



Promoting digital preservation

www.dpconline.org



The aim of the Digital Preservation Coalition is to secure the preservation of digital resources in the UK and to work with others internationally to secure our global digital memory and knowledge base.

- All organisations are creating and/or acquiring increasing quantities of digital materials whether as datasets, digital records, as a result of digitisation projects, or as the output of scholarly research, creating websites for corporate and public dissemination.
- The Digital Preservation Coalition [DPC] was formed in the belief that no single organisation can hope single-handedly to address all the challenges and issues associated with digital preservation. It was launched in February 2002 with an initial membership of 19, and has grown to 28 members as at July2007. The DPC carries out a number of activities including running seminars and forums, commissioning reports, digital preservation training, raising awareness and making recommendations for action, collaboration and responsibility across all sectors of the UK digital landscape. The major tenets underpinning the ethos of the DPC are:
- A strong and mutual collaboration and co-operation across and between sectors.
 - An appreciation that digital preservation is a pervasive challenge to an increasing number of stakeholders, all of whom need to be engaged at each of the different stages in the lifecycle of digital resources.
 - Producing, providing, and disseminating information on current research and practice across the community. Pivottally to make this information as accessible, relevant and transparent to the community as possible.
 - There is an ongoing need for advocacy and awareness-raising activity to ensure both the wider community and key stakeholders are engaged and 'on board'
 - A recognition that digital preservation is a challenge which needs to be addressed by all sectors as the cultural and commercial dependency on digital material grows year on year.

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Chair's Introduction

It is now six years since the Digital Preservation Coalition was founded and it is pleasing to report that in this time the membership has grown steadily –a strong signal from the community endorsing the work and objectives of the DPC. In fact, this year, for the first time in its history, the number of full members has exceeded the number of associate members, with total membership now standing at 28. During the year, we were pleased to welcome Cambridge University and RCUK as new full members. We look forward very much to working and collaborating with our new colleagues. These members will contribute to the rich cross-sectoral nature of the DPC, which reflects the reality of the pervasiveness of digital preservation issues across all sectors in this early part of the 21st century.

The year has seen changes in the DPC staff. Najla Semple left the Coalition in January 2007 to move with her family to Berlin. The Board wishes her well in her new endeavours. The Board took the opportunity to review the DPC staffing arrangements and secretariat structure recasting the Executive Secretary's role as one of Executive Director. Carol Jackson's role as the Administration Manager was also upgraded at this time. The DPC board would like to take this opportunity to extend their appreciation and thanks to Carol for her sterling work and effort during the iinterregnum period.

The DPC continues to foster relationships and develop a role for itself on the international circuit. The Coalition was represented and participated in a number of European initiatives including the EU Alliance, and 'The Challenge: Long term preservation – Strategies and practices of European Partnerships' in April under the German presidency. An initial collaborative meeting was also held with the Digital Curation Centre (DCC),

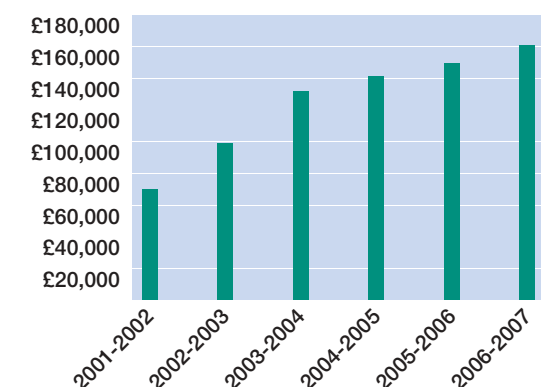
Preservation and Long-term Access through Networked Services (Planets), Cultural, Artistic and Scientific knowledge for Preservation, Access and Retrieval (CASPAR) and Digital Preservation Europe (DPE) to share initiatives on preservation and curation training issues. In June the DPC gave a presentation on the DPC working model by invitation of The State Library of Denmark.

The profile of the Digital Preservation Coalition and its aims have again featured in the mainstream media, with articles referring directly to the work of the DPC. These include pieces in 'The Financial Times' Magazine and 'The Times' in March 2007. The already well-established and successful DPC programme of workshops and forums continued throughout the year. These covered an eclectic range of topics and, in some cases, were jointly held with member organisations again strengthening the DPC's relationship with other key stakeholders in this area. The breadth of the topics covered reflects the holistic nature of the wider digital preservation issues and the genuine need for the DPC role in the wider arena. These events were attended by a total of almost 200 participants, from whom we received substantive positive feedback.

