

A research paper commissioned by

Resource:

The Council for Museums, Archives & Libraries
16, Queen Anne's Gate,
London,
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for the

Archives Task Force

September 2002

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“Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.”

United Nations Universal Declaration of Human Rights, Article 19, December 1948

Abbreviations

A ₂ A	Access to Archives
ACALG	Association of Chief Archivists in Local Government
AHDS	Arts and Humanities Data Service
CHNTO	Cultural Heritage National Training Organisation
CILIP	Chartered Institute of Library and Information Professionals
CMS	Content / Collections Management System
CURL	Consortium of University Research Libraries
DCMS	Department for Culture, Media and Sport
DDA	Disability Discrimination Act (1995)
DfEE	Department for Education and Employment
DPA	Data Protection Act 1998
dpi	Dots per inch
EAD	Encoded Archival Description
FoI	Freedom of Information
HEDS	Higher Education Digitisation Service
HMC	Historical Manuscripts Commission
ICA	International Council on Archives
IDAC	Inter-Departmental Archives Committee
ICT	Information and Communications Technology
IFLA	International Federation of Library Associations
IPR	Intellectual Property Rights
ISAD(G)	General International Standard Archival Description
ISO	International Standards Organisation
JISC	Joint Information Systems Committee
LA	(former) Library Association, now CILIP
LAN	Local Access Network
LIC	(former) Library and Information Commission
LGA	Local Government Association
LUCAS	Liverpool University Centre for Archive Studies
MA	Museums Association
NAS	(proposed) National Archives Service
NCA	National Council on Archives
NDAD	National Digital Archive of Data Sets
NgfL	National Grid for Learning
NOF	New Opportunities Fund
NPO	National Preservation Office
NRA	National Register of Archives
OCR	Optical Character Recognition
PRO	Public Record Office
PSQG	Public Services Quality Group
RAC	Regional Archive Council(s)
RMS	Records Management Society of Great Britain
RSLP	Research Support Libraries Programme
SCAN	Scottish Archive Network
SCRAN	Scottish Cultural Resources Access Network
SoA	Society of Archivists
SRA	Single Regional Agencies for Museums, Archives and Libraries
TASI	Technical Advisory Service for Images
UKOLN	United Kingdom Office for Library Networking
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VADS	Visual Arts Data Service
WAN	Wide Area Network

1. Introduction¹

1.1. The Information Revolution

Just as the Industrial Revolution brought about an unprecedented period of global social and economic change in the 18th Century, so ICT (Information and Communications Technology) is effecting an Information Revolution in the 21st Century. ICT has changed the way in which we work, learn and play. Those responsible for the provision of public services face new challenges and responsibilities in helping ensure that the opportunities of the Information Age are made available to all. In this respect, few things are as important to public services than the access afforded to their users, especially in the cultural and information sectors, where the citizen has a fundamental right to access materials which can potentially enrich, inform and empower, whatever his or her abilities, location or status. Museums, archives and libraries have a huge role to play in helping people realise these rights in the years to come.

1.2. Methodology

1.2.1. Resource's brief

In August 2002, Resource commissioned five "think pieces" which would focus on key areas of development for the UK archive sector: *Online access and digitisation*; *A sense of community*; *Scholarship*; *Stewardship*; and *Infrastructure*. "The aim of this theme is to explore how technology can be used to increase access to collections and information about collections for the benefit of users. How can technology be exploited to enhance user experience, and draw in new audiences? What are the options for a truly integrated archival network? What needs to be done to achieve this if it is desirable? Who should do it and how? Are there interoperability and standards issues? Private/public sector partnership working? The global dimension? What are the benefits of digitisation? The access and stewardship arguments? Funding and support models? Role of the regions and national institutions/initiatives? What are the training needs for archive professionals?"

1.2.2. Scope of the Paper

The aim of this paper is to explore how technology can be used to increase access to archive materials and services for the benefit of current and potential future users. This document investigates some of the possibilities (and hazards) of online access and digitisation for the UK's archive services (public, academic, business and special), as well as identifying key players in the field, briefly reviewing the body of knowledge already amassed and identifying broad areas of future research. The paper is *not* intended to be a detailed strategy nor information gathering exercise, but rather seeks to address the fundamental questions and suggest steps required to answer them further. The aim is to help the Archives Task Force assess priorities and highlight the key issues which are likely to affect future policy making, standards and best practice.

1.2.3. Research and consultation

The research paper was produced in August 2002, employing a mixture of desktop research methods, structured telephone interviews and e-mail survey of both archival professionals and users. It was also considered important to summarise the main recent archival and ICT reports and to highlight important work undertaken by related organisations. Certain key articles available on the World Wide Web were also researched, although this has been necessarily selective, given the growth of literature on online access and digitisation, which has increased in direct proportion to the importance of online and digital issues. It is intended that the combination of evidence gathered, the opinions and ideas of those using and working in the archive community, and findings of extant authoritative sources will provide a solid base for future research and development. The consultant wishes to place on record his sincere thanks for the considerable time and effort those participating devoted to the research (see Appendix 3).

¹ Nigel Rudyard is currently Project Manager of Spinning the Web, one of the 152 NOF Digitise projects, formerly the Strategic Development Officer for NW Museums, Libraries and Archives and author of the *North West Regional Archive Strategy* (Resource, 2001).

2. Key issues defined

2.1. Archives in the UK

There are over 1,100 organisations throughout the UK, which provide access to archival materials, which receive over 1 million visits annually. 630,000 of these visits are accounted for by the 130 local authority archives, which together hold over 500 linear kilometres of records which form a vital part of the cultural identities of the communities they serve. “Archives are created by private individuals and a wide variety of bodies, ranging from local and central government to private businesses and societies, primarily for their own purposes. They have been produced in a wide variety of formats, from medieval parchment, paper files, maps, plans and photographs, through to video cassettes and computer disks Archives are looked after by archivists in record offices or archive services. The purpose of having an archive service is to ensure the survival of these unique records both for the study of history and related subjects and for legal reasons ... Access to the records of public sector organisations is an important part of democratic accountability.”²

2.2. Access

“Access services are defined as the means by which an archive service can deliver content from its collection to those in its community who have a stated or implied need for it.”³

Access factors include:

- the number of staff available to assist users;
- the amount of space and number of seats available in search rooms;
- opening hours and availability;
- speed of services;
- the availability of finding aids;
- the geographical location of the building and its physical accessibility;
- user feedback and communication;
- access to other facilities such as meeting rooms, cloakrooms, public toilets and lockers;
- the availability of photocopying facilities, microfilm readers and computers.

2.3. Online access

‘Online access’ refers to the delivery of resources, services or information across a computerised network, either within a service (i.e. LAN, Intranet), or to other systems (WAN) or a wider audience across the Internet. Projects such as A2A (Access to Archives) in the public sector and the Archives Hub in the academic sector have delivered real benefits to users and archivists alike, in making archival catalogue information online available through consolidated portals, thereby making searching across archive collections and services a far more simple, powerful and consistent process.

2.4. Preservation and conservation

Preservation is the active care and maintenance of the physical content of an archive, through activities such as proper storage, conservation and physical protection of the resource, in order to ensure its survival for future generations. Preservation is also “the on-going process of caring for archives to ensure that conservation can be kept to a minimum. Conservation is the practical application of techniques and processes to archival documents to achieve chemical and physical stabilisation to extend their life and usability, and accessibility to the public.”⁴

² p.2, *Our Shared Past: An Archival Domesday for England, Phase 1 Mapping Report* (Archival Mapping Project Board, 1998)

³ A National Standard for Access to Archives, Section 3.5.4, Public Services Quality Group (PSQG) (draft), 2002

⁴ *Our Shared Past – An Archival Domesday, Phase Two: Developing 21st Century Archive Services*, 2001. Section 6, p.20

2.5. Digital preservation

Digital preservation is a process by which digital data is preserved in digital form in order to ensure the usability, durability and intellectual integrity of the information contained therein. The term applies to the preservation of electronic records and materials, many of which have no print equivalent – electronic documents that are "born digital". As has been noted, "where librarians, archivists, records managers and computing technologists assemble, the term 'archive' can (and does) mean very different things...there is some specific confusion...about the differences between digital preservation and digitisation (converting analogue material into digital) as it is used in libraries as a preservation measure."⁵

2.6. Digitisation

Digitisation refers to the creation of an electronic surrogate of an original physical resource (e.g. document, photograph, artefact) that can be retrieved on a computer or network, literally the conversion of analogue material into digital information. Examples are included throughout this paper.

3. State of the sector⁶

3.1. ICT facilities and networks

Although rapidly improving, ICT provision remains generally poor in approximately two-thirds of public archive services. Archivists have recognised the current possibilities of ICT for allowing user access to information about services, finding aids and holdings, as well as the prospect of greater access to surrogates of the archives and records themselves, be these traditional paper-based holdings or documents and records created electronically ("born digital"). Around 25% of public archive services now offer Internet access in their search rooms. In terms of planning, only around 40% of archive services have an ICT strategy, but in many cases this is due to a lack of support from managing authorities / institutions IT departments.

3.2. Online access

Many of the UK's 130 public archive offices now produce lists, catalogues and finding aids, but only 5% of the public archive services surveyed for Phase 2 of an Archival Domesday reported that their automated catalogues and lists covered *all* of their holdings. There is no doubt that A2A has made a positive impact, not just in terms of the catalogues it has made available, but for the methods of co-operative working and networking the project has developed. Possibilities now abound for co-operative working between and within regional and national archives, and thanks to the success of A2A (and the Archives Hub in the academic sector) local archives have witnessed at first hand the effectiveness of such working arrangements. These projects, together with the work being undertaken by national organisations, have also added welcome impetus to the development of common standards for metadata, archival description and the interoperability of information systems. Additionally, over two thirds of the 130 public archive offices deal with e-mail requests and most have a web site of some description.

3.3. Electronic records

Provision for electronic records is probably the Achilles' heel of the UK archive service as a whole. *Our Shared Past* notes that the reports "most disturbing finding" was that "the provision for electronic records in 94% of local authority record offices is poor or very poor...nationally no office provides good provision for storage and retrieval of digital danger." Only 3% of public archive services currently have facilities for the

⁵See Russell, Kelly: "Long term accessibility and usability of digital resources", *Ariadne*, Issue 18.

<http://www.ariadne.ac.uk/issue18/cedars/intro.html>

⁶ Statistical estimates have been derived from *Our Shared Past: An Archival Domesday for England, Phase 1 and 2 Mapping Reports* (English Archival Mapping Project Board, 1998 and 2001)

storage or retrieval of electronic records, which makes their accessibility depressingly low. Given the inevitable increase in number and importance of electronic records, the organisational and technical barriers to progress will have to be addressed as a matter of some urgency.

3.4. Digitisation

Around 50 of the 130 archive services (37%) were undertaking or planning programmes of digitisation of holdings in 2001, but over half of the offices surveyed for the *Archival Domesday* reported their overall capacity to digitise their holdings as poor. Although undoubtedly all archive services have recognised the tremendous potential, there are considerable barriers preventing services from developing digital resources, including funding problems, lack of core skills, staff time and satisfactory technological infrastructures. This is particularly the case with smaller archive services. Many archive services have been involved in the 152 NOF (New Opportunities Fund) Digitisation projects, and as with A2A, the establishment of regional partnerships is a useful development in its own right in addition to the resources which the £50 million programme will make available.

