unauthorised use of content without unnecessarily constraining authorised use;
2. Describe (or represent) the rights that the user has acquired in the content (e.g. to print, to copy, to exchange) in ways that make it possible for software and hardware applications to use the information to manage access;
3. Detail whether or when a licence in the content expires;
4. Make the barriers to use as transparent to the consumer as possible and certainly only invoke restriction of use when conditions are not met;
5. Work effectively with different types of content;
6. Support different business models (e.g. pay per view, subscription);
7. Continue to allow 'reasonable use' of content (e.g. for educational or personal use).

DRM developers regard it as a rule of thumb that applications must be able to express rights in secure, machine-interpretable ways.

While DRM has the potential to be restrictive in the extreme, content providers should remember that the delivery of content is their *raison d'être*, and that consumers will quickly go elsewhere if they feel they are being treated as suspects rather than as valued users.

- 52 The Prelinger Archive (<http://www.archive.org/details/movies>) and the British Pathe Film Archive (<http://www.britishpathe.com>) both provide examples where web-quality material has been made freely available and consequently stimulated discovery and demand for fee-paying access. Prelinger (an advocate of Creative Commons) has been quoted as saying: *"You know, these images don't get used up. They don't get yellow around the edges. They don't become less valuable from being shown and repeated. Ubiquity equals value. That's how I think you can make money by giving things away."*

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Access to digitisation facilities and support

- 53 The IST PRESTOSPACE project (<http://www.prestospace.org>) gives insight into the barriers to digitisation and preservation of audio-visual content. In a 2004 survey conducted by the BBC (reported in the project annual report, January 2005), holders of some 17.5 million items or 6 million hours of audio, video or film were asked about their digitisation strategy and capacity. Note that two of these archives (British Film Institute and Imperial War Museum) are based in East Anglia. The headline conclusion is that Europe has half of the finance and half of the digitisation capacity required to execute planned migration of content and that those plans are themselves inadequate.
- 54 The report makes two key recommendations:

The shortfall⁹ is €175 million per year! This figure highlights the significance of two related issues:

1. The importance of a European preservation strategy: there is duplication of holdings, and there are also tough decisions to be made about selection. It is possible that as much as half the shortfall could be eliminated by proper planning and selection, reducing the total European audiovisual preservation budget requirement to €100 million per year, and reducing the shortfall to €75 million.

2. The importance of reducing transfer costs: if project budgets can be reduced by 40%, the shortfall then drops from €75 million to €35 million.

- 55 One of the main conclusions of the Presto Project (the antecedent to PRESTOSPACE) with respect to migration of audiovisual materials to the digital domain was that a factory approach is roughly 50% cheaper than the on-demand approach. This is the source of the 40% cost-reduction quoted above. The 'Preservation Factory' concept is due to Richard Wright, from PRESTOSPACE partner, BBC Information & Archives. Cost of digitisation as an entry barrier is discussed below and local stimulation of digitisation activity by creation of and support for one or more preservation factories in the region may help overcome the "chicken and egg" problem of attracting a critical mass of content.
- 56 Whichever route content-providers take to digitisation, there are also quality and integrity issues and the DCM environment should include guidelines on standards and selection of digitisation routes that are fit for purpose.

Barriers to be overcome

- 57 Based on the analysis above, the remainder of this document describes a strategy for addressing six potential barriers to success.

⁹ taking into account what needs to be digitised rather than just what is planned

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Adding value

- 58 DCM proposes a platform for stimulating the provision and use of the region's digital content. It is not the only platform that content providers and consumers can use and must differentiate itself by providing a real opportunity for its client-base. It must create value for the people and organisations that use it as a means of publishing content and for those seeking that content.

Market acceptance and trust

- 59 There are potential risks for both providers and users of DCM content, whether their relationship is commercial or altruistic. The provenance of material must be ensured, rights and licenses must be rigorous and enforceable, financial transactions must be secure, there should be minimal distortion of existing markets and, above all, dealings must be transparent.

Critical mass

- 60 DCM, as with any online marketplace, needs to find a strategy for attracting both vendors and customers. Without a critical mass of content, visitors will not return and without a critical mass of users, content-providers will be wary of committing the effort required to add their content to the catalogue.

Compliance with good practices

- 61 Processes must be robust and the results fit for purpose. In particular, the quality and integrity of both the content and its catalogue entries must be ensured through encouraging adherence to good practices.

Affordability

- 62 The platform must be affordable for social/community users and yet profitable for commercial users. This "mixed economy" must be reflected in a flexible yet easily understood charging model, probably coupled with a framework that differentiates between different categories of material quality, usage rights and sophistication of user-interface.

Sustainability

- 63 One of the key factors for market acceptance is clear evidence that sustainability is a key objective from the outset. Without a sustainable business model – which may not solely be based on profitability, but may include factors such as the broader economic and social impact on the region – the platform would not justify continued investment to help it grow and remain at the leading edge. One of the key challenges is how to achieve sustainability without undue market distortion.

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Strategy

Overview

- 64 An initiative like DCM cannot try to be “*all things to all people*” and needs to declare its unique selling proposition to potential clients (both content providers and users). However, the profile of services offered by the DCM platform should evolve over time as the barriers described in §§57-63 are overcome. This dictates that an incremental approach is required with initial pump-priming to achieve the minimum necessary critical mass (of content, of users and of services) to give the platform credibility and an opportunistic approach to the use of public funding from National and European sources to help resolve development issues in the areas introduced in §30.
- 65 The DCM initiative will therefore be implemented through a series of development phases, with one or more discrete projects established in each phase. The four key phases are:
- Service definition
 - Platform launch
 - Growth
 - Sustainability
- 66 Note that these phases are not expressed in terms that would be familiar to an IT project manager (such as needs analysis, design, development, implementation, evaluation) although discrete projects would probably be executed in such a fashion. Instead, the four phases that are proposed for the DCM initiative are recognition of organic growth in its capacity for development.
- 67 The other factor that will influence the DCM development strategy is the question of governance structure. This is important for at least three reasons:
- Giving a voice to the client-base that is to be served by the initiative in order to address concerns that have already been raised about market distortion and the need to focus on areas of market failure
 - Controlling the development path for the initiative through a decision-making structure that has the agility and flexibility to respond to changing market conditions
 - Ensuring that development is driven by demand-pull, not technology-push, even though some of the evidence gathered during the initial consultation described in Appendix Two falls into the latter category.
- 68 One of the proposals for a suitable governance structure received during consultation was for collective or cooperative ownership by a group of members. Another, favoured by this author, is to take a pragmatic view over the most appropriate legal structure but leave decision-making in the hands of an augmented “core group” built around existing stakeholders. These additional voices could be elected by members or shareholders or nominated by stakeholders.