This last year has been both a productive and reflective one for the DPC - the initial first phase of our development is complete and we all look forward to taking forward with renewed vigour the exciting and many challenges that lie ahead in the ever-growing arena of digital preservation.




Membership Subscriptions from 2001 to 2007



DPC Activities

DPTP

Although there were no DPTP events held this year, the ULCC has received additional funding from JISC which will allow continued development of those parts of the course which deal with the more rapidly-changing aspects of digital preservation technology and tools. A number of shorter versions of the course are scheduled to be held towards the end of 2007.

DPC Forums and Briefing Days

The DPC continues to carry out its programme of forums and briefing days. During this year we had almost 200 participants from a diverse range of organisations and institutions. Details, including the speakers' presentations of all these events can be found on our website.

Joint DPC, DCC and CILIP Forum on Policies for Digital Rights Management: Access and Preservation – 19th October 2006

The forum explored the fate of content and whether it is becoming hidden behind technical protection measures. A recurring theme was the digital preservation issues which would enable long term accessibility of digital resources.

OAIS Five-year review compiled on behalf of members of the Digital Curation Centre and the Digital Preservation Coalition – 24th October 2006

In compliance with, the International Organization for Standardization (ISO) and the Consultative Committee for

Space Data Systems (CCSDS) procedures, the Open Archival Information Systems Reference Model (OAIS): ISO 14721:2003 must be reviewed every five years and a determination made to reaffirm, modify, or withdraw the existing standard.

This workshop prepared a joint comment, on behalf of members of the Digital Curation Centre Associates Network and members of the Digital Preservation Coalition, for submission to the OAIS (Open Archival Information Systems Reference Model) 5 year review.

Joint DPC, JISC and BL Workshop on E-journal Archiving and Preservation – 27th March 2007

The workshop brought together international stakeholders from the information world, including publishers, librarians and representatives from archiving solution providers.

Joint DPC and BL Workshop on JPEG2000 – 25th June 2007

The workshop looked at this emerging industry standard and explored the surrounding issues around its implementation with a group of expert speakers and practitioners.

Papers and articles 2006 – 2007:

'An Overview of Digital Preservation Issues' – Digital Rights and Asset Management Workshop – 19th October 2006 University of Glasgow

'Training and Professional Development for Digital Preservation' - DCC Conference, Glasgow, 21st November 2006

<http://www.dcc.ac.uk/events/dcc-2005/programme/>

'UK Digital Preservation Activities' – Tesella Nuclear Information Management Workshop, Birchwood, November 2006

'The Digital Preservation Coalition' Alexandria v.19, October 2007

'Digital Preservation Coalition' Presentation to the National Library of Denmark, June 2007

What's New in Digital Preservation

The current awareness tool 'What's New in Digital Preservation' was published successfully by the DPC this year in collaboration with the National Library of Australia. It continues to provide an accessible source of up-to-date information on the wide area of digital preservation. Two issues have been published this year, issues 14 and 15, both of which can be found on the website. Web usage figures of this publication are encouraging.

Technology Watch Reports

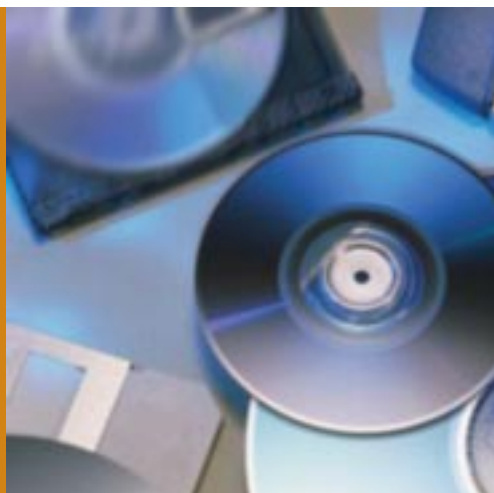
No new reports were commissioned in 2006/7. However planning for a number of key topical issues were identified and the forthcoming reports will be published early in our next operating year. These new reports will follow the established popular style of a jargon free comprehensible and accessible publication aimed at a wide target audience.

Previous reports, all of which are available from the website include:

1. Lavoie, B **'Introduction to OAIS' 2004**
2. Wheatley, P **'Institutional Repositories' 2004**
3. Linden, J, Martin, S, Masters, R and Parker, R **'Large Scale Archival Storage' 2004**
4. Lavoie, B and Gartner, R **'Preservation metadata' 2005**

“Picked up some useful information and practices”

“Great choice of speakers – a very thorough overview of all the issues”



“It was a very good opportunity to voice many of the important issues about digital preservation and to listen to some expert opinions”

Digital Preservation Award 2007

The Digital Preservation Award is sponsored by the DPC and is held under the umbrella of the Conservation Awards, a bi-annual event sponsored by Sir Paul McCartney and key organisations in conservation and collections care. The Digital Preservation Award recognises and rewards the fine work that is being done to address the challenges of digital preservation.