3.5. Conclusions

Most archive services are making steady progress in the areas of ICT they are able to influence, having taken steps to address future issues despite the lack of core funding for such activities. However, Local Authorities in particular must address the lack of resources being allocated to records management and provision for electronic records, before 'the point of no return' where vital information is lost forever. The Phase 2 report of *Our Shared Past* notes the steady improvement and positive attitude of both archive professionals and users in recognising the current usefulness and future potential of ICT. However, it is clear that the archive domain is being held back from developing online services and projects by:

- the overall lack, consistency and uneven distribution of resources;
- the differing capacities of each service to undertake development work;
- variable levels of skills and staff availability;

More fundamental, however, are the issues of:

- the lack of an IT infrastructure for archive services, both at local government level and nationally;
- the lack of correlation between local government's management of their records and allocation of financial and technological resources.

4. Strategic Contexts

4.1. International contexts

<i>Global Internet usage, 2002</i> (source: Global Reach)						
	Internet access (M)	% world online pop.	2003 (est. in M)	Total pop. (M)	GDP (\$B)	% of world economy
English	228	40.2%	270	567	\$13,812	33.4%
Non-English	339	59.8%	510	5633	\$27,590	66.6%

The current number of people with access to the Internet is estimated at over 560 million, or roughly 1 in 10 of the world's population. Over 40% of the world's Internet users are English speakers. Internet usage continues to grow in Europe, and more rapidly yet throughout Asia, the Far East and South America.⁷ The potential contribution of archives to this global information network is considerable, and the availability of information about local communities, institutions and individuals a valuable cultural and educational resource in its own right. In many ways, the inclusion of archives – which help celebrate the unique nature of local communities and regions – might be seen as an antidote to the cultural homogenisation often blamed on the modern world. UNESCO, the International Council on Archives, IFLA and many other international organisations place great store on electronic access to information as a way of making information and educational resources available across the world, particularly to developing nations: “ICT must be recognized as a necessity, not a luxury, in government budgets. It is not an alternative to other expenditure but is a requisite tool for development.”⁸ The UNESCO *Memory of the World* programme aims to protect and promote the world's cultural heritage through a number of initiatives, including offering support for the digitisation and preservation of documentary heritage collections which have world significance, and the development of a number of databases listing endangered or threatened collections.⁹ The European Union has also grasped the importance of digital initiatives and systems as an important way of achieving greater cultural and economic harmonisation, taking action through a variety of initiatives such as the *Forum for Network Co-ordination*, which represents the UK node of *Digitising Content Together*, a joint initiative of Member States and the European Commission which aims to co-ordinate digitisation activities, and to enhance co-operation between states through sharing skills, best practices and standards (part of action plan for [eEurope](#) formed in 2000).

4.2. UK contexts

With the election of the New Labour Government in 1997, the Department for Culture, Media and Sport (DCMS) emphasised the need for a closer link between the cultural sector and broader aims of the Government agenda, including: broadening access to culture and the encouragement of lifelong learning; combating social exclusion; achieving greater “joined up thinking” both between government agencies and sectors (including museums, archives and libraries). The formation of Resource in 2000 drove forward a programme of increasing co-operation between museums, archives and libraries – “cross-domain” working. The establishment of Single Regional Agencies from 2004 will bring these three domains together at a strategic level throughout the nine English Regions. Within the archive domain, forums such as the National Council on Archives (formed 1998) and the Inter-Departmental Archives Committee (IDAC) have contributed to the development of the archive domain and ensured its readiness to modernise services and work in co-operation with other agencies. The NCA's leading role in establishing Regional Archive

⁷ For example, the number of Chinese users with access to the Internet is projected to increase from 55 to 125 million between 2002 and 2003 (source: Global Reach Internet statistics, 2002 <http://www.greach.com/globstats/>)

⁸ United Nations, *Summary of Informal Panel Discussion*, “How can ICT leverage development to meet the Millennium Summit Goals, building on multi-stakeholder partnerships for promoting digital opportunity?” Panel held 17 June 2002 at the Meeting of the General Assembly devoted to information and communication technologies for development.

⁹ See IFLA/UNESCO Survey on Digitisation and Preservation, compiled and edited by Sara Gould and Richard Ebdon, (International Preservation Issues - Number Two) IFLA, 1999 ISBN 0 95 32439 58 The Memory of the World Register can be accessed at <http://www.unesco.org/webworld/mdm/register/index.html>

Councils has done much to foster and strengthen regional co-operation and debate across the public, academic, business and private sectors, as well as bringing together representatives from practitioner and user groups such as the British Association for Local History, the Business Archive Council, the Consortium of University and Research Libraries and the Royal Historical Society and allowing for input from the museum and library domains. Whatever the structure of the Single Regional Agencies, this good will and strong archival voice must not be lost at regional level.

ICT has played an important role in the planning of all these agencies. Government has repeatedly emphasised the importance of ICT in providing greater access to both culture and information. "Digital technologies have the potential to open up our artistic and cultural resources to new audiences in new ways. They communicate ideas and images with ease and speed; they allow individuals to take their own journeys and tailor experiences to their own interests ... they can provide access to places, collections, exhibitions and performances normally experienced by only a few; they can draw new audiences in by presenting things in exciting and engaging ways; they can provide direct contact with artists, directors and curators; they can turn users into creators; and they can bring communities for all kinds together to create their own art and document their own history."¹⁰ UK Online programmes such as Culture Online, NOF-Digitise and the People's Network, have all helped change the organisational landscape of UK museums, archives and libraries. The Government Policy on Archives also stressed the importance of ICT, both for cultural and evidential purposes: "... [Electronic] Systems need to be designed, which will enable creating organisations to retrieve rapidly the information required for business purposes, which will ... ensure that records of long-term historical value can be permanently preserved." The Government Policy also notes that "it still remains the case that the number of people who come to archives is comparatively small, and does not include all sections of the community ... if information about collections and digitised images of the most popular records is made widely available on the new information networks, then the sector may capture the imagination of social groups which have not hitherto had much contact with it."¹¹ Furthermore, the development of national archival legislation together with recent legislation such as the Freedom of Information Act (2000) and the Data Protection Act (1998) will impinge upon the use of ICT throughout the archive domain and may either limit or enhance its usage, depending upon the context: "However, it must also be recognised that the individual citizen has a right to privacy concerning personally sensitive data supplied in confidence to government or private organisations. The requirements of Freedom of Information, Data Protection and Human Rights legislation need to be meshed together in a clear and consistent way."¹²

4.3. Organisations and Forums

There are a number of international and national organisations and groups actively involved in the development or co-ordination of online services and standards within and beyond the archive domain (see Appendix 1 for full details), including:

- **AHDS** – *discovery, creation and preservation of digital collections*
- **CEDARS** – (*CURL Exemplar in Digital Archives*) project to explore digital preservation issues: acquisition of digital objects, long-term retention, description and access. *CURL= Consortium of University Research Libraries.*
- **Co-ordination of National Digitisation Policies & Programmes** – *EC forum*
- **Digital Preservation Coalition** – *JISC digital preservation research project*
- **HEDS (Higher Education Digitisation Service)** – *digitisation advice and consultancy*
- **International Council on Archives** – *worldwide advancement of archives*
- **ISO** – *playing a central role in developing Open Archival Information System (OAIS)*
- **JISC** – *strategic advisory committee (UK FE and HE) promoting innovative and cost-effective application / use of ICT, and providing leadership and funding for network infrastructures.*
- **LEADERS** – *project researching into new ways of presenting material in an online environment, concentrating on the integration of encoded finding aids with digitised images and transcripts of archive source material.*

¹⁰ Chris Smith, Secretary of State for Culture, Media and Sport: p.5, foreword to *Culture Online: the Vision*. DCMS, 2001. <http://www.cultureonline.gov.uk/>

¹¹ Lord Irvine of Lairg, Lord Chancellor's Introduction to the *Government Policy on Archives* (Lord Chancellor's Department, 1999). <http://www.pro.gov.uk/archives/archivepolicy/default.htm>

¹² *Government Policy on Archives* (Lord Chancellor's Department, 1999) I. Principles of Government Policy on Archives, Section 5, The Value of Records, para 5.1.

- **MINERVA** – forum aiming to discuss and harmonize digitisation activity across EU
- **National Council on Archives** – forum for major archival bodies and organisations
- **National Preservation Office** – advice on preservation & access to library / archive material
- **Public Record Office (PRO)** – UK's de facto leading archive co-ordinates a range of ICT projects
- **Resource** – strategic leadership, advocacy and advice to museums, archives & libraries
- **Records Management Society (GB)** – co-ordination of RM professionals in UK
- **Society of Archivists (SoA)** – voice of UK archive profession; promotes stewardship, training etc.
- **TASI** – FE / HE advice service for creation and management of digitisation projects etc.
- **UKOLN** – focus for expertise in digital information management, providing policy, research and awareness services to UK library, information and cultural heritage communities.
- **UNESCO** – works towards
- **VADS** – two main aims are to (1) build a searchable online archive of digital resource and (2) to promote good practice in digital resource issues in the visual arts community.

4.4. Projects and initiatives

There are a growing number of online and digital projects and initiatives in the UK (see Appendix 2 for full details), the most important including:

- **A₂A (Access to Archives)** – online catalogue descriptions of a wide range of archives held throughout England, publicly available via www.a2a.pro.gov.uk. A₂A aims to create a virtual national archive catalogue of 8 million entries / 400,000 catalogue pages available via a central web portal.
- **AIM25** – RSLP funded project providing electronic access to collection level descriptions of the archives of over 50 HE / learned societies throughout Greater London
- **Archives Hub** – provides a single point of access to descriptions of UK university and college archives (mainly at collection level presently), funded by JISC.
- **Culture Online** – £13m project commissioning 30 innovative online projects to enhance learning using resources of cultural organisations, via a gateway linked to NGfL (National Grid for Learning).
- **GASHE** – The project provides electronic access to descriptions of archives of 10 Scottish HE institutions and their predecessors, dating from 1215-present
- **NDAD** – contains archived digital data drawn from UK government and agencies
- **People's Network** – project aiming to connect all public libraries to the Internet (4,000 projected by end 2002), funded by the Lottery via New Opportunities Fund.
- **SCAN (Scottish Archive Network)** – key aim to open up Scotland's rich archival heritage to all, supported by HLF, Genealogical Society of Utah and National Archives of Scotland.
- **SCRAN (Scottish Cultural Resources Access Network)** – a searchable online resource base of over a million text and multimedia records relating to culture, history and science.