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69 One way of achieving this would be to use a Community Interest Company structure. See <http://www.cicregulator.gov.uk>. Whichever vehicle is adopted, the three guiding principles of §67 should remain evident.

Business models

70 As currently envisaged, the DCM platform will offer storage and delivery of content through a streaming server, discovery of content through a single catalogue and a range of value-added services such as rights management, transactional services and support for online communities. It would offer different “flavours” of service to different types of user and these would attract different types of charging mechanism. As stated in §64, these can be built incrementally upon a core of services that allows the initiative to attain a minimum critical mass.

71 The range of different business models which will be applicable to the content provider and user communities means that the business model for DCM will be complex and some balancing acts will be needed in practice. Defining business models which are simple for the 'customers' and simple for DCM to both understand and evaluate in practice will be a delicate task and will be able to offer major early signals about long-term sustainability. DCM must be flexible in terms of the business models to be supported, as this will be a fast changing commercial environment (even among the public sector provider/user partners).

Modes of operation

72 There are four core elements to the relationship between a DCM user and the platform – the types of community that the user becomes a member of, the mix of service required to participate in that community, the level of access required by that mix of services and the way services are paid for.

User community and access models

73 The most obvious way of differentiating between the modes of use that could be supported by the DCM platform is to consider the constraints placed on use of the discovery mechanism and constraints on use or re-use of the content itself. Each pair of constraints would define a type of community space suitable for different types of community, requiring a different mix of services.

74 One simple model is to consider the way access to the catalogue and the content is regulated, as follows:

- No constraints
- Log-in / authentication required
- Trading account required
- Access key required to “unlock” items of content

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75 This results in nine types of marketplace “zone” as follows:

		Content		
		No constraints	Registration required	Protected
Catalogue	Publicly available	For content providers and users: Material is freely available with no constraint on re-use and no guarantee of provenance or quality	For providers: Revenue-creation is possible For users: Usage is monitored and fee-payment may be required	For providers: Content is secure For users: Authorisation by provider is required, subject probably to some licensing agreement
	Membership by invitation or entry criteria	For content providers and users: Catalogue provenance and quality can be policed, communities of interest can be built	For providers: Opportunities to trade with identifiable interest groups For users: Convenient rate-cards and/or credit/debit accounts	For providers: Content is secure and access to catalogue is restricted For users: Access to content from trustworthy providers
	Private	For content providers and users: Access to additional added-value discovery or support services, which may be operated by third-parties	For content providers and users: Access to additional added-value discovery services, including “payment on result” to service provider	For providers and users: Private trading areas

Service models

76 Apart from the core services (upload of content, maintenance of catalogue entries, discovery and download), the various zones in the model above imply requirements for several different types of service functionality including customer-management, transaction-management, accounting services, community communication tools, rights management tools, aggregated usage reporting services, enhanced discovery tools such as multilingualism and browseable schema/taxonomies/ontologies.

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Charging models

- 77 Clearly, different types of user will feel most comfortable with different types and levels of charges. For example:
- A regular private user may be willing to pay a nominal subscription fee to join and explore relevant communities of interest
 - A semi-professional content-creator may be willing to pay a commission fee based on a realistic percentage of revenues generated from downloads of his or her content
 - A content-aggregator requiring (and being willing to pay for) more sophisticated search and discovery tools, such as encouraging content-providers to use special-purpose metaschema
 - A large content-owner may be willing to pay a by-volume charge for using the server as an archive accessible only to authorised personnel
- 78 During consultation, the proposition that users would pay for DCM services was universally accepted, provided that:
- The service offered clear business benefit
 - Pricing was fair and did not distort existing markets
 - Pricing structures were available to suit different types of business model

Development phases

- 79 Four development phases were introduced in §65, reflecting the growth of the service as a business. This section does not set out a prescriptive project plan but establishes key milestones to be achieved in each phase. This list should, over time and as a result of continual review, develop into a list of achievable development targets and suitable success criteria for these are proposed in §**Fehler! Verweisquelle konnte nicht gefunden werden.-Fehler! Verweisquelle konnte nicht gefunden werden..**
- 80 Two preliminary tasks are fundamental:
- Creation of appropriate governance structures
 - Identification of initial sources of funding to cover the service definition phase

Service definition

- 81 Initial tasks during the service definition phase will include:
- User research into acceptable pricing models
 - Investigation of costs and options for online payments including micro-payment schemes
 - Dialogue with known existing content-providers in order to select target content areas for initial launch of the service
 - Dialogue with potential service-providers in order to make technology-choices for the DCM platform
 - Dialogue throughout the value chain to understand better how existing markets operate and to establish viable initial charging models and tariffs.

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- Decisions regarding initial scale of the service (in terms of required storage capacity, bandwidth requirements and scope of catalogue - content areas to be covered and meta-schema requirements)
- Identification of appropriate procurement methodology and route

82 Note that the decisions to be made at the outset are not just technological in nature but include resolution of four key questions:

- How is the process through to launch to be managed and financed?
- Where are the necessary standards for content-enriching metadata going to emerge from?
- Which standard processes are going to provide the necessary protection of IPR for both commercial and non-commercial users
- What legal frameworks will be required to support the proposed DCM business model(s)? These should be identified, drawn up and market-tested prior to launch.

Launch

83 In order to be able to launch DCM services the following are required:

- A fully-developed marketing plan for the launch and immediate post-launch period
- Identification of sources of capital and operational budgets for the initial period of DCM operation (1 – 2 years)
- Requirements specification suitable for selected procurement process
- Selection of technology and service providers
- Platform integration and test
- Acquisition of initial content, primarily from the public sector
- Promotion of the nascent service to known communities of interest through a field-test in order to be able to launch with an existing user-base

Growth

84 Following launch, the primary goal will be stimulation of usage by both content-providers and users. Key tasks will include:

- Implementation of the marketing plan, focusing on outreach to potential provider/user communities
- Monitoring and review of service-operation including dialogue with current and future user-groups
- Identification of opportunities for improvement and solutions to unfulfilled needs

Sustainable operation

85 For the operational period beyond initial pump-priming, a model for sustainability is required. This may include predictable levels of operational subsidy that can be cost-justified against socio-economic benefits for the region. In particular, consideration is required of:

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- Operational resilience, in terms of confidence that revenue levels can be sustained and that investment to keep pace with technological advances is manageable
- Commitment of commercial stakeholders to the ongoing operation of the service
- Long-term ownership of the platform

Technology Roadmap

86 During this consultation we have become aware of the Kendra Initiative (<http://www.kendra.org.uk>) with which the DCM concept shares many similarities. The purpose and scope of the Kendra Initiative has been defined as follows:

Kendra Initiative supports the creation of an open marketplace for digital media: films, music, images, games, text, etc. We are researching a system that will enable any content to be viewable/listenable and purchasable via any device/application - an open architecture system that will provide the entertainment/content industry with a platform for content distribution and delivery over the Internet and facilitating revenue generation for content owners/aggregators and service providers.