Applications for the third round of the Digital Preservation Awards opened in November 2006. Of the thirteen applications received five projects were short listed for the 2007 Awards;

- Life (Lifecycle Information for E-Literature), The British Library
- Web Curator Tool software development project, National Library of New Zealand & The British Library
- Active Preservation at The National Archives: PRONOM Technical Registry and DROID file format identification tool, The National Archives of the UK

- PARADIGM (The Personal Archives Accessible in Digital Media), Bodleian Library, University of Oxford & John Rylands University Library, University of Manchester.

- Digital Repository Audit and Certification, CRL; OCLC-RLG Programs; National Archives and Records Administration; nestor, Deutsche Nationalbibliothek, Frankfurt/Main; Humboldt Universitaat Berlin; Bayerische Staatsbibliothek Munchen; DCC;DPE; HATII; National Archives of the Netherlands

All five short listed projects gave a presentation to the judging panel in June 2007. The winner will be announced at the Conservation Awards event to be held at the British Museum on the 27th of September 2007.

Special thanks go to our volunteer panel of Digital Preservation Judges who do an excellent and challenging job of short listing and selecting a winner from the high quality of entries.



The Conservation Awards Trophies - second from the left; The Digital Preservation Award Trophy.



From left to right: Helen Hockx-Yu, Dave Thompson, Chris Rusbridge, William Kilbride, Helen Shenton, Michael Day and Kevin Ashley.

2007 Judges

Kevin Ashley (Chair of the Judging Panel), Head of Digital Archives Department, University of London Computer Centre.

Michael Day, Research Officer at UKOLN, University of Bath.

Helen Hockx-Yu, Programme Manager, Joint Information Systems Committee (JISC).

William Kilbride, Research Manager, Glasgow Museums.

Andreas Rauber, Associate Professor, Department of Software Technology and Interactive Systems (IFS), The Vienna University of Technology.

Chris Rusbridge, Director, Digital Curation Centre (DCC).

Helen Shenton, Head of Collection Care, the British Library.

Dave Thompson, Digital Curator, Wellcome Library

DPC Board Directors 1st August 2006 to 31st July 2007



Ashley, Kevin
University of London
Computer Centre
(ULCC)



Bains, Simon
National Library of
Scotland



Batt, Christopher
MLA, resigned
23/07/2007



Brindley, Lynne
Chair British Library
resigned 20/10/2006



Brown, Adrian
The National Archives



Bruce, Rachel
JISC, appointed
08/06/2007



Dawson, David
MLA, appointed
23/07/2007



Fox, Peter
Cambridge University
Library, appointed
01/07/2007



Hockx-Yu, Helen
JISC, resigned
08/06/2007



Kernaghan, Patricia
PRONI, appointed
25/10/2006



Longmore, Bruno
Vice Chair, National
Archives of Scotland



Mertens, Mike
CURL



Milne, Ronald
Chair, University of
Oxford (upon
appointment), British
Library (January
2007)



Ovenden, Richard
University of Oxford,
appointed
29/01/2007



Rusbridge, Chris
DCC



Slater, Gerry
PRONI, resigned
25/10/2006



Whitsed, Nicola
Open University,
appointed
01/08/2006



Wissenburg, Astrid
RCUK, appointed
09/03/07



Wise, Alicia
PLS

DPC Staff



Najla Semple
Executive Secretary,
resigned 31 January
2007



Carol Jackson
Administration
Manager

DPC Members

2006-2007

Full Members

British Library (BL),

The Bodleian Library, University of Oxford

Cambridge University Library

Consortium of Research Libraries in the British Isles
(CURL)

The Council for Museums, Archives and Libraries
(MLA)

Digital Curation Centre (DCC)

Joint Information Systems Committee of the Higher
and Further Education Funding Councils (JISC)

The National Archives (TNA)

National Archives of Scotland (NAS)

National Library of Scotland (NLS)

Open University (OU)

Public Record Office Northern Ireland (PRONI)

Publishers Licensing Society (PLS)

Research Councils UK

University of London Computer Centre (ULCC)

Associate Members

Arts and Humanities Data Service (AHDS)

BBC

Centre for Digital Library Research (CDLR)

Council for the Central Laboratory of the Research
Councils (CCLRC)

Corporation of London Website

House of Lords

National Library of Wales (NLW)

Natural History Museum (NHM)