4.5. Strategies and reports

There have been a number of reports produced in recent years which refer to ICT and online access, both within and beyond the archive sector. These include:

- **Archival Mapping Project Board** – *Our Shared Past: An Archival Domesday for England, Phase 1 Mapping Report* (English Archival Mapping Project Board, 1998)
- *Phase 2: Developing 21st Century Archive Services* (2001)
- **Arts and Humanities Data Service** – *A Strategic Policy Framework for Creating and Preserving Digital Collections* (AHDS, 2001, Version 5.0)
- **Department for Education and Employment** – *Connecting the Learning Society* (DfEE, 1997)
- **Library and Information Commission** – *Virtually New: creating the digital collection. A Review of Digitisation Projects in Local Authority Libraries and Archives* (LIC, 1996)
- *New Library: The People's Network* (LIC, 1997)

- **Lord Chancellor's Department** - *Government Policy on Archives* (Lord Chancellor's Department, December 1999)
- **National Council on Archives** – *Archives Online: the Establishment of a United Kingdom Archival Network* (NCA, 1998)
- *British Archives: The Way Forward* (NCA, 2000)
- **National Preservation Office** – *A National Preservation Strategy for Library and Archive Collections in the United Kingdom and Ireland: principles and prospects.* (NPO, January 2001)
- *Digital Culture, maximising the nation's investment: a synthesis of JISC/NPO studies on the preservation of electronic materials.* (NPO, 1999)
- **Resource: the Council for Museums, Archives and Libraries** – *Developing the 21st Century Archive: An Action Plan for UK Archives.* (Resource, 2001)
- *Resource's Archives Agenda: A consultation paper for the UK Archives Community* (Resource, April 2001)
- *Information Communications Technology and the Development of Museums, Archives and Libraries: A Strategic Plan for Action* (Draft) (Resource, May 2001)
- **Royal Commission on Historical Manuscripts (later HMC)**
Archives at the Millennium: 28th Report of the RCHM, 1991-1999 (The Stationery Office, 1999)
- **United Kingdom Office for Library and Information Networking**
Full Disclosure: Releasing the Value of Library and Archive Collections, presented to the Pathfinding Group of the British Library. (LIC and LINC, 1999)

Additionally, all the Regional Archive Council strategies include sections on ICT and online access. These highlight the disparity of provision, both within and between the English regions.

4.6. Conclusions

Ironically, one of the major outcomes of the aim to achieve greater joined-up thinking has been to increase (rather than decrease) the number of agencies engaged in the activity of research and development. There is perhaps a need to slim down the number of standards and agencies involved in order to facilitate the development of uniform, coherent standards, technologies and strategic direction, whilst reducing reduplication of effort. Too many standards and organising bodies could result in a 'technological Tower of Babel' which will adversely affect all parties' ability to work together. The apparent shortfall in strategic and consultative work seems to be in the area of detailed, pro-active user consultation – i.e. that carried out *before* new initiatives and services are developed. Non-technical infrastructure and operational issues should be addressed before ICT issues: particularly with Electronic Records, where the key issue is the underlying basis of how e-records are generated and managed by Local Authorities and other institutions.

"The problem with online projects in the archive sector is that the people creating these facilities do not start with the basics nor consult sufficiently with the people who are going to be using the resource ... my feeling is that the problem arises because money is suddenly available, everything is done hastily, everybody is scrambling for bids, and when they have the money they have to meet a too-tight deadline for completion ... and there's no time to sit calmly and think about the structure and process from the beginning."

Dr. Alan G. Crosby, archive user

5. Online Access and Digitisation – Future Issues

5.1. Access issues

"Access" is not an absolute concept. The nature and perception of "access" to services differs across the three domains (amongst both users and practitioners), and this is necessarily dependent upon the nature of the materials dealt with by each domain. **Museums and galleries** are places of display and interpretation where artefacts and works of art are exhibited. Most users of museums and galleries understand that "access" generally means the availability of an artefact or work of art for exhibition, rather than (in general) the right to physically handle or borrow items. **Libraries** have a long history of direct physical access to their holdings, including lending, this being due to such holdings being commercially printed volumes rather than unique objects. Thus the library users' perception of "access" is generally the availability of items

either to borrow or at least study with minimal restriction. The notion of access in the **archives** domain has to be tempered with considerations to the preservation of unique originals. Whilst the archive users' perception of "access" is certainly to expect physical availability to documents and other primary sources, it is generally understood that archives are often rare or fragile, and physical access is not always possible.

5.2. Applications of Online Access

5.2.1. Access to catalogues and finding aids

The future of the online archive services will be built on the foundations of cataloguing. No other activity is more important to the archives domain, nor can any other area better utilise the power of ICT to provide online access to information about the *full range* of collections held in UK's archives. Whilst the digitisation of original materials will become increasingly important, the top priority must be to provide details of all archival holdings in order to put collections selected for digitisation in their proper context. *Access to Archives* (current target 400,000 catalogue pages) and the *Archives Hub* (target 20,000 descriptions) have both done much to demonstrate the advantages of running centrally managed and distributed co-operative online catalogue projects. Providing access to the complete range of holdings of an archive service (unlike the digitisation of selections) is widely regarded by both users and archivists as the top priority. Whilst projects such as those funded through the NOF-Digitise programme are valuable demonstration exercises to show what can be done in the future, the archive domain needs to be able to concentrate on consolidating information about holdings.



Figure 1. Access to Archives (A2A)

Major challenges remain, even when A2A and the Archives Hub have reached their current targets. Whilst the provision of collection level descriptions is useful (e.g. detail of collections and files held by archives, see Fig 4. below), item level descriptions would provide greater access to information on holdings. There is a huge backlog of archival materials which remain uncatalogued at holding archives and therefore no online (and often physical) access is possible. The archive domain's attempts to tackle these issues has arguably been hampered by the structure of funding – for example for Access to Archives – which requires a rather synthetic project approach (i.e. the construction of particular subject areas or collections to catalogued) instead of supporting the principle of ongoing, systematic cataloguing of all holdings.

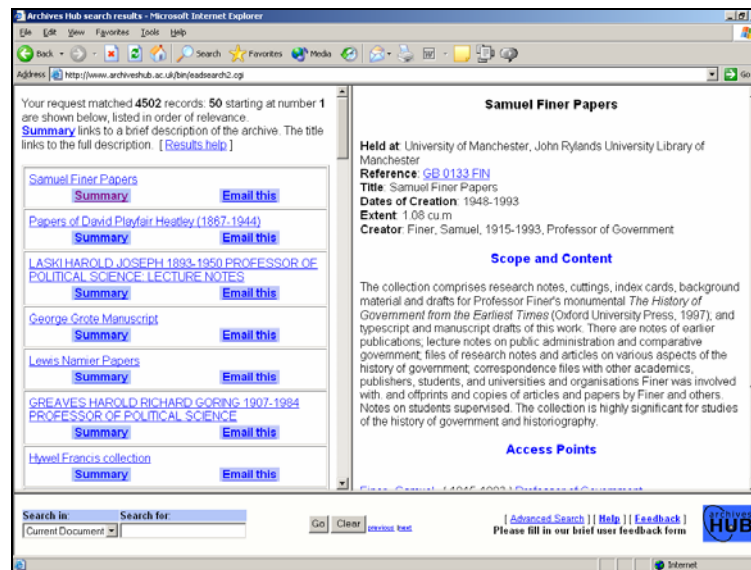


Figure 2. The Archives Hub.

“Our approach so far has been concerned with the digitisation of finding aids rather than with digitising original material. We feel that it is more important to give people an overview of what we have got rather than supplying images of an arbitrary selection, with the danger of giving the impression that this is all we have.”

“It’s a question of putting the cart before the horse. Imagine planning and building a huge national reference library without a catalogue. Then fill the library with countless unique volumes, but rip out all the contents pages. It’s an unthinkable waste of time, effort and resources, but that’s what we’ll be doing if we digitise before we make catalogues available online. Providing online access to information about collections must come first – the content itself should come later.”

5.2.2. Access to digital surrogates of original documents (and metadata / OCR text)

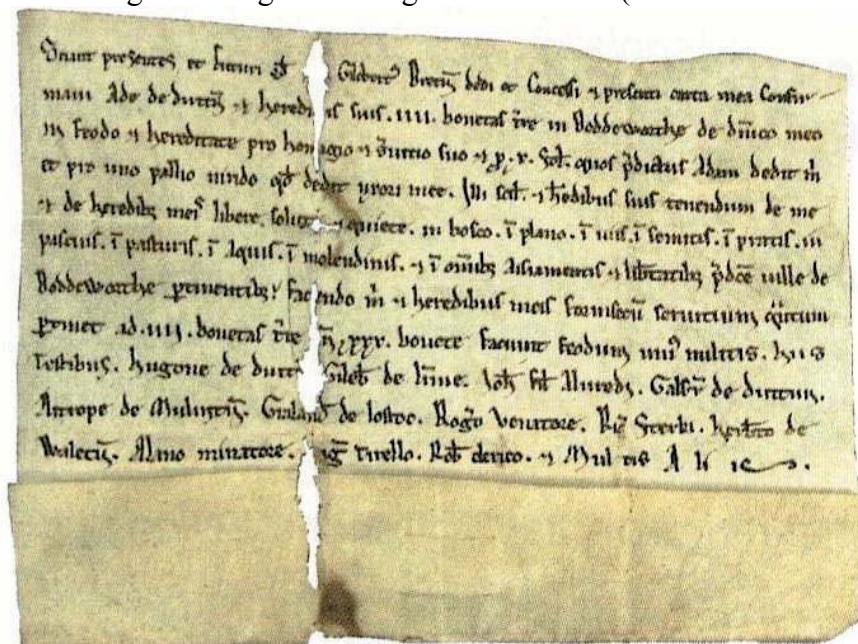


Figure 3. Feoffment document, Great Budworth, Cheshire.
Courtesy of Cheshire and Chester Archives & Local Studies

Although there are arguments for and against (see below), there is no doubt that a representation of an original item can be of great value in giving an idea of not only the unique item itself, but also of various *categories* of materials – e.g. maps, plans, manuscripts, wills, drawings etc. Whilst nothing can, perhaps, ever substitute the immediacy and value of the physical object itself, a surrogate of the right

quality and availability can provide access where none was available previously. The question for the future is how digitisation is carried out, which software systems are used to store the images and descriptive data (metadata) about those images, and how these resources are disseminated.

Possible models include:

- (1) Digitisation is carried out locally and made available over the Internet on individual archives' web sites. These resources can be brought together by providing links on a central web site such as ARCHON. However, cross-searching would be difficult without the development of some form of interoperable gateway.
- (2) Materials are selected locally, but digitisation work is carried out centrally, appended to existing cataloguing data (i.e. A2A and the Archives Hub). This would ensure the proper linkage of surrogates with cataloguing data and allow for 'cross-searching' using existing facilities of these projects. In other words, the images would be attached to the catalogue records. This could be achieved by extending the current scope of A2A / Archives Hub.

"If a 'unique item' is part of a larger collection, placing a facsimile on the internet takes it out of context and is likely to depreciate its informational value ... placing lots of 'unique items' on the web runs the risk of merely creating a collection of unconnected ephemera, or famous autographs, and distorts the true nature of what archives are."

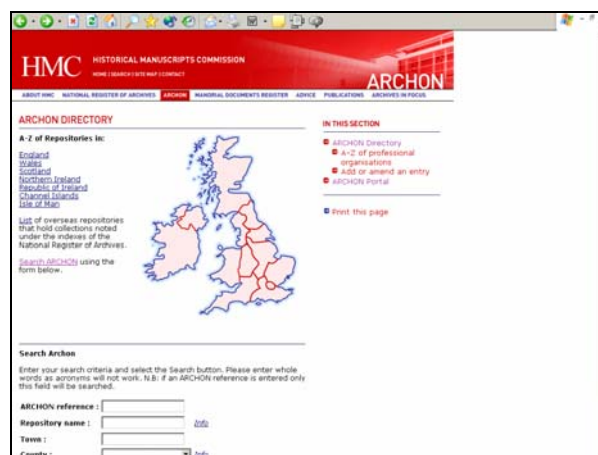
Tim Procter, Project Archivist, Archives of Soho, Birmingham City Libraries

"Nothing can substitute for the sight, feel, smell and 'aura' of an original document. This is not mere sentiment ... if one is analysing a document really carefully, the pressure of the pen or quill, the minor blots and form of the strokes, all play a part."