87 The Kendra Initiative is currently undertaking or planning proof-of-concept trials in five key areas:

- The Kendra **Network** Trial is a network of edge servers with which to test the Kendra system. There are now 138 organisations participating in the Kendra Network trial, with a total of 32 servers hosting trial content of 141 files.
- The Kendra **Commerce** Trial is a set of trials/demonstrations looking at payment systems and end-user (consumer and service provider) requirements. The aim of this trial is to promote interoperability between different payment service providers and subscription service providers.
- The Kendra **Catalogue** trial aims to promote interoperability between different media catalogue holders so that they will be enabled to share the metadata of their content. This will allow a unified global catalogue addressable and searchable by standard means.
- The Kendra **Rules** Trial is designed to enable both the content owner and the content consumer to state the rules under which they wish to deliver and receive their content respectively.
- The Kendra **Interface** Trial is a set of trials/demonstrations looking at interfaces and end-user (consumer and service provider) requirements with which to test the Kendra system. The aim is to show what options the consumer has in searching for, paying for and playing/viewing their content using future media devices.

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88 Discussion has started with the Kendra Initiative to potentially collaborate on development of a technology roadmap, perhaps under the auspices of the DTI Technology Programme through an Innovation Platform.

Stimulating uptake

89 Initial consultation highlighted the “*chicken and egg*” problem of needing a critical mass of content to attract a critical mass of users to attract a critical mass of content-providers ...

90 In part, the pre-launch activity aimed at engaging with target user groups and content-providers from the public, private and community sectors will help DCM to achieve some credibility in time for the launch of the service but the marketing plan should address the need for continued market stimulation through:

- Identification and exploitation of existing communication channels for reaching thematic communities
- Monitoring the emergence of suitable communities and engaging with them
- Ensuring that the addition of new communities and new content areas receive media attention
- Establishing support programmes that reduce the cost of entry and help publicise the initiative (such as association with programmes of digitisation)
- Identification of new and improved business models which can accelerate the involvement of new content providers and users and which allow providers and users to evaluate their involvement

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Success Criteria

91 The following framework is designed to provide a structure for monitoring and measuring the success of the DCM initiative:

	Basic	Good	Aspiration
Platform	Fitness for purpose, in terms of balancing cost and functionality	Operational robustness and cost of maintenance	Scalability and capacity to keep abreast of demand, in terms of volumes, media-types and content areas
Services	Stimulating uptake of services through an awareness programme aimed at developing and managing user expectations	User acceptance of services as ways of addressing needs	Involvement of third-party service providers
Content	Relevance (and use) of content available through the platform	Adequacy of discovery mechanisms	Ability to identify unmet needs and make new areas of content and new content-types available
Usage	Engagement with key user groups and ability to achieve buy-in from major economic groups such as the creative industries and content aggregators	Level of financial contribution achieved through revenues generated from the services	Level of adoption of the DCM model in other regions and the extent to which this leads to greater levels of use and re-use of content
Financial viability	Evidence of user acceptance	Economic performance in terms of reaching financial targets in order to sustain the growth and development of the platform	Impact of the initiative on the socio-economic well-being of the region

Service Profiles

Although §79 acknowledges that the work undertaken to date is insufficient to establish a detailed project implementation plan, this section discusses eight areas where minimum requirements can be defined for the launch and initial operation of the DCM platform.

Storage and delivery

- 92 Identify and procure a streaming server or service that is capable of:
- Supporting a level of storage (to be defined) and delivery bandwidth (to be defined) adequate for the initial period of operation of the service
 - Integration with the search and discovery mechanisms
 - Expansion to accommodate predictable levels of increased demand without excessive risk from technology lock-in

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Search and discovery

- 93 Identify and procure a database that:
- Supports a web-based discovery interface for identifying content located on the DCM streaming server or elsewhere
 - Allows content-providers to construct their own catalogue entries
 - Can be expanded to include as-yet undefined meta-schema in many areas
 - Provides detailed analysis of how providers and users are using the system and, in particular, allows the management and refinement of meta-schema

Rights management

- 94 Achieve consensus on the scope of rights management to be supported by the platform
- 95 Implement legally rigorous protocols and agreements for the use and re-use of content in line with that consensus
- 96 Identify and procure tools required to implement those agreements and protocols (e.g. watermarking)

Content management

- 97 Identify and procure a tool that:
- Is compatible with both the storage and discovery elements of the platform and allows management of content on a distributed network of storage devices
 - Is easy for content-providers to use without high levels of training and support
 - Supports all major media types at various resolutions
 - Provides an audit-trail of use and is capable of integration with financial systems where required

Customer management

- 98 Identify and procure a tool that provides, for both storage and discovery, appropriate levels of:
- Authentication
 - Access control
 - Privacy and security
 - CRM services such as aggregated reporting of use, identification of trends and personalised profiles of use

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Payment management

- 99 Identify and procure the services of payment management providers (e.g. Worldpay, Paypal) that are acceptable to a critical mass of users and which support:
- Aggregation of micropayment transactions
 - Per-transaction and subscription models of charging
 - Management of pre-payment for access to specified volumes/types of material
 - E-Purse/e-Wallet services

Legal services

- 100 Rigorous scrutiny of the legality and enforceability of protocols and agreements for use of the platform and its services
- 101 Assessment of business risk and insurance implications (e.g. liability for fees in event of a provider or user business failure, liability in event of technical failure etc.)
- 102 Publication of standard agreements for use and re-use of content
- 103 Availability of advice through FAQs and one-to-one consultation

Promotional services

- 104 Identify, procure and manage services to ensure:
- Appropriate branding of the DCM platform and its component areas (including the ability to “wrap” dedicated community areas in individualised “skins”)
 - Provision of reciprocal exposure (cross-linking) agreements
 - Media-management
 - Delivery of awareness-building programmes

Marketing Plan

Objectives

- 105 This marketing plan for the initial phases of DCM has three objectives. The detailed mechanisms for achieving the three objectives with each of the nine types of user discussed in §§11-29 (collection-holders, educationalists, public bodies, the creative sector, community-based providers & users, the creative amateur, publishers, aggregators & broadcasters, application & service providers, end user consumers) will vary and should be further elaborated and defined in a communication plan. The three objectives are:
- To provide clear differentiation in motivation, purpose and governance between the DCM initiative and commercially-driven content-aggregation sites such as those being developed by Google, Amazon and so on. The DCM platform exists as a service to content-producers and users in order to stimulate the market for digital content.