Online Computer Library Center (OCLC Programs
and Research)

Oxford Archaeological Unit (OAU)

Trinity College Library Dublin (TCLD)

UK Data Archive, Essex University (UKDA)

University of Southampton Website

Wellcome Library

DPC Member Projects

Arts and Humanities Data Service (AHDS)

The SHERPA DP project (2005 - 2007) investigated the preservation of digital resources stored by e-print archives participating in the SHERPA project. The fundamental principle behind the project was that it is unnecessary for an institution to perform each and every task associated with accepting, preserving and distributing digital material. Instead, components may be shared with other institutions that have appropriate expertise. The project developed a co-operating archive model, in which e-print archives continued to accept data and make it available, while a Preservation Service Provider took responsibility for activities associated with the long-term management of the digital objects. Further work was performed to develop a Preservation Service demonstrator, built on the Fedora Service Framework and several third-party software tools (DROID, JHOVE, and others). A technical architecture was developed that allowed key tasks in the preservation management process to be automated. As a consequence of automation, the time and effort required to perform common management activities, such as format validation and characterization, creation and update of preservation metadata, and fixity checks, is significantly reduced.

The SHERPA DP2 Project

(<http://www.sherpadp.org.uk/sherpadp2.html>) has recently been awarded funding for 21 months under the JISC Digital Preservation and Records Management strand. The project will extend the co-operating archive model and technical architecture developed in SHERPA DP to consider digital repositories that possess different types of digital content and use different software architectures. The AHDS is currently working with several project partners that will contribute a wide variety of digital research produced by academics in their institution. In contrast to the simpler object types encountered in the SHERPA DP project, the project partners store digital data in a variety of diverse and complex structures. A key challenge of the project will be the creation of preservation strategies that will enable the Preservation Service Provider to manage the data in a sustainable manner. The AHDS will work with the partner institutions to develop consistent data models that will simplify the management of complex resources.

The SOAPI Project

(<http://www.ahds.ac.uk/about/projects/soapi/index.htm>) is developing an architecture and toolkit for (partially) automating preservation and ingest workflows in digital repositories. The architecture is based on a set of atomic web services, each encapsulating a unit of preservation functionality. Web-based forms are used for circumstances where a human decision or human input is required, with access controlled by Shibboleth. A workflow orchestration tool will be used to combine these services and user input functions, creating workflows that minimise the need for human intervention. The primary output of the project will be a toolkit based on this architecture that will allow repository managers to construct preservation workflows in a flexible and extensible manner. This will be supplemented by speculative research that investigates the semantic annotation of web services, to allow preservation services to be dynamically discovered and executed.

The InSPECT Project

(<http://www.significantproperties.org.uk/>) sees the AHDS and The National Archives combine their expertise to examine the concept of significant properties. The identification of those properties that are significant to the continued preservation and accessibility of authentic digital objects, across changing technical environments, is a fundamental task for successful digital preservation. The project will produce a generalized methodology that will enable resource creators to identify the significant properties of classes of digital objects and validate that the properties remain present in subsequent transformations of the object. An initial stage of the process is to determine which properties are significant for four object types – raster images; e-mails; structured text; and digital audio – and develop a method in which they may be measured. Subsequent work will determine methods for describing how the significant properties can be identified and measured within a range of common representation formats (e.g. TIFF, PNG, AIFF). The experiences gained in the project will contribute to the modification of PRONOM to support the automated measurement of properties for different object types and will be made available for other digital archives to utilize. to be dynamically discovered and executed.

BBC

BBC completes digital-to-digital archive migration: The BBC had been making .wav files (EBU broadcast wave format) for about six years, and storing them on writable DVD (in the absence of a BBC mass storage system). In 2006 these files were transferred from DVD to datatape and to USB-connected terabyte hard drives – as a digital-to-digital migration. Approximately 250,000 files were transferred, in six months by one person, for a total budget of 30 thousand. For comparison, the analogue-to-digital process that produced these files took five years, about 35 full-time people, and a budget of around 3 million. This project allowed us to leapfrog from inaccessible files (on DVDs on shelves), to online material allowing BBC archive staff to directly access the files and deliver them electronically to all parts of the BBC (even globally). All 60 000 hours worth of USB drives were placed in one standard equipment rack, and was easily transported to another part of the BBC where there was sufficient bandwidth to support online (to the BBC) access.

British Library

LIFE Project

The LIFE (Lifecycle Information for E-Literature)

Project has developed a methodology to model the digital lifecycle and calculate the costs of preserving digital information for the next 5, 10 or 100 years.