Dr. Alan G. Crosby

5.2.3. General information about the archive service and other local services

It should not be forgotten that the presence of a simple web site can be of great assistance to users and professionals alike. No special technology nor particularly advanced skills are required to set up an e-mail service and web page that allows users to discover what an archive has to offer. 'Portal' sites such as ARCHON provide not only information about each archive, but links into individual web sites. Similarly, the presence of a web 'hot' link *within* the managing institution or authority can alert potential users to the presence of archive services.



5.2.4. Access to electronic records and other sources "born digital"

It is evident here that much work is required with regard to the organisational mechanisms within local authorities and institutions before the issues of online access become the top priority. The ICT issues are (arguably) subordinate to the organisational procedures of acquisition, disposition, the relationship between records management services and archives, and how e-records are disseminated and protected.

With the targets laid down by the Government¹³, the provision for electronic records will soon become an important political (as well as operational) consideration. The white paper *Modernising Government* set the target of providing electronic storage and retrieval of all newly created electronic public records by 2004 and all dealings with Government in electronic form by 2008. Recent legislation such as the Data Protection Act 1998¹⁴ (which protects the rights of individuals) and conversely the Freedom of Information Act 2000¹⁵ (which provides statutory rights to those requesting information held by central and local public agencies) will be a key consideration. There must also be an appreciation that records created electronically are (or will one day be) of equal worth to their paper-based equivalents. They too are equally vulnerable to loss and destruction, and in the long run *require the care and expertise that only the archive sector can bring to primary sources*. Electronic databases created by local authorities, academic institutions and other organisations *are the archives of the future*.¹⁶ Paper diaries, memos and notebooks may one day become a thing of the past, or at least be substantially supplemented by electronic formats such as e-mail, personal digital assistants and word processed files. For example newspapers and other publications are already generated from electronic copy produced by journalists. The archive service will need to address the issue of how it cares for these new archives, and decide if it wishes to assume a lead role in their preservation and dissemination, or leave such activities to others and allow the profession to slowly lose control over archives based on electronic records. It would be wise to consider these issues *now* before they become a major issue. Structured electronic records and other sources 'born digital' (e.g. family photographs taken on digital camera) together with digital surrogates of paper-based originals potentially form a single cultural resource, which could ensure a continuity of preservation of the nation's memory and widen access to both cultural and evidential records.

5.2.5. Repurposing / repackaging of digitised materials

The "repurposing" or repackaging of materials into online or printed education packs, where materials are digitised to fit a theme or narrative rather than as an open collection, presents both educational and commercial opportunities, and may well prove especially effective with popular types of records such as wills and parish records. However, it is a time-consuming activity and those interviewed assigned a low priority to such activities at present.

"Interpretation is an under-developed skill in the archive domain. I suspect future digitisation projects and services will see this traditional role expanded to include a considerably greater degree of interpretation and description."

5.2.6. Multimedia – sound and moving images

Regarding "special" formats such as sound and moving images, these will probably become an important area for online services and projects in the long term, but at present the technological limitations (e.g. inability to stream such sources on the Internet) does not currently allow for the digitisation of holdings such as oral history collections and video recordings *en masse*. Digital images of static originals can also be animated or used as part of an 'interactive', and whilst such features may be useful in the future, it is also a danger to fall into the trap of succumbing to gimmickry and misrepresentation of originals, or reducing their accuracy by employing such practices.

¹³ See: *e-government: a strategic framework for public services in the Information Age*, e-Envoy/CITU, April 2000.

¹⁴ The Data Protection Act 1998 came into force on 1 March 2000. It gives effect in UK law to the 1995 EC Data Protection Directive. The Act strengthens and extends the data protection regime created by the Data Protection Act 1984, which it replaces. See www.dataprotection.gov.uk. The 1998 Act applies to: computerised personal data (like the 1984 Act); personal data held in structured manual files (new). It applies to anything at all done to personal data ("processing"), including collection, use, disclosure, destruction and merely holding data.

¹⁵ The Freedom of Information Act 2000 provides clear statutory rights for those requesting information together with a strong enforcement regime. Under the terms of the Act, any member of the public will be able to apply for access to information held by bodies across the public sector. The legislation will apply to a wide range of public authorities, including Parliament, Government Departments and local authorities, health trusts, doctors' surgeries, publicly funded museums and thousands of other organisations. See <http://www.lcd.gov.uk/>

¹⁶ Global data production is now estimated at 1 - 2 exabytes (10¹⁸ bytes) of unique information per year, or 250 Mb for every person on earth. Printed documents equate to just 0.003% of this total.

5.2.7. E-services and sales

Online services such as the ability to book a seat in the searchroom, make enquiries by e-mail and order publications, are another good way of the 'hybrid approach' of meshing ICT with 'traditional' services. Remote enquiries by fax, e-mail and post are already a part of the archival landscape. One way of making digitisation sustainable is to make it demand-driven (i.e. digitisation on demand). Another is to develop e-commerce initiatives such as the sale of images as high quality prints or online images. The Leodis database (<http://www.leodis.org/>) represents such an approach, making on-screen images freely available but offering high quality reprints for sale over the Internet.

5.3. Benefits of Online Access

5.3.1. Greater remote access to archive services

Where physical access to services is not possible or practicable, the availability of catalogues, finding aids, surrogates of documents and other services potentially creates a powerful new form of delivery that establishes a presence, both within local communities and throughout the world. The ability to access catalogues and documents online presents opportunities for new audiences and the maximisation of *potential core audiences* – those people to whom archives should naturally appeal but who do not currently use the service. Access to digital surrogates when delivered across the Internet makes them simultaneously available at many points of presence. A document is by its very nature slow and limited to one user at a time (and involves much physical movement of holdings), whilst online access to a digital surrogate can be (theoretically) provided quickly to an almost limitless number of users with access to the original server(s) on which the surrogate is stored – with no need for archive staff to retrieve the original. Remote access will also allow archive services to be made available *within* a particular locality or organisation. The potential for publicising archive services *within* parent authorities and making services available at other local service points (e.g. library and information centres, schools and colleges, community centres, residential homes) is enormous.

Q. Do you see an increased "remote" use as a good or a bad thing?

A. "Good - I could never have fitted 56,000 readers in my reading room!"

An archivist reporting reflecting on the number of hits to one of their online projects.

"Remote access is important as a means increasing your penetration of your potential market and widening the appeal of your archives – this is especially true for businesses which open to the public as they often have national / international collections which need to reach out beyond their immediate locality and in some cases do not even relate to their immediate locality."

Nigel Hardman, business archivist

5.3.2. Creation of new audiences and increasing core audiences

There is an almost limitless potential for allowing remote access to archive services, finding aids and materials. Furthermore, there is good anecdotal evidence to show that those using the online catalogues are actually encouraged to visit an archive, and in several cases deposit materials¹⁷. The advantage of creating these new audiences are two-fold insofar that archive services can reach (1) a far greater number of those fitting the profile of the potential core audience not currently using archives and (2) those who are not aware of the range of services provided, particularly younger people. As has been noted, "most potential users of archives don't."¹⁸

"From a user's point of view, visiting archives can be a major and expensive undertaking. It's not that people aren't interested in visiting archives, it's just not possible for many - for example those caring for children at home. Remote access removes (or at least lowers) these barriers and opens up resources to a far wider audience."

Glynis Greenman, archive user, writer and historian

¹⁷ Interview with Sarah Flynn, A2A, August 28th 2002.

¹⁸ D. Bearman, "Archival Methods", *Archives and Museums Informatics* (Spring 1989), p.39.

5.3.3. Enabling users to plan and prepare their visits to an archive in advance

This is a good example of traditional and ICT services working together to improve both access and efficiency. Those archivists and users interviewed considered this as one of the most useful applications of online services, several citing (1) electronic access to catalogues / finding aids and (2) online ordering / booking as two preparatory e-services which increase the efficiency of the searchroom and reduce waiting times and the amount of material requested in the first place.

5.3.4. Allowing greater access to users working *at* an archive

There is no doubt that the availability of a computer connected to both internal information systems (catalogues, intranet) and external sources (Internet sites such as A2A), *combined* with the original documents being studied provides the user with a far more comprehensive and powerful searching strategies than using one or other alone. As more museum and library materials are made available online, together with improved gateways and interoperable systems, this will enable the user to tie in their work at one record office to the holdings of other record offices, museums and libraries. Even basic computer facilities such as the ability to use a word processor or spreadsheet onsite is a distinct advantage: anyone who has worked in an archive will know that taking notes with any writing implement, is an inconvenience for both archivist and user.

5.3.5. Enabling disabled users to gain greater access to services and materials

Although ICT is not in itself a solution to the problems of those with physical or learning disabilities, there is no doubt that the application of assistive and special needs technologies can greatly facilitate access, both remotely and at the point of delivery.¹⁹ Even basic staff awareness of the facilities offered by normal PCs and the Windows operating system could make a huge difference to disabled users, without any additional technology, by knowing answers to basic accessibility questions such as whether any computer designated to persons with disabilities is clearly signed, or has a large enough monitor, screen enlargement software, sound card or speech synthesizer and adjustable keyboard tray etc. In a decent, democratic society, the aim of providing equal access to should be an essential pre-requisite rather than a special consideration. The Disability Discrimination Act (1995) places clear legal obligations on all service providers (which include information services) to provide services to those with disabilities: Part III Section 19 (1): "It is unlawful for a provider of services to discriminate against a disabled person (a) in refusing to provide or deliberately not providing to the disabled person any service which he provides, or is prepared to provide, to members of the public..."²⁰ Interestingly, several archivists interviewed felt strongly that ICT should not be used to hold disabled users at a distance by providing this as the only mode of access to archive services for this group.

"Whilst archive searchrooms and facilities are becoming more disabled friendly it is not always possible to meet the needs of all disabled users. This is therefore a very important medium for allowing access and increasing social inclusion."

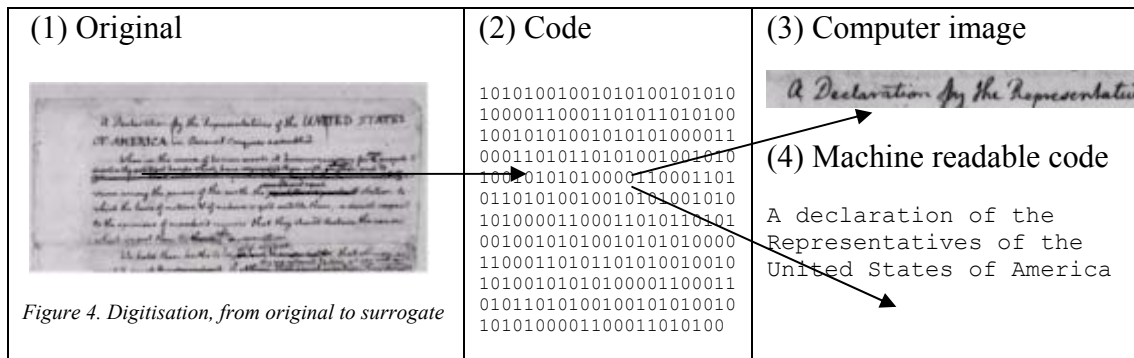
Nigel Hardman, business archivist

5.4. Technical Processes and Standards

An original manuscript or artefact is analogue information (1), which is scanned or digitally processed to become a computerised representation, encoded (2), interpreted and displayed by computer as a representation of the original (3) or machine readable characters (4) in the case of an original that has been optically recognised or retyped. This might simply be an image that has been scanned into a web page, but large scale digitisation involves generating descriptive data (metadata) about both the original resource and the surrogate on cataloguing (or content management) software to fully exploit the resource and make searching for items in large digital collections possible.