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- To demonstrate the value that is added to the digital content value chain in terms of more effective and efficient discovery of appropriate content, the support that is offered to new entrants into the digital economy and the contribution to the economic and social well-being of the region and its communities.
- To engage in dialogue with potential users of the DCM's services – both as content-providers and content-consumers – in order to understand the unfulfilled needs that DCM can address and the most appropriate way of resolving issues such as charging models, licensing models and even relatively simple problems such as how material should be organised and which interest groups should be supported.

Competitors and external threats

106 There is, as far as is known, no direct equivalent of the DCM offering all or most of its proposed features. However, since target users of the DCM platform will predominantly only be using part of the platform's capability or using the platform only for one specific purpose, there are many current and proposed websites that are capable of servicing their requirements. The following types of site must, therefore, be considered as potential competitors, capable of developing more of the services envisaged for DCM:

- General-purpose trading environments such as eBay and Google Base as well as highly specialised trading communities such as Renderocity
- General-purpose directories (such as Netscape's Open Directory Project) and thematic portals (e.g. fish4) as well as specialised online directories such as those published by Kay Media (<http://www.kays.co.uk>) and The Spotlight (<http://www.spotlightcd.com>)
- Online communities, both geographical (such as the BBC's "Where I live") and thematic (e.g. Moving Here)
- Community hosting services such as UK Villages and Eastspace
- Online museums, galleries and other cultural organisations with an online presence

107 Obviously some of these potential threats will be region-specific and others will be more general. Two strategies for managing the threat can be investigated – differentiation, as proposed above (§105) and active partnership (§**Fehler! Verweisquelle konnte nicht gefunden werden.**).

Adding value

108 One of the risks faced by the ACCE Partnership in setting up DCM is that behaviour of potential users may be hard to modify. It will be necessary to assert and gain acceptance of the DCM branding (encouraging people to add DCM to their small list of trusted and regularly-visited sites) and stimulating acceptance of an online way of trading in content. Publicity appears to be the key here, as a way of demonstrating the added-value that DCM provides. From the consultation undertaken in the region, setting aside questions of pricing, the key areas of benefit that potential users will be looking for are the following:

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- DCM gives access to the kinds of community that you want to do business with
- DCM can unlock the potential of those communities
- DCM makes relationship management with those communities more efficient
- DCM makes buying and selling digital content easier
- DCM provides support for those interested in buying and selling digital content
- DCM is unique in representing the interests of the East of England region
- DCM overcomes some of the barriers to trade in digital content
- DCM is a way of augmenting your existing capacity to manage the changes that are taking place
- DCM is an investment in the future
- DCM makes life easier for small businesses and sole traders
- DCM is a way of reducing the risks of trading in digital content
- DCM provides flexibility in the ways you can do business
- DCM is a cost-effective way of dealing with the complexities of digital content trading
- DCM makes trading in digital content more straightforward

109 This list is ordered to reflect the way we have analysed the direct results of the consultation. In practice, the messages may be aggregated into a smaller set of benefit statements. Case-studies are likely to be the most effective way of communicating those benefits.

Engaging with content providers and users of content

110 §108 presents a list of statements of the added value that DCM can offer content-producers and consumers and which could form the basis for publicity to stimulate interest in the platform. Engagement with potential users is not just about building demand for DCM services, but understanding user-requirements and establishing how to build the DCM platform in a way that addresses real needs and perceptions of real value. This is the third of the three key marketing objectives listed in §105. Awareness of what DCM is and what it can offer is essential to ensure that requirements-capture is well-informed. Promotion and inbound marketing communications are therefore complementary.

111 Other forms of awareness-raising that could be beneficial, apart from basic publicity, should therefore be investigated although most of these will carry costs as well as benefits. The potential payback should be assessed in preparing a full-blown marketing plan.

112 One way of raising the profile of the DCM brand throughout the region and gauging public reaction would be to associate it with educational activities, such as hosting a gallery of children's digital photography. During the 1980s, the BBC's Domesday Project Community Videodisc carried a large amount of material provided by schools (although this time it might be sensible to obtain rights clearance **before** publication).

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- 113 As described in §55, the need for digital preservation of content is a major problem for collection-holders and an initiative to provide access to a local preservation factory may be an opportunity to engage with potential sources of content, by subsidising a “toe in the water” whereby a collection-holder can explore the value of digitisation by putting a sample of material online.
- 114 In parallel or independently, a competition or “beauty contest” could be run, capable of publicising the original collection as well as the material available through DCM.
- 115 A third way of targeting collection-holders would be to engage those with existing online collections and encouraging them to participate in a pilot or trial of DCM in order to build the catalogue. This would also help with the structuring of the meta-catalogue (linking to content published on their own web-sites) as well as helping to generate an initial critical mass of content prior to formal launch.
- 116 Similar initiatives could be developed, in association with partners, to reach the content-producers in the region. Intermediaries such as EMMA, Creative Norfolk and FDMX should be encouraged to examine this from the perspective of potential benefit to the communities they represent.
- 117 §25 describes the role of the public and their digital cameras in today’s electronic news gathering. One possible promotional vehicle would be to work with publishers of local newspapers to encourage submission of material to a “digital clearing house” with the incentive of having your photograph published in print as well as online.
- 118 In terms of stimulating entire communities (local and thematic) as well as individuals, it is likely that the most enticing argument for them would be assistance in migrating content to the DCM platform. However, the first problem is finding them! CHS offers access to some 800 communities but is entirely Norfolk-based. Bias towards any specific sub-region would have to be avoided.
- 119 Another way of stimulating participation of communities might be to encourage a role in creating catalogue entries, either as an extension of existing oral history projects or in partnership with organisations that can provide access to other communities, such as educational establishments and the local press.

Branding and ownership

- 120 The question of branding is not a simple one. The way DCM is presented to its various user communities will have to simultaneously reinforce perception of **reliability and trustworthiness** for those wary of online trading, **topicality** for thematic communities, **locality** in terms of the region and local communities and **inclusiveness** in terms of the potentially vast range of sources of content that could be reached through a single meta-catalogue. The most likely solution to this problem would be to create an umbrella brand that clearly demonstrates public or community ownership and integrates the various communities under that banner while at the same time allowing the various community areas within DCM to exhibit their own look-and-feel (comparable to the trend towards offering a range of “skins” for applications like Windows™ Media Player and online blogging tools like LiveJournal.com).