LIFE is a JISC-funded joint British Library/University College London project. The first phase of the project concluded with highly successful international conference in 2006. In early 2007 the second phase of the project began (LIFE2). LIFE2 aims to rigorously test the LIFE methodology as well as expand the model with four new exemplar case studies.



LIFE has made the first major advances in costing preservation activities and detailed costs of real digital preservation activities are now available. For the first time, organisations can apply this process and plan effectively for the preservation of their digital collections.

The project team recently launched a new project website (www.life.ac.uk) and project blog (www.life.ac.uk/blog).

Planets

Planets, Preservation and Long-term Access through Networked Services, is a four-year project co-funded by the European Union under the Sixth Framework Programme to address core digital preservation challenges. PLANETS started in June 2006 with 15 Million budget. Planets is coordinated by the British Library and involves 16 partners including European national libraries and archives, leading technology companies and research universities.

Planets' objectives are:

- Improve decision-making about long term preservation
- Ensure long-term access to valued digital content
- Control the costs of preservation actions through increased automation and scaleable infrastructure
- Ensure wide adoption across the user community and establish market place for preservation services and tools
- Build practical solutions by integrating existing expertise, designs and tools

During the first year of the project, Planets has moved from requirements gathering into specification and implementation. Developed prototype tools and services have been developed preservation planning, preservation action and preservation characterisation. These are being integrated into the Planets Interoperability Framework to provide one easily managed digital preservation system. Planets has been recently reviewed by the European Commission and a panel of experts were "very impressed" with its 1st year of work. Planets's work on automation of digital preservation processes was considered to have great potential to provide useful answers to the wider digital preservation community.

DPC Member Projects

Cambridge University Library

Cambridge University Library continues to develop DSpace@Cambridge as a managed preservation service for research data, images, both still and moving, and audio files, alongside pre-prints and e-prints. Two JISC-funded projects focus efforts on specific data types: SPECTRa-T builds on earlier work with the academic chemistry research community to look at how data associated with theses might best be managed and to facilitate routine and automatic extraction of domain-specific data, its transformation into metadata and ingest into institutional repositories. In the second project, CTREP, the library will work with CARET, the university's VLE/VRE development team, to enhance the integration of Sakai and DSpace@Cambridge, to bring about a higher uptake in use of the repository. The project builds on the work carried out by MIT on the PLEDGE project by automating repository policy expression to allow VLE/VRE content to be ingested into DSpace.

Long-term preservation of images has always been a major concern but two developments have brought it into sharper focus this year: the deposit into DSpace@Cambridge of digitised papers of Sir Isaac Newton held by the library and work on building the deposit process and preservation into the digitisation workflow for new projects, including 'Freeze Frame' at the Scott Polar Research Institute. Work has also proceeded on migration on ingest and a check-sum tool has been developed and implemented.



Image courtesy of Cambridge University

Centre for Digital Library Research (CDLR)

In 2007, the Centre for Digital Library Research (CDLR) at Strathclyde University was part of a joint bid seeking funding for a digital preservation project called SHAMAN under the European Commission's FP7 research programme. At time of writing (July 2007), SHAMAN (Sustaining Heritage Access through Multivalent Archiving) has been favourably evaluated and has reached the negotiation stage, which means it has a good chance of being funded. SHAMAN, largely conceived by Professor Paul Watry of the University of Liverpool, aims to investigate and develop a long-term next generation digital preservation framework and corresponding application solution environments for analysing, ingesting, managing, accessing and reusing information objects and data across libraries and archives. It has 18 participants from various European countries, and will, if funded, run for four years from 2008.

The Corporation of London

Throughout the period August 2006 to July 2007, the City of London London Metropolitan Archives (LMA) has been developing a large scale digitisation programme for archives which are frequently used by family historians. LMA has developed a strategy which requires a partnership for digital creation and online use. At the time of this report, tender returns are under review. A further 10,000 documents have been digitised and added to the online 'London Signatures' application. In July 2007, LMA has begun working on new digital preservation policy and strategy for City archive services.

Consortium of Research Libraries in the British Isles (CURL)

The MIDESS Project – funded by JISC and CURL – brought together Leeds University, Birmingham University, LSE and UCL to examine how digital content, and particularly multimedia content, can be managed within a repository framework. Work-package 5 (available on the MIDESS Project website) addresses digital preservation requirements. It examines the key issues involved in digital preservation and how these can be applied to digital repositories specialising in the storage of media such as images, sound and video. File formats for the most common multimedia file types are discussed, as is the application of the PREMIS and Z39.87 standards within this context. Leeds in particular is hoping to expand the repository infrastructure developed within the MIDESS Project into a comprehensive service which would include long-term preservation of digital content, where appropriate.