¹⁹ See "Equality of Access" by Lorna Brown, Consultant and Sarah Ormes, UKOLN, on behalf of EARL, the Library Association and UKOLN (Issue paper from the Networked Services Policy Taskgroup) <http://www.ukoln.ac.uk/public/earl/issuepapers/equality.html>.

²⁰ See <http://www.hmso.gov.uk/acts/acts1995/95050--c.htm#end>



5.4.1. Digitisation Processes

The actual process of digitisation itself is time consuming and requires both practical and intellectual decisions to be made about the suitability of the sources to be digitised and how they are stored, described and disseminated. *Virtually New - Creating the Digital Collection*²¹ advises that actual 'data capture is but a small part of the project, and often the easiest and quickest part', citing the main elements as:

- Selection of material
- Copyright identification of owners and clearance
- Selection and installation of hardware and software (data capture & retrieval systems)
- Data capture (the actual scanning etc.)
- Cataloguing and indexing
- Document and file management

The *NOF-Digitise Technical Standards and Guidelines*²² cite four broad areas for consideration:

- **Preservation:** the importance of securing long-term future of originals
- **Interoperability:** the ability to share content seamlessly between projects
- **Security:** protecting intellectual property rights, privacy and authenticity of the images
- **Accessibility:** so that materials are as accessible as possible and easily searched

5.4.2. Selection of Materials

The actual selection of representative samples and collections of materials is an editorial process which requires knowledge of both the materials in question and the audience(s) to be reached. Consideration also need to be given to the focus of any particular project and requirements of funding agencies which may be supporting the work. The Higher Education Digitisation Service offers the following advice²³:

- "Know your originals": their format, condition, size, colour and content
- Identify the costs (noting that objects will require intermediary photography)
- Create a digital master: (i.e. a high quality file which will become an archive version)
- Think about resolution and bit-depth (See www.tasi.ac.uk)
- Choose the right scanning equipment (esp. a good quality flatbed scanner)
- Decide whether to scan in-house or use a bureau
- If choosing an external scanning bureau:
 - Checking that such bureaux conform to NOF-Digitise standards
 - Ensuring that bureaux have safe storage facilities away from the main production area
 - If work is subcontracted, ensuring that subcontractors conform to same standards / practices

²¹ Library and Information Commission, 1996: see <http://ukoln.bath.ac.uk/services/lic/digitisation/intro.html>

²² See The People's Network site: <http://www.peoplesnetwork.gov.uk/nof/technicalstandards/introduction.html>. The New Opportunities Fund Digitisation guidelines have become an important *de facto* standard, applying to the 152 NOF-digitise projects (see www.nof.org.uk)

²³ HEDS' Information Paper, *The Digitisation Process* (<http://www.ukoln.ac.uk/nof/support/help/papers/digitisation.htm>)

5.4.3. Data Capture: scanning and photography

The capturing of material demands time and care if originals are not to be damaged and high quality results achieved. Consideration also needs to be given to the quality and capabilities of equipment used, the format of materials (for example 5ft plans cannot easily be scanned or photographed without special equipment). Many of the skills required are currently not possessed in-house, and their development is an important step towards making digitisation a 'core', sustainable activity.

5.4.4. Content Management

Digital resources are managed using some form of database system, usually a collections or contents management system. These record technical and intellectual metadata about the resources, and often provide a web interface which allows digital collections to be made available over the Internet. Selecting the right system is crucial. Archival software such as CALM is being developed to deliver some of this functionality.

5.4.5. Metadata

Metadata is simply 'data about data' – e.g. a catalogue record, a collection-level description for an archive, a database field or a HTML tag – any structured format used to describe either data, information or content. The Dublin Core²⁴ defines fifteen metadata elements for simple resource discovery; title, creator, subject and keywords, description, publisher, contributor, date, resource type, format, resource identifier, source, language, relation, coverage and rights management. Content Dublin Core record structure enables a degree of interoperability (or compatibility) with other systems (1) employing the same schema or (2) capable of 'mapping' field names to Dublin Core element values.

5.4.6. Interoperability

Interoperability is the active pursuit of "ensuring that the systems, procedures and culture of an organisation are managed in such a way as to maximise opportunities for exchange and re-use of information, whether internally or externally."²⁵ Interoperability embraces technical, semantic, human and organisational and "Intercommunity interoperability – collaboration amongst resource providers, and if online archive systems are to work with other online services, then architectures such as being developed by Project WARM²⁶ (Widening Access to Resources on Merseyside) project will be essential to developing such functions. A good example of an interoperability protocol is Z39.50²⁷ which allows computer systems based on different platforms and information systems to exchange data on a "distributed" basis by setting up client software which seeks Z39.50 "targets".

5.4.7. OCR

Digitisation also includes information that has been recreated (e.g. by re-typing information contained in originals) as an electronic resource. This includes **OCR** – optical character recognition – which is used to convert text in an image or printed document into machine readable code (e.g. as in a word processed document) which can be manipulated within standard IT applications. OCR currently has low accuracy ratings and often requires a great deal of checking and retyping. There is much work to be done to assess the format of machine-readable equivalents as part of digital collections. It is quite possible that some users may discover what they need by reading full item level catalogue entries with appropriate text added as metadata. It may be that future best practice includes text in catalogue records and digitised documents.²⁸

²⁴ See <http://www.dublincore.org/>

²⁵ Paul Miller, UKOLN Interoperability focus: <http://www.ukoln.ac.uk>

²⁶ Project WARM is developing a prototype architecture for cross-domain operability by including datasets encoded in domain-specific record formats EAD (archives), MARC (libraries) and SPECTRUM (museums).

See http://www.liv.ac.uk/Library/llgroup/llgconf02/project_warm_files/frame.htm

²⁷ See the International Standards Maintenance Agency web site at <http://www.loc.gov/z3950/agency/>

²⁸ It should be borne in mind that transcribed text is not considered as trustworthy as digital image of the original, and in turn the digital image will not be considered as trustworthy as the original, especially for legal purposes.

5.5. Preservation and Access

5.5.1. Preservation of originals

Is digitisation a threat or an aid to preservation? The answer to this question depends on how digital surrogates are created and used. The consensus of those interviewed during the research was that digital surrogate is an *aid* to preservation rather than a *substitute*, and that any greater demand made for the original must be offset by using the digital surrogate (both remotely and on-site) wherever possible. While only relatively low quality images (typically 72dpi resolution) can be realistically accessed via the World Wide Web (the higher the resolution, the slower the image is streamed across the web) however, it is possible to give the user access to very high quality digital surrogates (300-1200 dpi resolution) at the archive by placing a digital archival master at the user's disposal. Such a resource is far more detailed than the web image and could serve as a "half way house" between accessing the web image and original document – see Fig. 6 below.

5.5.2. Digital preservation

The retrospective *conversion* (digitisation) of hard copy into an electronic format is not the same as the *creation* of a record or source 'born digital': both have quite different cataloguing and preservation requirements. The long term stability of digital formats will also require considerable attention if electronic sources are to enjoy the same degree of longevity as their paper-based equivalents. Whilst it is true that paper-based archives can be destroyed by fire or flood, it is also true that electronic records can be lost to these and a variety of additional calamities, including computer viruses, power cuts and spikes, malicious or incompetent operators, accidental deletions and disk re-formats, system glitches and crashes, hardware incompatibilities and irrecoverability of data due to the obsolescence of hardware, software and operating systems. Magnetic and optical storage media both have question marks against them with regard to their longevity and resilience, and unlike physical documents, electronic data is easily missed and discarded. The documentary contents of a laptop computer might easily be the electronic equivalent of a roomful of paper-based documents.

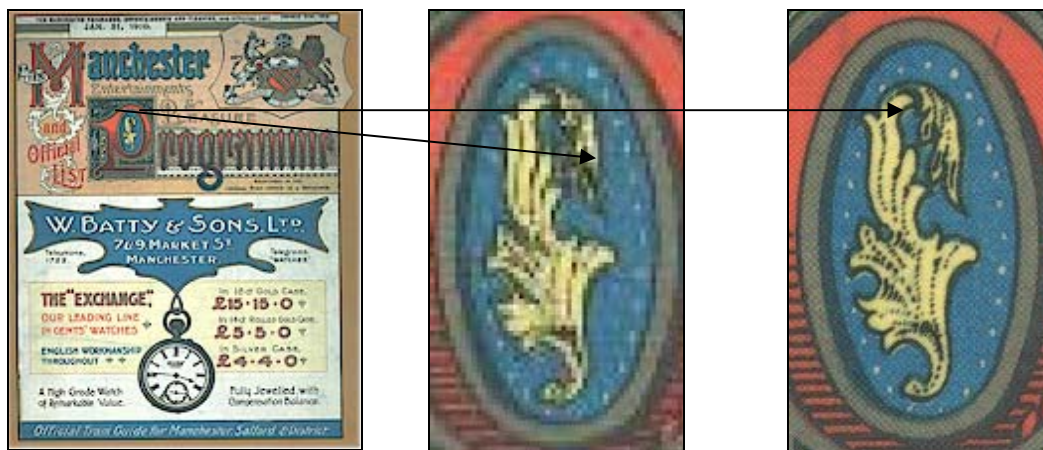


Figure 5. Resolution issues – web images and "digital masters"

Image²⁹

Detail at 72 dpi
(typical web resolution)

Detail at 600 dpi
("master" resolution)

²⁹ Illustration taken from *Manchester Theatres*, by Terry Wyke and Nigel Rudyard (Manchester City Council, 1994)

5.6. Conclusions

The ability to access online catalogues, subject guides, ordering / booking services) should arguably form the first step in helping make *total holdings* more widely available, prior to undertaking large-scale digitisation projects built on *selected holdings*. Similarly, it may be problematic to digitise selections of materials unless underpinned by adequate cataloguing data. This also raises the danger of giving the impression that these selections are all the archive holds on any given subject. The sheer number of items and cost of digitisation also makes it virtually impossible to digitise large proportions of holdings over the next few years. Copyright and data protection implications should also be borne in mind. Whilst an archival source is held at an archive and used passively, these issues are not of primary concern. However, the act of digitisation can be deemed to be an act of publication and considerations of both Crown and Private copyright may come into play. The rights of depositors should therefore be considered prior to any such conversion of materials into electronic formats. Not everybody has access to the Internet, and some services are better delivered physically or more conveniently in hard copy form. Whilst access is widened through ICT, online services are part of a range of delivery modes with their own strengths and capabilities.