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- 121 The question of ownership of DCM is also significant, not just to perception of reliability and trustworthiness but also to the perceived relevance of the initiative to members of the various communities. Associating the service closely with local authorities and the RDA may help reinforce trustworthiness and even-handedness and imply a greater chance of long-term stability but as two of those consulted said: "Regional initiatives cannot protect me against anything" and "Keeping at the forefront of change requires flexibility and agility, not characteristics normally found in the public sector".

Identifying partners

- 122 DCM will require relationships with a wide range of partner organisations, in order to build technological know-how, gain access to specific communities, generate traffic and extend the scope of the catalogue to include existing rich-media collections. The cursory competitor analysis of §106 raised the additional question of whether protection against competition could also be found through partnering.
- 123 Over time, these potential partners will come from outside the region as well as locally. An initial inventory of relevant regional initiatives will help identify sites such as the Film and Digital Media Exchange (<http://www.fdmx.co.uk>) and the Creative Industries Group (<http://www.creativenorfolk.com>) with whom a working relationship should be resolved as a priority.
- 124 In a sense, any institutional content-provider or consumer using DCM is a potential partner and the model could easily extend to intermediaries such as Kay Media's Production Manual which includes film & video libraries as one of its categories¹⁰. During the regional consultation, the idea of using the DCM catalogue as a kind of portal, driving traffic to commercial web-sites, also arose.

Marketing – conclusions

- 125 The analysis above leads to three main conclusions with which to finish this report.
- The initial objectives for marketing of DCM are differentiation, demonstration of benefit (added value) and investigation of requirements and the acceptability of the offering
 - The branding and positioning of DCM must strike a balance between the solidity of institutional backing and the flexibility and relevance of community "ownership"
 - A wide range of partners will be required not just to act as intermediaries giving access to specific user groups but also to reduce the threat of unnecessary competition.

Neil Sandford, Angus Doulton, Roger Wilson
CDW & Associates, January 2006

¹⁰ Bernard Kay, the publisher, identified the inclusion of his content in the DCM catalogue as an obvious business opportunity

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Appendix One – terms of reference

The ACCE Partnership

126 The ACCE Partnership is defined as follows:

The ACCE Partnership comprises a group of regional and Norfolk based organisations wishing to support the development of an exemplar service delivering next generation broadband services on behalf of public and private sector in the Cultural, Creative and Learning sectors in the East of England.

127 The members of the Partnership are:

- East of England Development Agency (EEDA)
- Screen East
- East of England Museums, Libraries and Archives Council (EEMLAC)
- East of England Multimedia Alliance (EMMA)
- City College, Norwich
- Norfolk County Council

The ACCE Proposition

128 In order to take forward this work the ACCE Partnership proposed the development of a regional content centre for advanced content.

This would host two kinds of content – cultural content and learning content – from both the public and private sectors and make it available globally via the internet. The server would include digital rights management and payment facilities. While the material hosted would cover two key types – cultural and creative and educational and training content – co-location would enable considerable spin off in the re-use of the cultural and creative material for educational use and vice versa. It will also allow a cross over in key markets.

As well as hosting, the larger project will include the development of content, the establishment of standards – especially around metadata, and support and advice for SMEs and smaller public or voluntary sector organisations.

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ACCE Statement of Requirements

- Identify the private and public sector markets for educational, training, cultural and creative digital content
- Identify the technical requirements, including sophisticated search facilities, content and services which would be provided on the full project including issues about external hosting vs purchase
- Engage a wider group of stakeholders and partners and ensure commitment to the broader project including mapping against existing other initiatives such as the creative commons initiative for public sector copyrighting
- Demonstrate the value and use of next generation content that could be obtained by potential users, customer and creators
- Provide detailed costings that can be used in funding bids – particularly to e-Content – including issues of capital/revenue split
- Make recommendations on a marketing strategy
- Make recommendations on a governance, ownership and management structure for the full project including its organisational and physical location
- Identify an optimal content development process including encouraging SME and community use in such a way as to ensure quality control for appropriate content
- Identify potential funding streams and timescales over which these could be realised as well as a pricing structure that will encourage use by different target groups but not distort the market

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Appendix Two – research results

User consultation

129 Delegates at three sub-regional meetings (35 people in total) were presented with six propositions in turn, invited to discuss the implications and then record in their own words a relevant proposition that they would support addressing the core theme of that discussion. Text has been edited to make the statements more readable, but the sentiments are consistent with the original. In some cases, common points-of-view have been merged or concatenated.

Proposition One: regional or thematic communities are important to my business

What do we mean by communities?

- Increasingly, the **world** is seen as being made up of thematically-linked communities of interest. Some of these are geographically localised, some are international.
- Production **supply chains** are often geographically based
- Business often relies on market sectors within geographical communities (e.g. servicing the needs of specific **local industries**)
- I do business with **like-minded people**
- Thematic communities are not just communities of interest, there are target audiences for issue-driven **campaigns** as well

Why are these communities important?

- Thematic networks are equally important to **public, private and voluntary** sectors
- Every business should have a **strategy** for working with regional and thematic communities and be able to target the ones that are appropriate
- I need **appropriate** networks that give access to the **right** communities
- **Providers** are often members of a thematic community too - it helps raise the level of understanding and awareness of issues relating to their type of business (e.g. designers)
- Specialist communities are particularly important for **smaller businesses**
- Customers and suppliers can work in communities **to improve products and services**

What problems can DCM solve?

- These communities are not static and people **join and leave** all the time
- I don't have **time** to discover these for myself
- I need ways **of maintaining contact** with specialist groups that are important to my business

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- It is easier to communicate with **one community** than lots of individuals
- Services for trans-national communities need to be **multilingual**
- Services for specific cultural groupings within the UK need to be **multicultural/multilingual**

Proposition Two: a Digital Content Marketplace (DCM) can add value to my business

Localism

- There is inherent value in providing a **local** focus on digital content.
- The existence of a regional marketplace would support local ways of doing business but could also **raise the visibility** of the region internationally

Trading in content

- A marketplace could stimulate sales for my content, but the portal aspect could also **generate traffic** for my business web site
- I would like to see a solution that makes **discovery** of my content easier for the customer
- I need places where I can buy and sell content at the **right** price