The EVIE Project was another project led by Leeds and funded by the JISC, this time to develop and test a prototype Virtual Research Environment (VRE) using a portal framework. The prototype provided a seamless, web-based interface to a range of institutional systems and services. The Project also investigated a number of issues around the development of VREs, including an assessment of the digital preservation requirements for outputs generated within the VRE, or available through the VRE. This work was undertaken in collaboration with the British Library, and leveraged their considerable expertise in digital preservation work. A recommendation was made for an external preservation services approach. The full digital preservation work-package output is available on the EVIE Project website.

Digital Curation Centre [DCC]

The DCC provides a national focus for research and development into curation issues and promotes expertise and good practice for the management of all research outputs in digital format. The DCC produces a range of learning resources from high-level briefing papers, technology watch papers, case studies and interviews to detailed digital curation manual installments. The DCC also offers a varied timetable of events including information days and workshops and an Annual Conference. Following two successful conferences in the UK in 2005 and 2006, the third International Digital Curation conference will be held in Washington, USA, from 11 – 13 December 2007.

As part of its Development activities the DCC is developing and implementing an OAIS-based Registry/Repository. This is an essential service for Institutions managing a repository using the OAIS (Open Archival Information System) Model. There are many synergies between the two organisations and the DCC's membership of the DPC ensure continuing close collaboration and cooperation.

DPC Member Projects

House of Lords

The Parliamentary Archives is leading Parliament's digital preservation work for both Houses of Parliament. Its business plan for 2007-2010 places digital preservation at the heart of its objectives for the next three years, and a digital records specialist has been employed on secondment from the National Archives to work alongside permanent staff.

In November 2006, a working group was set up to develop a Digital Preservation Strategy for Parliament, consider the options for providing a digital repository for both Houses, undertake an audit of known digital assets and identify those which should be preserved permanently, and determine the financial and staff resources required to develop and implement a digital preservation programme. The Archives is working closely with the House of Commons' and House of Lords' Libraries, and Parliamentary ICT to strengthen the links between the information management and the information systems and technology within Parliament.

A scoping report from the group was published in June 2007, and a consultant will be working with the Archives in the autumn of 2007 to produce a strategy document and business case for a digital preservation solution. Strong links have been established with the EDRMS programme in Parliament, and other work is ongoing to ensure that digitised historical content is created and preserved in accordance with best practice.



image courtesy of House of Lords

Joint Information Systems Committee of the Higher and Further Education Funding Councils (JISC)

Ensuring longevity of scholarly and educational resources continues to be an important area within JISC's strategy. As an organisation working on behalf of the UK higher education funding councils JISC is supporting the development of digital preservation strategies and policies to support the requirements of the UK academic sector. It is essential that academic institutions are equipped to manage and preserve their resources for long term use.

Highlights over the past year include the continuation of the UK LOCKSS Pilot programme which supports long term access to journals for participant UK academic sector organisations. JISC is currently working with 24 participating universities to evaluate the pilot.

http://www.jisc.ac.uk/whatwedo/programmes/programme_preservation/programme_lockss.aspx

In conjunction with the Library of Congress National Information Infrastructure and Preservation Program (NDIIP), JISC has initiated a review of intellectual property rights regimes and how far legislation supports digital preservation requirements. The work will examine legislation in the UK, US, the Netherlands and Australia and will report in 2008.

JISC has recently funded nine new preservation projects that will help to further its vision of a network of services and tools that can support universities and colleges share, access and preserve their resources. These projects are part of the JISC Repositories and Preservation Programme and they include: the development of a toolkit to support partial automation of preservation and ingest functions (see: <http://ahds.ac.uk/about/projects/soapi/index.htm>); the development of guidelines to support the preservation of software, where the software itself is a primary research output (http://www.jisc.ac.uk/whatwedo/programmes/programme_rep_pres/tools/software.aspx); and further refinement of the LIFE methodology for the analysis and costing of digital objects (http://www.jisc.ac.uk/whatwedo/programmes/programme_rep_pres/life2.aspx <http://www.jisc.ac.uk/whatwedo/programmes/programme_rep_pres/life2.aspx>). The definition of significant properties in relation to some classes of objects will be developed by a group of projects that JISC has

funded that will further the significant properties concept and identify properties for software, vector images, moving images and learning objects.

JISC continues to fund and participate in other major initiatives such as the Digital Curation Centre (DCC) and the UK Web Archiving Consortium

http://www.jisc.ac.uk/news/stories/2006/01/ukwac_dli_b.aspx. JISC directly commissioned the DCC to undertake work to further understand the disciplinary differences and approaches in data deposit, sharing, re-use and preservation - this major project is called SCARP <http://www.dcc.ac.uk/scarp/>.