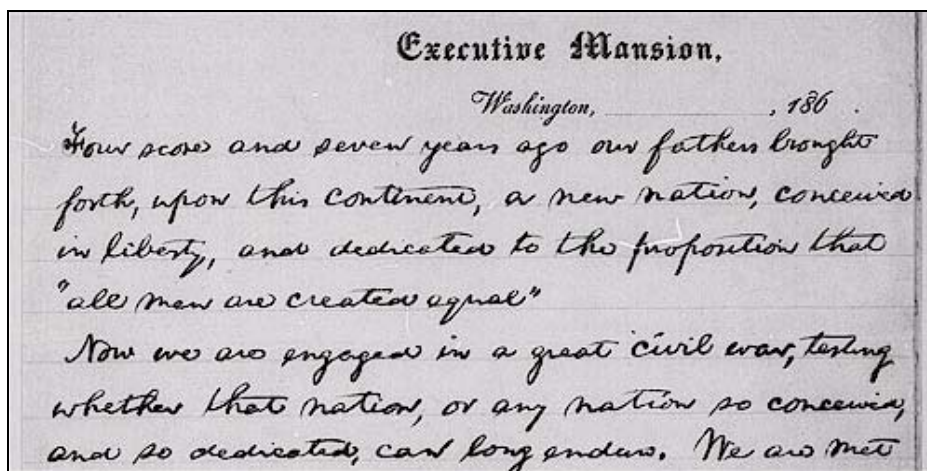


Figure 6. From the Library of Congress "American Memory", transcript of Abraham Lincoln's Gettysburg Address of 19 November 1863 (Hay Draft)³⁰.

6. Networking and Policy Issues

*"Digitisation for access to archives Digitised images of the most popular records should proceed in tandem with the production of on-line catalogue information, because potential new users will experience archives for the first time through ready access to these digitised images ... archives should participate fully in the emerging information networks and on the Internet in partnership with other cognate sectors in establishing a framework."*³¹

6.1. Towards an integrated National Archive Network

An 'integrated network' implies the development of a co-operative of archive services drawn from the public, academic, special and business sectors. Such a network would naturally have to be properly funded and managed in order to provide an incentive for services to become involved and ensure sufficient organisational cohesion and leadership. The structure of such a necessarily complex national network would probably require central management. All of those interviewed confirmed that some form agreed with this assumption, although the actual running of the network might well be contracted out.

There would have to be tangible benefits for those involved, which might include:

³⁰ There were five drafts of the Gettysburg Address, Lincoln giving one to each of his two private secretaries, John Nicolay and John Hay. See <http://www.loc.gov/exhibits/gadd/gadrft.html> for full details.

³¹ *Government Policy on Archives* 8.4–8.5 (Lord Chancellor's Department, 1999). <http://www.pro.gov.uk/archives/archivepolicy/default.htm>

- **The ability to tap into funding formerly reserved for other sectors or domains.**
- **Special grants or capital funds to supplement work additional to current core services.**
- **Access to technical training, advice and support.**
- **Direct representation and advocacy to managing institutions.**

“National agencies (Resource, National Archives, DCMS etc) should focus on joining up the Network and getting funding. Regional agencies on providing content and encouraging strategic vision among archives locally.”

“The National Archives Service should confirm its role and priorities prior to the development of a National Archives Network.”

“A national network needs to be run and managed by a single body - possibly the NCA in that it offers a better mix of interests (i.e. user, archivists and repositories) than the national archives. The national archives should be assisting through the development and dissemination of standards, training and advice. Regional agencies can perhaps assist in making sure that money allocated can have the most impact.”

6.2. Funding and support

The developments outlined above should give the archive domain an opportunity to constructively review and lobby current funding agencies in order to rationalise projects and gain access to new funding streams. The archive domain should also be able to work not only with the museums and libraries domains, but also more effective relationships *within* the domain should be possible – for example the ability to work across the public, academic and business sectors in the funding and development of projects and networks. There is much to be learned from individual sectors – for example the RSLP projects in the Higher Education sector embraced archives and achieved greater accessibility to services by developing electronic catalogues and undertaking digitisation projects.

“The fact that the creation of online access to archive resources is carried out on short term projects where funding is provided for a fixed amount of time has serious implications for the maintenance and upkeep of the resources once the project has come to an end. Ideally, archives need to be given more core funding to achieve continual development in this area. Furthermore, the objectives of the creation of online resources that are part of a specific externally funded project are all too often tied into the objectives laid down by the funding body rather than being focused directly on the needs of the user community itself.”

Anna Sexton, Leaders Project, University College London

6.3. Cross-domain and other partnerships

The national network must be run in co-operation with the Single Regional Agencies and their constituent archival groupings – currently the Regional Archive Councils, which should play a major role in developing and managing the national network. The agencies and projects listed in Section 4 (and at Appendix 2) should also be brought together to discuss respective roles and partnerships. Each has its own areas of expertise and interest, and this would undoubtedly facilitate the development of the archive network if all parties were given the opportunity to participate or offer their advice. The broad potential for online access is for the delivery of online collections drawn from not only archive, but also library and museum collections. Thus holdings that are intellectually related but physically separated (e.g. split between nearby or distant museums and libraries) can be made available to the user, resulting in a consolidated virtual resource which is far greater than the sum of its parts. The national archive network should also look into the possibilities of working more closely with both private enterprise – particularly in the IT sector – and the creative industries, to ensure that online services are developed on as broad a platform as possible. Here, the Regional Development Agencies and Regional Cultural Consortia should come into play. The development of partnerships with education, health, community and voluntary sectors are also paramount in ensuring that these services are not developed in isolation, and also reach *and meet the real needs* of local people, from the primary schoolchild in the classroom to the senior citizen in a residential home.

“The present location of items is often an accident of history. Which is why we should concentrate on providing on-line access to the finding aids and catalogues across the domains. The rest will follow from that, driven by what turns out to be the interest of real users. If they know things are there, they will come to see.”

6.4. Training and Skills

Several archivists questioned during research identified the following training issues:

- Concerns that the archive sector was lagging behind both library and museum domains in terms of ICT skills and knowledge;
- It was felt that archive professionals had missed out on the ICT training offered to librarians as part of the People's Network;
- Future archival training courses should include specialised modules on metadata, interoperability, electronic records and interpretation, as well as other specific ICT specialisms (e.g. network management, web design).

With regard to broader professional attitudes and culture, the following areas of concern arose:

- That a change of professional outlook was long overdue, and in particular a broader outlook should be encouraged, namely that archives are part of a larger cultural and educational whole, and narrow professional interests and divisions should not be allowed to develop this new outlook;
- The need to develop a more confident and modern approach to ICT, outreach and service provision as a whole;
- Fears that in resisting a move towards an ICT / online environment, the archive profession would be condemning itself to an ever-decreasing role (see comments below).

"If the archives profession does not take the initiative in managing electronic records and leading the way in online access to materials, then there is a real danger that the sector could effectively ghettoise itself in the old ways and leave the way clear for other public or commercial agencies to fill the resulting void."

"Increased remote access is generally a good thing, although the need for a virtual archivist hasn't been tackled. There is considerable comfort in being able to ask the expert - many of the online catalogues / services are not as user friendly as they could be - often relying on the user knowing what they want before they search!"

Simon Wilson, Project Manager, Mersey Gateway, Liverpool Libraries and Information Service

6.5. Conclusions

Rapid progress has been made in recent years, led by DCMS, Resource, the NCA and its constituent partners, the leading roles of the PRO and HMC together with the regional presence of the Archive Councils and emerging Single Regional Agencies. This progress has brought the prospect of an integrated network within reach. The formation of the proposed National Archive Service (from the current HMC and PRO) will hopefully provide a single organisation able to lead archive services on standards and practices. The National Archives would also provide further momentum for the proposed National Archives Bill which will provide a firmer legislative framework for the domain (hopefully including consideration of ICT, online services, digitisation / content creation and e-records standards). A2A, the Archives Hub, and other projects such as AIM 25 and the 150 NOF-Digitise projects are demonstrating practical and imaginative ways of providing access to archives in an online environment. Supported by professional bodies and groups (ACALG, SoA, Records Society of Great Britain, especially if working co-operatively with CILIP and the Museums Association) and appropriate training agencies (such as LUCAS and the National Training Organisations), progress should be steady and made sustainable by the development of an appropriately skilled and valued workforce. The possibility of closer collaboration or merger of the Archives Hub and A2A might be considered. Both projects are undertaking valuable work in separate sectors, efforts which might well prove even more effective should they pool respective resources to extend coverage to include the private and special sectors. Such an organisation may well have the critical mass – working together with the NCA, Regions and National Archives Service – to lead the technical implementation of the archive network and build on existing cataloguing work towards the digitisation of collections described.

7. SWOT Analysis: Online Access and Digitisation

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> Remote access to archive materials requires no appointment or journey 	<ul style="list-style-type: none"> Mass online services may require considerable remote support (e.g. 'virtual archivist')
<ul style="list-style-type: none"> Ease of information retrieval via World Wide Web and / or local service points 	<ul style="list-style-type: none"> Digitising some collections / selections of material can give the impression of archives holding less material than they do ('is this is all they hold?')
<ul style="list-style-type: none"> Online access allows users to prepare their visits to archives in advance 	<ul style="list-style-type: none"> Digitisation / online services easy to do badly
<ul style="list-style-type: none"> Out of hours access, i.e. a 24/7 resource available anytime, anywhere 	<ul style="list-style-type: none"> Online projects and services currently being driven by technological capabilities / limitations
<ul style="list-style-type: none"> Ties archives into broader agendas and services; opportunities for new funding 	<ul style="list-style-type: none"> Digitisation expensive and time-consuming
<ul style="list-style-type: none"> Digitisation potentially allows greater access to surrogates whilst reducing use of originals 	<ul style="list-style-type: none"> Not enough people currently in the archive domain with appropriate management / technical skills?
<ul style="list-style-type: none"> Online services have potential to extend access to those with physical / learning disabilities 	<ul style="list-style-type: none"> How do these services really benefit the user? Where is the evidence to measure impact?
	<ul style="list-style-type: none"> Technology often fails or works incorrectly
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> To widen access to new audiences and reach mass population via online services 	<ul style="list-style-type: none"> Piecemeal project funding does not allow for systematic development of core online services
<ul style="list-style-type: none"> To promote archives to current and potential core audience and encourage them to visit an archive 	<ul style="list-style-type: none"> Danger of online services detracting from core services (preservation, searchroom services etc.)
<ul style="list-style-type: none"> To bring archives into the global online information / cultural network 	<ul style="list-style-type: none"> Insufficient consultation could result in services which do not match / meet the needs of users
<ul style="list-style-type: none"> To raise the profile of archives and make services available <i>within</i> the managing institution 	<ul style="list-style-type: none"> Stability of technology both in terms of storage / longevity and backward compatibility of technologies, software and file formats
<ul style="list-style-type: none"> To make high quality resources available at other service points (libraries, schools, community centres, residential homes...) via local networks 	<ul style="list-style-type: none"> Digitisation could make originals more vulnerable to disposal – i.e. surrogates regarded as a substitute rather than an aid to the original
<ul style="list-style-type: none"> To provide a common delivery mechanism for paper-based (digitised) materials and electronic sources (born digital) 	<ul style="list-style-type: none"> Poorly performed digitisation processes can damage originals
<ul style="list-style-type: none"> To promote archives locally, regionally, nationally and internationally 	<ul style="list-style-type: none"> Access to materials online <i>could</i> increase demand to consult originals, thereby increasing wear and tear
<ul style="list-style-type: none"> To bring together 'virtually' archive materials with collections held in museums and libraries 	<ul style="list-style-type: none"> Lack of (or too many) standards (e.g. systems, metadata, preservation), resulting in an IT "Tower of Babel" and poor quality resources / services
<ul style="list-style-type: none"> To build community stories and archives online; to take archives <i>into</i> the community 	<ul style="list-style-type: none"> Resistance to change within archive profession could lead to other sectors taking the lead
<ul style="list-style-type: none"> To mesh online catalogues (via A2A and the Archives Hub) with digital images 	<ul style="list-style-type: none"> Unrealistic user (and professional) expectation
<ul style="list-style-type: none"> To provide online preservation to other organisations holding electronic archives - "virtual deposit" – possible revenue generation 	<ul style="list-style-type: none"> Danger of cherry-picking easy collections rather than those in need of digitisation / e-preservation
	<ul style="list-style-type: none"> Copyright / IPR / Data protection issues – implications not yet fully grasped for items being made available online
	<ul style="list-style-type: none"> Could online services ultimately negate the need for users to visit archives?
	<ul style="list-style-type: none"> Development of online projects (and attendant rise in demand) may overload already busy services

8. Recommendations

“I suggest this research is done again in 2003 (after NOF launch) and 2004 (NOF projects complete) before really deciding what has worked and what hasn't. Give archivists and custodians greater say on what money is spent on at regional level.”