Other ways of adding value

- DCM can add value by making **collaboration** easier, by providing easy and secure **sales** and by making it easier to **search**
- **Broadening** the range of available and affordable content would be beneficial to my business
- DCM could become a forum for stimulating **sustainable** businesses
- DCM could provide an opportunity for "**semi-professional**" creative people
- I would like to see a solution that **saves me time** when I am sourcing content for my productions
- I would like to see a solution that **simplifies** management of legal/financial aspects of doing business
- I would like to see a solution that makes the technology easier to use and exploit and allows me **to exploit ICT opportunities** better
- DCM could make access to "high end" technologies more affordable by bringing together a **critical mass** of small businesses

Critical success factors

- A new marketplace must offer something **unique** beyond what multinational marketplaces already (or will soon) offer such as base.google.com.
- A marketplace will only **take off** if it has a critical mass of easy-to-find content that can be uploaded and downloaded easily

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- **Quality** of content and “useful and usable” search facilities are vital
- Rights issues have to be resolved, especially in terms of **overseas trade**
- I would judge the value in terms of the suitability of the **user-base**
- The content available through DCM would have to be **current** and **relevant**
- High-end technologies might not yet be **viable**, but in a couple of years the capabilities should improve
- There needs to be a clear and sustainable **business proposition**

Proposition Three: a DCM could help protect me from changes in the value chain that I operate within

Capacity-building

- My customers are increasingly demanding **high-performance access** to rich media content
- We are also faced with the need to **upskill**
- We need to be at the **leading edge** of new technological opportunities
- If DCM **adapts/evolves** with the changing environment, it will help me adapt/evolve to address those changes
- DCM could improve my **marketing capability** because of its (potential) size, but there is the risk that a supermarket approach would be **damaging** to smaller libraries and their individuality

What DCM could do

- I need **better access** to the communities that are my suppliers and customers
- If changes in the supply chain make life more **complex**, then DCM could help me keep up to speed (e.g. as security and safety become more important) and manage the risks better
- The opportunity to share in a non-**competitive environment** to understand changes in the industry and innovate
- DCM could act as a **showcase** for work from the region to compete with the London-based suppliers
- A marketplace like DCM can bring **greater stability**
- DCM needs to offer “win-win” solutions that are good for the supplier as well as good for the customer

What it can't do

- Regional initiatives **cannot protect me** against anything
- DCM could help me cope with and adapt to change – but **nothing can protect you for ever!**
- I would not rely on a third-party, it is necessary for my business to **innovate** to move forward

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- I **differentiate** my business by being able to respond to change and would not like to lose that advantage, however there is a potential benefit in “raising the bar”
- Keeping at the forefront of change requires **flexibility** and **agility**, not characteristics normally found in the public sector
- You cannot promise anything for the future unless you have a **sustainable business model**
- DCM cannot be **all things to all people** and needs to focus on activities that make **a real difference**

Proposition Four: I would trust an online broker like DCM to manage legal and financial transactions

Needs

- Larger organisations can afford to make their own arrangements but there is a need for a “**trusted third party**” for smaller businesses
- The main thing I am looking for is someone to protect my **intellectual property**
- I would trust an online broking service if it addressed **market failure**
- Terms of reference would need to be set by members – i.e. as a (initially public-funded) **cooperative**
- Providing a legal and financial framework is critical (essential) for people without that **knowledge**
- This may be something that businesses need during periods of expansion – i.e. as the need grows but before it becomes **cost-effective** to provide the skills in-house

Requirements

- I trust services that use **recognised processes** and **clearly manage** their buyers and sellers
- The service would need to provide **robust** legal contracts for vendors and customers
- The service would need to demonstrate its ability to **enforce** the terms of those contracts
- My criteria for judging trustworthiness are **reputation**, the **backing** that the service has and the **redress** it offers
- I would need to know **who I was dealing with**
- I would trust (it) as long as contractual and legal issues were both **explicit** and **easy to understand**
- DCM would need to demonstrate its commitment to protecting my interests and have the backing of a **regulatory body**
- DCM would have to have appropriate and transparent **governance**, monitoring and reporting in order to generate **trust**
- I would trust it as long as the service is **secure**

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- Yes, as long as the solution is cost-effective for me (**aggregation** leads to potential cost-saving by achieving a critical mass)
- Yes, as long as the **risk** to me is relatively low

Flexibility

- An online broker can deal with **standard transactions**, but important deals need bespoke legal advice
- A service that includes optional legal and financial transaction advice would protect the smaller player by creating **economies of scale**
- DCM would face the “**chicken and egg**” problem of establishing a track record and establishing a sizeable user base

Proposition Five: The legal and financial arrangements for use of digital content in my business are straightforward

Current situation

- I need more **clearly-defined** legal arrangements for the use of content
- In my business the legal and financial arrangements are **scary** and **expensive**
- It's a **nightmare**, which means that piracy is becoming an acceptable risk because we can't afford to solve it. Once material is on the internet it is insecure.
- In my business, arrangements for digital content do **not yet exist**
- Many **creative artists** do not understand the complexities of the legal and financial “rules” of their business
- The situation is still in flux but **new management tools** are becoming available, such as opportunities of monitoring usage
- The situation **within the organisation** is complex, let alone dealing with people outside!
- There are good models for consumer transactions where the risks are low and existing law suffices, but **repurposing** is more complex
- The situation with **third-party materials** is complex (e.g. virtual exhibitions using loaned objects)
- The **cost of protection** is a barrier for smaller businesses
- I would appreciate **help** in managing these complex issues

What DCM could do to help

- These are never straightforward, but things may become easier as more people **get used to doing business** this way
- The real problems are in establishing whether the appropriate **rights** and **permissions** are in place
- Transactions should follow a standard “**rate-card**”
- DCM could help people **share their understanding** of these issues

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- Controlling the **user** is as important as controlling the content

And what it perhaps shouldn't

- Licensing is the responsibility of the **owner**, not an intermediary

Proposition Six: I would be prepared to pay DCM for its services

Business proposition

- I would pay for **uniqueness** and **quality** – and benefit to my business
- I would judge value in terms of **reduction in the risk** of copyright theft
- I would support an initiative to **raise the profile of the region** as long as it does not set out to distort the marketplace
- I would be prepared to pay for a service that placed my product in front of consumers in the **right context**
- The services would have to be things that are **not already available** elsewhere

Market rates

- I would be prepared to pay a **fair market rate** for services
- There is a difficulty putting value on “art”
- There needs to be a clear **commercial opportunity** and value-for-money

Mixed economy

- There is a need to **differentiate** between people who would provide free content and would have to pay for making their content available and people who would be prepared to reward DCM for the revenues it generates for them
- There may also be other, more novel ways of finding **financial value** in my content
- There should be a “**pick and mix**” menu of services
- Different types of user would need different **charging models**