JISC is about to embark on work that will help to define the costs of digital preservation of data across the university sector; this is likely to be a significant contribution in defining requirements and informing the development of related e-infrastructure.

The National Archives (TNA)

Seamless Flow, TNA's major programme to develop end-to-end processes for managing the electronic records of government selected for permanent preservation, is nearing completion. The online transfer system has been piloted with selected Departments, and enhanced versions of the Digital Object Store and active preservation systems have been completed.

TNA has also been working on the EU-funded **Planets** project, and has delivered a characterisation registry, based on an enhanced version of the **PRONOM** technical registry (www.nationalarchives.gov.uk/pronom/), integrated with a number of characterisation tools, including DROID and JHOVE.

Following the successful completion of the JISC-funded **Preserv** project, TNA is now working with Southampton and Oxford Universities on **Preserv 2**, which will demonstrate the integration of a range of external preservation services with institutional repositories. Work has also started with the Arts & Humanities Data Service on another JISC project, **InSPECT**, which is developing methodologies for describing and measuring the significant properties of electronic records.

In July, The National Archives announced a Memorandum of Understanding with Microsoft through which we will work together to understand how best to preserve documents in Microsoft formats, and improve the sustainability of information created using future releases of Microsoft products.

The National Archives of Scotland (NAS)

The NAS continues to develop its Digital Data Archive. The DDA has implemented TNA's DROID system to provide format metadata from their PRONOM file format registry, and has implemented the PREMIS data dictionary for preservation metadata. The NAS intends to utilise National Archives of Australia's Xena tool to produce XML transformations on ingest. It is anticipated that the NAS DDA will achieve functional operation by the start of 2008.

NAS also runs, or is a major partner in, many archive digitisation projects. Having already digitised over 520,000 Scottish wills and testaments dating from 1513, NAS has recently completed capturing images of Scottish church records, is seeking to digitise Scottish valuation rolls, and is also progressing a joint project with the Registers of Scotland agency to digitise the Sasine register (Scottish Land Register), both converting it from paper and microfiche and receiving new registrations as born-digital images. NAS digitisation teams have captured in excess of 8 million digital images.



Image courtesy of The National Archives of Scotland

DPC Member Projects

Natural History Museum (NHM)

The Museum has revamped its digital server storage solution to accommodate its digital assets in a centralised protected environment. The system is tiered so that data can be stored on disk or on tape - the latter being cheaper but with slower access. We currently have capacity to hold 33 terabytes of data on disk, which is backed up to tape and which can be expanded to store a further 200 terabytes solely on tape. This secure, flexible centralised storage is allowing us to manage our data more effectively and the first projects to make use of it are planned for records management and for digital images.

Another ongoing project is making the published output of the research staff available through the Open Repository system (<http://www.openrepository.com/>) which is effectively managing long-term sustainability for those materials on behalf of the Museum and may be extended to include other publicly-available materials in future.

A digital sustainability policy has been developed and accepted in principle. This states that "The Natural History Museum is committed to ensuring that selected digital objects continue to be accessible into the indefinite future" and goes on to define the types of digital objects that will be preserved; how the selected digital objects will be preserved and who will be responsible for these preservation activities.



The National Library of Scotland Trusted Digital Repository Team

National Library of Scotland

At the NLS, work is well underway on the construction of the systems that comprise the technical component of the Library's Trusted Digital Repository project, with 2007 seeing the installation of a full mirrored 200Tb SAN storage network together with the installation of a web archiving system as an initial deliverable. The full programme of development is expected to continue well into 2008 and will progress the NLS strategic plan to include full digital preservation services plus enhanced public access to digital collections.

In parallel with the technical implementation, the Library is actively involved in producing a strategic long term plan for the operation and integration of the repository systems as part of day to day life at NLS. The project team for the TDR are currently undertaking detailed investigations of digital repository operations across the globe with the aim of producing a business model to support a world class digital preservation repository.

Llufrgell Genedlaethol Cymru, The National Library of Wales

The National Library of Wales is concluding the implementation of its Digital Asset Management System, which is based on Fedora. Work is progressing on the ingest and dissemination of digital objects and the integration between the DAMS and the cataloguing system. The NLW is currently updating its digital preservation policy and strategy to reflect the digital developments within the NLW.