The following broad ideas for further research and consultation are suggested for consideration. Some of these issues are already under review, but what is required is greater consolidation of work being undertaken at local / regional or institutional level to ensure that findings and methodologies are properly shared and consolidated at national level:

National Archive Network

Meeting of relevant organisations

A national meeting of all relevant parties involved with online access, digitisation and electronic resources should be arranged at the earliest opportunity.

Options Appraisal for the National Archive Network

A full options appraisal should be carried out to investigate possible models for the National Archive Network before any particular structure is decided upon.

Review of funding structures

Resource, NCA and National Archives Service to work with funding agencies to review their role and structure of funding – addressing the problems of project funding for online access and digitisation projects in archives, particularly the inclusion of business, special and academic partners where these are not currently eligible for project funding.

Development of integrated archive portal

Research and consultation on possibilities for the greater integration of existing national projects / services – especially A2A, Archives Hub and ARCHON to be investigated.

Archive sector partnerships

Work should be carried out *within* the archives domain to assess roles and possible partnerships between public, academic, special and business archives, particularly with regard to cross-matching of funding and possibilities for resource sharing.

National Archival ICT Advice

The possibility of setting up an Archives ICT Advisory Service should be investigated, possibly in collaboration with UKOLN and the National Archives Service.

Technical Standards

Resource, NCA and National Archives Service to work with existing agencies on the development of technical, interoperability and metadata standards. This should include the inclusion of unique digital identifiers for archive and other resources.

Review of Online Projects and Services

A full national review of online / digitisation projects once NOF-digitise projects are completed in 2004.

Audience Development

User consultation

A programme of user and community consultation should be undertaken *prior* to the development of any online programmes or networks. This should be led by Resource / NCA but undertaken regionally to include different groups of users and establish frameworks for future evaluation of services, systems and projects. This should be sustained by effective user consultation and participation

Audience development

More market research to be undertaken as to reasons for use and non-use of archives, particularly concentrating on those fitting core user profile who do not use the service.

Impact monitoring

Systematic survey / ongoing measurement of the impact of online services and projects should be investigated and agreed with national and regional partners.

Training and Development

Assessment of training needs

An ongoing assessment of archive professionals' ICT training needs should be undertaken in conjunction with Resource, NCA, Society of Archivists and training organisations such as LUCAS and the National Training Organisations.

Training materials

The development of online ICT training materials and mentoring schemes for archivists should be considered to provide ongoing 'on the job' training and support.

Special training schemes

Archivists to be included in national training schemes available to library and museum staff (e.g. Peoples Network ICT training for librarians).

Appendix 1: Thoughts on the Archive of the Future

Those interviewed were asked to think about their ideal archive of the future. Most agreed that archives, museums and libraries will become more collective, collaborative entities, both organisationally and intellectually: part of a greater cultural and information network with equal emphases placed on access, outreach and preservation. The general consensus was that more services will be delivered remotely, especially via the Internet and higher quality resources delivered over dedicated local area networks. It is thought that the archive service will move towards a greater hybrid approach, with ICT used in conjunction with “traditional” services and resources. However, all those questioned agreed that the archive will always have a physical presence, but most anticipated less direct professional intervention in the delivery of services and look forward to devoting more time to cataloguing, outreach, and the production of online resources. A more distributed service was envisaged, with a greater number of centralised storage facilities for originals and greater delivery of resources via electronic means in the community. It was thought that this will also lead to a decline in the “walk-in” office, although no-one questioned foresaw the withdrawal of searchroom facilities or allowing access to originals, rather a slow relative decline in proportional use as online services grow in size and popularity. Some have also predicted a future role for the archive as a virtual repository, caring for online collections held by other organisations and individuals and applying the correct standards of digital preservation and metadata to ensure the proper care of these electronic archives. It was also felt that archives will become more proactive in the way they engage the communities they serve by becoming more directly involved with local people and helping to gather, preserve and disseminate community memories, i.e. taking local stories *into* the community. These memories will be shared with others across the globe by direct connectivity with other archives and community groups, and electronic resources will be – to a large extent – cross-searchable by the ongoing development of interoperable standards and systems. At this point, our archive services will have evolved from primarily locally-accessed services to becoming a powerful node in the greater global cultural, educational and information network. That future may be closer than we think.

Nigel Rudyard
September 2002

“The ideal archive of the future would provide access to its holdings (or principal holdings) in the first instance by a high-quality online catalogue, connected to digitised images of those records available for free to study. Educational and outreach work around the records would be balanced by an attention to preservation and to staff training and expertise.”

“The archive of the future will not exist in isolation, but as part of a global information network, finding new audiences and creating new opportunities for both user and professionals alike.”

Elizabeth Scott-Wilson, Head of Practice, Advisory and Knowledge Service, The Stationery Office

“A fully listed and catalogued Archive with a range of finding aids and means of communicating with their target market. There is a role for on line services to reach customers who for what ever reason cannot come into the office or may never have used an Archive before. Also to allow experienced searchers to realise the wealth of material available of their research especially in a cross-sectoral context. As older originals and modern 20th / 21st century become increasingly fragile and hard to read the use of digitisation to provide surrogates will increase in importance if only to protect the original from complete disintegration. My caveats are as stated above to be wary of the loss of control in remote situations, possible misinterpretation of materials and the fact that nothing can really replace a one to one with the person in the office.”

Nigel Hardman, Business Archivist

“I believe archives will be a hybrid system for many years yet so we need to ensure that the future (say next 10 years) supports both physical and digital archives – the two should be working together. At present I would like to see more researchers being able to prepare for visits to archives in advance by access to catalogues; ability to provide greater range of copies using digitisation and moving away from damaging photocopying; archives providing support to remote users via email etc.”

“ I envisage a more open and easily accessible system i.e. as in America when patients are prescribed certain drugs by their doctor, they may go to the library and see what is in it and then decide whether to take it having weighed up the pros and cons. It is a place where everyone in society is welcome, there is funding

in place and all records are housed in state of the art strongrooms. Outreach is the norm, with lessons for kids taking part within the building - museums, archives and libraries are housed together – exhibitions are informative and you can actually interact with exhibits - there exists a joint service, a digital gateway and a place where the originals may be seen – where people can access archives through virtual reality.”

“The ideal archive of the future would be fully catalogued and indexed to a very detailed (item) level. One would be able to search remotely one portal for names, places, subjects etc. which would be standardised. This would be linked in to an online catalogue, again standardised (to ISAD-G), which one could search. Ideally one could then book a place at the archive by e-mail and visit it out of normal working hours. Photocopies etc. could be ordered remotely (more useful than digitising all documents). Some fragile or frequently used documents (e.g., parish registers or architectural plans) would be digitised for preservation reasons and available on-line, perhaps with transcripts (though standardisation of names would be a real problem). Digitised documents could be used for on-line exhibitions, as outreach and learning tools for those unable to use originals (e.g. children). ”
Dr. Alexandrina Buchanan, Clothworkers’ Company.

“I think the PRO at Kew are getting near to my ideal. I would prefer expanded opening hours at Kew and being able to order documents earlier and later. Speed of delivery is good, staff are on the whole knowledgeable enough and always helpful, surrogates for the most heavily used items are in place ... what I would like is to be able to search remotely for the documents I would like to order – place an order on line and then see the original documents the next working day. Or, even better same working day. This is much more important to me than, for example, being able to use an online index to the PCC wills and order a copy of a will remotely... I would also like to see a link between published research and document. So, for example, if I am looking at the PRO catalogue in the Star Chamber series – I would like to be able to click on to a bibliography of works relevant to the workings of the Star Chamber ”

“The ideal archive of the future? User-friendly; flexible, not dogmatic; has no cataloguing backlog; has finding aids designed for users. Its staff have experienced other archives as users, so they understand the users’ perspective; it expresses to the users a sense of welcome, not a feeling of intrusion, and has the technical standards which are superior as possible, in buildings which are purpose-designed and comfortable for staff and public. It does not lose sight of the essential nature of its core business – preserving archives and making them available to the public.”

Dr. Alan G. Crosby, archive user

“There is nothing in any collection that is not fully documented and properly stored (otherwise why bother to kid yourself). The staff have a real customer focus – they know that they are caring for these things so that people can use and enjoy them – so that “front-of-house” qualifications are as important as archival qualification. The archive has a digital presence that is an integral part of its real presence, nothing more nothing less.”

Dr. Wendy Sudbury, Director, Church of England Record Centre

“Fully searchable online catalogue at regional level - with photographic and other key visual resources digitised.”

Simon Wilson, Project Manager, Mersey Gateway Project, Liverpool Libraries and Information Services

“Preservation for the present and future of archives, in whatever medium, recording the places and people of the country. All fully listed. Information in them available to whoever wants to use them, wherever they wish to (including originals under controlled conditions). Digitisation is important but will not completely replace originals.”

“An ideal archive will have enough staff and physical expansion space to cope with the physical running of the repository. It will have a dedicated website (not buried deep in its parent authority site) giving basic information such as opening times, ticket requirements, location etc. There will be an on-line general guide to holdings. All finding aids will be remotely searchable, from a database that is similar to databases held by other similar repositories. Significant or popular series of records - for example parish registers, important business correspondence etc. - will be remotely available either as transcripts or digital surrogates. The on-line resources should also be accessible via any national networks or A2A. The staff have time and resources available to deal with enquiries generated by remote access. New finding aids and publications are added to the on-line resources almost immediately.”