130 The following organisations were represented at the three meetings:

- A British Vision
- Adphonics
- AND Technology Research
- Angelfire
- Anglia Ruskin University
- Beanstalk Broadband
- Bob & Barn
- Braintree District Council
- Business Link Norfolk

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- Cambridge Imaging Systems
- COESTRA
- Community and Voluntary Forum
- Dangerspot Books
- Educational Centres Association
- Essex County Council
- Essex University
- Falcon PressForum Trust Norwich
- Hedley Griffin Films
- High Barn
- Jays
- Luminas
- Media Projects East
- Norfolk County Council
- One Degree Consulting
- pjb Associates
- Screen East
- Sustainable Energy Developments
- UKTI
- Warner Archive

Additional research

- 131 In addition to the three consultation meetings, email exchanges or telephone or face-to-face interviews were held with a variety of other sources of opinion/information, including potential stakeholders, as listed in §§133-140.
- 132 Issues arising from both forms of consultation have been investigated through desk research, including a survey of results from relevant EC-funded projects. Key sources are listed in section §**Fehler! Verweisquelle konnte nicht gefunden werden.**

Steering Group

- 133 Telephone conversations were held with Laurence Ramsey (EEDA), Adrienne Cameron (EEMLAC), Richard Field (EMMA), Dick Palmer (City College) and Laurie Hayward (Screen East). Face-to-face meetings were held with Tim Anderson (NCC) and with Martin Ayres and David Wilkinson (Screen East) and there were three formal meetings with the Steering Group including presentation of a final draft of this report. These discussions helped define the scope of the proposed DCC, provided information about the local situation in the East of England, identified external sources of information and potential stakeholders and clarified the primary focus of each key stakeholder.

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Collection holders and other interested parties

- 134 In addition to the members of the Steering Group listed above, input to the consultation has been obtained from:
- John Alban (Norfolk Records Office)
 - Tony Blake (Cambridge Imaging Systems)
 - Bryn Davies (Forum Trust)
 - Michael Gardner (University of Essex)
 - Bernard Godding (Educational Centres Association)
 - Bill Hamblyn (Business Link Norfolk)
 - Mary Rowlatt (Essex County Council)
 - Richard Taylor (East Anglia Film Archive)

Potential partners beyond the region

- 135 During investigation into possible sources of funding, especially the eContentPlus Programme, discussions were held with a variety of potential partners. Contact information and an assessment of potential collaboration are provided below.
- 136 **Optibase, Israel: Yael Lapid, yaell@optibase.com:** a potential technical and commercial partner identified from the TIRAMISU project. Unable to participate in ECP since Israel did not have a funding agreement. Their web-site says: "provider of high quality IPTV streaming, encoding, decoding and video server upload solutions for telecom operators, service providers, broadcasters and content creators." Note that Optibase are a supplier of key components of Cambridge Imaging system's IMAGEN platform.
- 137 **University of Lubjana, Slovenia:** Stefan Dobravec, Stefan.Dobravec@ldos.fe.uni-lj.si – a potential technical partner with experience and background IPR from the TIRAMISU project where they acted as system integrators. Recommended to us by Optibase, the TIRAMISU project managers and proactive in searching for other Slovenian partners.
- 138 **SINTRA Bologna:** Andrea Gennari, andrea.gennari@sintranet.it and Francesco Fusco Francesco, fusco@sintranet.it – an existing technical partner on projects with NCC and Forum Trust, with a relationship with the Italian region of Piacenza. While enthusiastic about the ECP proposal, they did not seem to be as proactive as Leidiel
- 139 **LEIEDAL, West Flanders:** Peter Hautekiet, Peter.Hautekiet@leiedal.be and Lawrence Beernaert, Lawrence.Beernaert@leiedal.be – another existing partner with NCC and extremely proactive. A number of further contacts have been made through them in the region (forwarded to Tim Anderson by email), in particular, Luc Van Beneden (luc.vanbeneden@kortrijk.be), the ICT manager at the City of Kortrijk.
- 140 In addition to these European contacts, three significant contacts were made at DTI events.
- Gina Fegan (gina.fegan@semn.org.uk) of the South East Media Network – this contact was reported to the December Steering Group meeting as a potential parallel initiative in the South East region.

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- Bernard Kay (info@kays.co.uk) of Kay Media – the directory publisher, who is using funding from DTI to develop online services and would be interested in providing an additional “front end” to DCC for the production industry. He is being advised by Denis Carroll of the Knowledge Transfer Partnership run by University of Westminster.
- Daniel Harris (daniel@kendra.org.uk) of the Kendra Initiative – KENDRA is described in §§86-88

State of the Art

- 141 The following research and development projects have provided significant background input for this report:
- CALIMERA (<http://www.calimera.org>) – an IST Co-ordination action ending mid-2005 involving 54 partners from 42 countries, including all EU Member States. Among the outputs is a research roadmap. UK partner – MDR Partners, Essex County Council, Museums, Libraries and Archives Council and Manchester Metropolitan University.
 - DIGICULT FORUM (<http://www.digicult.info>) – publishers of annual technology watch reports up to the end of 2004 and a variety of thematic reports, included those quoted in this document. UK partner – HATII (University of Glasgow)
 - MINERVA/MICHAEL (<http://www.minervaeurope.org>) – a network of Member States' Ministries focussing on digitisation, metadata, long-term accessibility and preservation
 - PRESTOSPACE (<http://www.prestospace.org>) – a project running until 2007 which aims to provide technical solutions and integrated systems for digital preservation of all types of audiovisual collections. UK partners – BBC and Universities of Sheffield, Southampton and Surrey.
- 142 The reference site for the MPEG family of standards, especially MPEG-7 and MPEG-21, can be found at <http://www.chiariglione.org/mpeg/>

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Appendix Three – the Rural Media Company

<http://www.ruralmedia.co.uk>

143 The Rural Media Company is a twelve year old community based media production charity located in Hereford. It is a bottom-up operation. Production projects are generally of three kinds.

- Community groups (who can be helped to find funds) who have something to say and want to find new ways of saying it. Quite often charity funded.
- Community development, educational and training initiatives where groups from the community actively seek to develop skills which can be carried forward within the community. Usually local authority funded.
- Commissioned productions which use the community involvement techniques developed by RMC in their production work. Clients in this last category include OU, Home Office, DES, local councils and major charities.

Media used include CDROM, video, audio, posters, newspapers, magazines, websites.

144 RMC has spun off a feature film director, quite a lot of people working professionally with camera, graphics, sound and editing, and six new companies running media related activities

- The Hereford Photo Festival
- The Borderlines Film Festival
- InSite (a young people's communications project in Hereford) which has its own drop-in centre in the city.
- Travellers Times (a newspaper for itinerant families) and also a major recorder of traveller culture
- MediaNet (a West Midlands self-development club for media professionals),
- MediaDev (a development project for media professionals in the Marches which places recent graduates as local 'activists').