Tim Procter, Project Archivist, Archives of Soho, Birmingham City Libraries

Appendix 2: Relevant organisations and projects

NAME OF ORGANISATION	MISSION
A2A	As part of the national archives network, A2A provides catalogue descriptions of a wide range of archives held throughout England in its database on the main A2A website so as to make this documentary heritage more easily accessible to everyone. A ₂ A aims to create a virtual national archive catalogue of 8 million entries / 400,000 catalogue pages available via a central web portal. http://www.a2a.pro.gov.uk/
AHDS	The AHDS is a UK national service funded by the <u>Joint Information Systems Committee</u> and the <u>Arts and Humanities Research Board</u> . Organised via an Executive at <u>King's College London</u> , and five service providers from various Higher Education institutions, the AHDS aids the discovery, creation and preservation of digital collections in the arts and humanities. http://ahds.ac.uk/
AIM 25	AIM25 is a major project (funded by RSLP) to provide electronic access to collection level descriptions of the archives of over fifty higher education institutions and learned societies within the greater London area. http://www.aim25.ac.uk/
ARCHIVES HUB	The Archives Hub provides a single point of access to descriptions of archives held in UK <u>universities and colleges</u> . At present these are primarily at collection-level, although where possible they are linked to complete catalogue descriptions. The Archives Hub forms one part of the UK's National Archives Network, alongside <u>related networking projects</u> . Hosted at <u>MIMAS</u> on behalf of the <u>CURL</u> and funded by JISC. http://www.archiveshub.ac.uk/index.html
CEDARS	Cedars (<u>CURL Exemplar in Digital Archives</u>) began in April 1998 and will end in March 2002. Its broad objective is to explore digital preservation issues. These range through acquiring digital objects, their long-term retention, sufficient description, and eventual access. http://www.leeds.ac.uk/cedars/
CULTIVATE	CULTIVATE is a European Cultural Heritage Network linking memory organisations across Europe and Israel. It provides a single point of information to the European Commission's cultural heritage research activities and to national and regional research programmes in these countries. More in Cultivate web site .
CULTURE ONLINE	£13m has been made available for Culture Online for the next two years, until 2004. This funding will enable us to commission up to 30 innovative projects for adults and children, using the resources of cultural organisations, to enhance learning and develop new audiences. Materials will be made available via a Culture Online gateway and linked to the DfES Curriculum Online portal and the National Grid for Learning. http://www.cultureonline.gov.uk/
DIGITAL PRESERVATION COALITION	The Digital Preservation Coalition provides a platform for the dissemination of DPC research and writing and makes available an online version of the Preservation Management of Digital Materials. http://www.dpconline.org/graphics/index.html
EUROPEAN UNION ARCHIVE NETWORK EUAN	EUAN is about opening up access to archives across the European Union. The underlying vision is that a citizen should be able, using the Internet, to get information about the contents of the national archives of another country of the Union. At present geographical, language and cultural barriers impede this. http://www.euan.org/euan_about.html
GASHE	The GASHE project provides electronic access to descriptions of the archives produced by ten higher education institutions and their predecessors in Scotland, dating from 1215 to the present day. http://www.gashe.archives.gla.ac.uk/default.html
HEDS	The Higher Education Digitisation Service is funded by JISC and run by the <u>University of Hertfordshire</u> . HEDS was initially established as a project in September 1996 as part of the Electronic Libraries Programme (eLib). HEDS became a JISC Service in August 1998. The Service provides advice, consultancy and a complete production service for digitisation and digital library development.

NAME OF ORGANISATION	MISSION
	http://heds.herts.ac.uk/
INTERNATIONAL COUNCIL ON ARCHIVES	Established in 1948 by UNESCO, the ICA has over 1,300 members throughout 150 countries, and is dedicated "to promote the preservation, development and use of the world's archival heritage." The ICA has a Committee on Electronic Records, set up in 1993 to research and promote the exchange of experience and draft standards on "the creation and archival processing of electronic records." http://www.ica.org/
ISO	The International Standards Organisation plays a central role in the development of a reference model for an Open Archival Information System (OAIS), a conceptual framework for an archival system dedicated to preserving and maintaining access to digital information over the long term, to be used in both Governmental and Commercial sectors. http://www.iso.org/
JISC	JISC (The Joint Information Systems Committee) is a strategic advisory committee serving the UK FE and HE community, and promotes the innovative application and use of information systems and information technology in FE and HE across the UK by providing vision and leadership and funding the network infrastructure, Information and Communications Technology (ICT) and information services, development projects and high quality materials for education. Its central role ensures that the uptake of new technologies and methods is cost-effective, comprehensive and well focused. www.jisc.ac.uk
LEADERS	The LEADERS project is researching into new ways of presenting archival material in an on-line environment. The project is looking to integrate encoded finding aids with digitised images and encoded transcripts of archive source material. It is hoped that the work LEADERS is undertaking will provide new and innovative ways for users to remotely access archives. http://www.ucl.ac.uk/leaders-project
MINERVA	The objective of MINERVA is to create a network of Member States' Ministries to discuss, correlate and harmonise activities carried out in digitisation of cultural and scientific content, for creating an agreed European common platform, recommendations and guidelines about digitisation, metadata, long-term accessibility and preservation. Its approach is strongly based on the principle of embeddedness in national digitisation activities. It will also establish contacts with other European countries, international organisations, associations, networks, international and national projects involved in this sector, with a special focus on actions carried out in the DigiCult action of IST. The project will organise an advisory Group, relying on existing actions to identify and integrate best practices in a pan-European framework, to facilitate the adoption of the Lund action plan. http://www.amitie.it/minerva/
NATIONAL COUNCIL ON ARCHIVES	The NCA was established in 1987 as a representative council to bring together the major bodies and organisations concerned with the care, custody and use of archives and to provide a forum for the regular exchange of views between them. Among its stated objectives is the encouragement of collaborative or regional initiatives to improve or advance the cause of archive services. http://nca.archives.org.uk/
NATIONAL PRESERVATION OFFICE (NPO)	The aim of the National Preservation Office is to provide an independent focus for ensuring the preservation and continued accessibility of library and archive material held in the United Kingdom and Ireland. http://www.bl.uk/services/preservation/national.html
NDAD	NDAD contains archived digital data from UK government departments and agencies. The system has been available since March 1998 and provides open access to the catalogues of all its holdings, and free access to open datasets following a simple registration process. http://ndad.ulcc.ac.uk/
PEOPLE'S NETWORK	The People's Network is a project to connect all public libraries to the Internet, as part of the Government's commitment to give everyone in the UK the opportunity to get online. Lottery-funded by the New Opportunities Fund and managed by Resource, more than 4000 library centres will be up and running by the end of 2002. http://www.peoplesnetwork.gov.uk

NAME OF ORGANISATION	MISSION
PRO	<p>The Public Record Office is the national archive of England, Wales and the United Kingdom. It brings together and preserves the records of central government and the courts of law, and makes them available to all who wish to consult them.</p> <p>http://www.pro.gov.uk/default.htm</p>
RESOURCE	<p>Resource: The Council for Museums, Archives and Libraries provides the strategic leadership, advocacy and advice to enable museums, archives and libraries to touch people's lives and inspire their imagination, learning and creativity. It oversees the work of the Regional Archive Councils and co-operates closely with all the major archival organisations and services on archival issues, including the development of ICT in the domain.</p> <p>www.resource.gov.uk</p>
RMS	<p>Through close and regular contact with its own members and with related professions, the Records Management Society of Great Britain encourages the highest professional standards for records management. http://www.rms-gb.org.uk/</p>
SCAN	<p>The Scottish Archive Network is supported by the Heritage Lottery Fund (HLF), the Genealogical Society of Utah (GSU) and the National Archives of Scotland (NAS). SCAN's key aim is to open up Scotland's rich archival heritage to everyone.</p> <p>http://www.scan.org.uk/</p>
SCRAN	<p>SCRAN is a searchable online resource base of one million text and multimedia records, and forms an enormous online interactive library with an extensive and diverse collection of records relating to culture, history and science.</p> <p>http://www.scran.ac.uk/homepage/</p>
SOCIETY OF ARCHIVISTS	<p>The principal aims of the Society of Archivists (SoA) are to promote the care and preservation of archives and the better administration of archive repositories, to advance the <u>training</u> of its members, and to encourage relevant <u>research</u> and <u>publication</u> and to act as a spokesman for the archive profession, submitting evidence and comment on matters of professional concern to official bodies.</p> <p>http://www.archives.org.uk/</p>
THE STATIONERY OFFICE	<p>The Stationery Office (TSO Ltd) is looking to implement a Handle system utilising a globally unique persistent identifier (or Digital Object Identifier - DOI) to help government departments in the UK manage their publicly available information. Working with a variety of government agencies including the Public Record Office, Office of the e-Envoy, Office of National Statistics, Her Majesty's Stationery Office (of which TSO is a privatised off-shoot), Office of Government Commerce and others, to work through the technical and process issues of using persistent identifiers and the Handle System.</p> <p>http://www.handle.net/introduction.html / http://www.doi.org/</p>
TASI	<p>The Technical Advisory Service for Images is a service that has been set up to provide advice and guidance to the Further and Higher Education community on the issues of creating, delivering and using digital images together with managing digitisation projects.</p> <p>http://www.tasi.ac.uk/</p>
UK OFFICE FOR LIBRARY NETWORKING	<p>UKOLN is a national focus of expertise in digital information management. It provides policy, research and awareness services to the UK library, information and cultural heritage communities.</p> <p>www.ukoln.ac.uk</p>
VISUAL ARTS DATA SERVICE	<p>VADS has two main goals as its mission: (1) to build a searchable on-line archive of digital resources for use by the visual arts community especially higher education for teaching, learning and research; (2) to establish and promote good practice in the creation, management and preservation of digital resources through an advisory, training and publications programme.</p> <p>http://www.vads.ahds.ac.uk/</p>

Appendix 3: Individuals Consulted

Sincere thanks go to the following people for their unstinting assistance in the preparation of this paper:

Name	Organisation	(T) = telephone interview (E) = by e-mail
Dr. Alexandrina Buchanan	Clothworkers' Company	E
Dr. Alan G. Crosby	Archive user; British Association for Local History	T
Ms. Sue Donnelly	Archivist, British Library of Political and Economic Science	E
Mr. John Farrant	Partner, UNIVERSITAS Higher Education Management Consultants	E
Ms. Sarah J.A. Flynn	Regional Liaison Co-ordinator, A2A, Public Record Office	T
Mr. Justin Frost	Senior Policy Advisor (Archives), Resource	T
Ms. Glynis Greenman	Archive user, writer and historian	T
Mr. Nigel Hardman	Business Archivist	E
Ms. Elizabeth Hughes	County Archivist, East Sussex Record Office	E
Mr. Nick Kingsley	Chairman, NCA	T
Ms. Charlotte McCarthy	Archivist, Laban Centre, London	E
Prof. Michael Moss	Glasgow University, Professor of Archival Studies, University of Glasgow	E
Ms. Helen Osborn	Archive user; professional genealogist	E
Mr. Chris Pickford	Independent Archive Consultant	T
Mr. Tim Procter	Project Archivist, Archives of Soho, Birmingham City Libraries	E
Ms. Elizabeth Scott-Wilson	Head of Practice, Advisory and Knowledge Services, The Stationery Office (TSO)	T
Ms. Anna Sexton	Leaders Project, University College London	E
Dr. Caroline Shenton	Assistant Clerk of the Records, Parliamentary Archives, House of Lords Record Office	E
Dr. Wendy Sudbury	Director, Church of England Record Centre	E
Ms. Janice Taylor	Regional Archive Development Officer, North West Regional Archive Council	T
Mr. Simon Wilson	Manager, Mersey Gateway, Liverpool Libraries and Information Services	E