145 The whole complex is now a prolific engine for new media material as well as recycling and displaying material from a wide range of other sources. However e-distribution is problematic. There is no streaming available locally and doing it commercially was too costly for a community based operation. Self-development is a non-starter.

146 So audio and video material is only available from tape or CD - and access even to these is limited by the non-availability of funds for marketing productions which don't have a marketing budget built in.

147 The result is a huge reservoir of material produced to the highest standards but which is just not generally available, and its potential for earning revenue therefore remains unexploited.

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Appendix four – glossary of terms

3GPP (Third Generation Partnership Project) - 3GPP has been established for the preparation and maintenance of a complete set of globally applicable Technical Specifications for a 3rd Generation Mobile System based on the evolved GSM core networks and the radio access technologies supported by 3GPP partners

ACCE – the Content Centre of Excellence (see Appendix One)

Broadband – a high speed connection to the internet suitable for delivery of streamed audio and video content and virtually instantaneous downloading of documents and images. Unlike dial-up telephone connections, there is normally no financial disincentive for staying connected to the internet, thus “always on”.

CHS (Community Heritage Store) - Initially launched throughout the Borough of Kings Lynn and West Norfolk. The CHS currently consists of over 800 local communities and enables individuals and communities to access and store their heritage online (See <http://www.localchs.co.uk>)

CIC (Community Interest Company) – a limited company with special additional features created for the use of people who want to conduct a business or other activity for community benefit, and not purely for private advantage. This is achieved by a "community interest test" and "asset lock", which ensure that the CIC is established for community purposes and the assets and profits are dedicated to these purposes. Registration of a company as a CIC has to be approved by the Regulator who also has a continuing monitoring and enforcement role.

CORDRA (Content Object Repository Discovery and Registration/Resolution Architecture) - an open, standards-based model for how to design and implement software systems for the purposes of discovery, sharing and reuse of learning content through the establishment of interoperable federations of learning content repositories (see <http://cordra.lsal.cmu.edu/cordra/>)

Creative Commons - a nonprofit organization that offers flexible alternatives to traditional copyright licenses for creative works (see: <http://creativecommons.org/>).

DRM (Digital Rights Management) – Any technology used to protect the interests of owners of content and services (such as copyright owners). Typically, authorized recipients or users must acquire a license in order to consume the protected material - files, music, movies - according to the rights or business rules set by the content owner (see <http://www.microsoft.com>)

e-Commerce – trading via web-sites, requiring secure financial transactions online

e-Learning – learning via web-sites, especially where the service provider offers an integrated learning environment with assessment, tutoring and peer-support as well as conventional self-study materials

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e-Purse/e-Wallet – An e-Purse is a small re-chargeable portable device which contains electronic money (the online equivalent of an Oyster Card, perhaps). An e-Wallet is a browser plug-in provided by a financial services provider that acts as an electronic version of a credit/debit card.

EC (European Commission) – the European Union's civil service

Harvesting – a term used by archivists to describe discovery and gathering of material to be archived

HTTP (Hyper Text Transfer Protocol) – an application-level protocol for distributed, collaborative, hypermedia information systems. It is a generic, stateless, protocol which can be used for many tasks beyond its use for hypertext, such as name servers and distributed object management systems, through extension of its request methods, error codes and headers. (See <http://www.w3.org>)

I2010 – the EU policy for Information, Innovation/Investment and Inclusion

IP-TV - IPTV uses a two-way digital broadcast signal sent through a switched telephone or cable network by way of a broadband connection and a set-top box programmed with software (much like a cable or DSS box) that can handle viewer requests to access to many available media sources (See <http://www.iptvnews.net>)

IPR (intellectual property rights) – the rights of the “owner” of an item of intellectual property, whether a book or an idea. See also DRM.

IST (Information Society Technologies) Programme – European Commission “Framework” programme for information society research.

Metadata/meta-tagging/meta-schema – metadata is, literally, information about information. Meta-tagging adds metadata, the “catalogue” information that allows discovery of material using a search engine, to web pages. A meta-schema is a formal set of agreed terms that can be used as metadata.

Micropayments – small or very small levies on transactions that are not settled individually but are aggregated into periodic settlements between the service provider and the vendors/purchasers using the service.

Microsite – a thematically distinct sub-area within a branded web-site such as <http://www.bbc.co.uk>.

Ontology – a term borrowed from metaphysics and taken by the world-wide web community (especially referring to the semantic web) to mean a controlled vocabulary that describes objects and the relations between them in a formal way, and has a grammar for using the vocabulary terms to express something meaningful within a specified domain of interest. The vocabulary is used to make queries and assertions.

Paypal – an online payment system aimed at individuals and smaller e-Commerce operators, now owned by eBay.

Rich Media – the intersection of audio, data, and video-related technologies and services

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SCORM (Sharable Courseware Object Reference Model) - a suite of technical standards that enable web-based learning systems to find, import, share, reuse, and export learning content in a standardized way (see <http://www.rhassociates.com/scorm.htm>)

The Semantic Web – an evolution of the world-wide web using metadata from formal ontologies to formally describe the content of an object on the internet, allowing “intelligent” software to act as an agent between stores of information and the user. An example might be a service that lists available flights between A and B on a given date having extracted that information from each airline’s own web-site rather than from a single database maintained by the agent’s owner.

SOHONET - provides a unique range of network services that allow you to communicate and share information, quickly and securely with people in the media and film industries (See <http://www.sohonet.co.uk/>)

TCP (Transfer Control Protocol) - a host-to-host protocol between hosts in packet-switched computer communication networks, and in interconnected systems of such networks (See <http://www.ietf.org/rfc/rfc0793.txt>)

UDP (User Datagram Protocol) - a protocol within the TCP/IP protocol suite that is used in place of TCP when a reliable delivery is not required. There is less processing of UDP packets than there is for TCP. UDP is widely used for streaming audio and video, voice over IP (VoIP) and videoconferencing, because there is no time to retransmit erroneous or dropped packets. (See http://www.pcmag.com/encyclopedia_term/0,2542,t=UDP&i=53351,00.asp)

Video on demand – a television service offering each viewer a choice of content from a catalogue “on demand”, rather than according to predefined transmission schedules.

Worldpay – an online clearing system for payments using credit/debit cards , operated by the Royal Bank of Scotland (See <http://www.worldpay.co.uk>).

Web-ring – an agreement between publishers of thematically related web-sites to provide links that visitors can follow to each other's sites.