Image courtesy of the National Library of Wales



Above: Images courtesy of Natural History Museum

DPC Member Projects

The Council for Museums, Archives and Libraries (MLA)

MLA has been working with DCMS on the response to the European Commission Recommendation on the European Digital Library, which was published in August 2006. Following this, the Culture Ministers Council met on 13th November, and agreed Conclusions that proposed actions in the areas of online access, digitisation, IPR and Digital Preservation. MLA has been asked by DCMS to represent the UK on the Member States Experts Group that will monitor progress in digitisation and online accessibility of cultural material and digital preservation, and the exchange good practices.

http://ec.europa.eu/information_society/activities/digital_libraries/doc/culture_council/council_conclusions_nov_2006/en.pdf

In 2005, the commemoration of the 60th Anniversary of the end of the Second World War was supported by the Big Lottery Fund, who awarded a grant to MLA to support a range of activities across England. As part of this, MLA worked in partnership with the University of London Computing Centre to develop a digital archive to hold digital outputs (mainly DVDs and CDs) produced by a wide range of community groups from across the country. In 2007, further activity will encourage the deposit of more materials, and begin to open up the archive for public use.

The Open University (OU)

The Open University is working towards establishing a strategy for digital preservation. Current investigations and developments are focused on OU teaching and learning materials. The Open University Digital Preservation Working Group commissioned an initial audit of OU print and audio/visual course materials. This has provided a foundation for the next stage of the work, which is to create a framework which supports the digitisation and digital preservation requirements of the University, as a whole. This will align very much with key University initiatives, such as Open Content, the creation of a Virtual Learning Environment and the implementation of the OU Enterprise Content Management System. University archives successfully secured funding to support two key projects, an oral history project and a heritage digitisation project. This new digital content will inform future digital preservation work. The University is therefore developing relevant in-house expertise and skills.

Oxford Archaeology Unit

Oxford Archaeology continue to work on digital preservation via their strategic commitment to openness. The Open Archaeology programme (<http://openarchaeology.net>) in which much of our digital preservation work takes place has developed over the year, with progression in each strand. The Open Standards strand has seen promotion of the ISO26300 (OpenDocument) file formats and related activities. We have also joined the OpenDWG Alliance to gain access to software libraries that enable reading and writing of AutoCAD files, an ever-moving target. We have also completed the move of Archives into the Information Systems division, and will be recruiting a digital archivist - a ground-breaking move in contract archaeology.

Open Source has also seen developments, with the launching of an umbrella site dedicated to developing archaeology open source software - <http://launchpad.net/openarchaeology>. We use this site to release all the software developed internally as well as collaborate on larger projects - other heritage-related projects are also joining, such as the Alexandria Archive Institute's Open Context.



Image courtesy of Univeristy of Oxford



Images courtesy of Oxford Archaeology Unit

Open Data has progressed by making available a mapdata service and webmap interface that provides basic information about our current sites. The webmap can be found at <http://mapdata.thehumanjourney.net/>. Over time we intend to build up the data available for each site and provide site level mapping at the maximum zoom. We are still seeking funding to digitise our existing analogue holdings.

In other areas we have completed implementation of our SAN and are in the process of moving all our electronic holdings into the Alfresco content management system. This software is open source and was chosen for its flexibility, the quality of its user interface and commercial support availability as much as its excellent repository capabilities.

Publishers Licensing Society (PLS)

On behalf of the UK publishing industry, the Publishers Licensing Society (PLS) is a full member of the DPC. Its role is to stimulate innovation and good practice in rights management, in this case by increasing awareness of the importance of preserving the digital objects that manifest copyright and related rights.

Publishers, and in particular scholarly publishers, actively participate in an array of digital preservation activities. Publishers:

- deposit publications in trusted dark archives such as Portico, CLOCKS, and LOCCKS where material would be accessible in case of catastrophe;
- participate in legal deposit initiatives and other projects led by national libraries. For example, in the UK there are voluntary arrangements for legal deposit of digital publications and these are evolving toward statutory licences; and.
- protect digitisation investments through active digital asset management.

Public Record Office Northern Ireland (PRONI)

During the past year PRONI has been very involved in a project known as RecordsNI, which is overseeing the implementation of EDRM throughout the Northern Ireland Civil Service (NICS). The aim is to create a single repository of electronic information for all staff, according

to their access levels and requirements. The RecordsNI project is currently in the middle of the implementation phase.

The rollout of Records NI began across the NICS in January 2007 and is expected to be completed by the end of this year. If used to its full potential, and alongside other relevant projects, it can be a vehicle for delivering cultural and business change across the NICS, and will have an impact on an estimated 16,500 civil servants. At this moment about 10,000 staff have been logged onto the new system.

PRONI has also begun work to implement a pre-ingest strategy to deal with the influx of electronic records expected as a result of the roll-out of Records NI.

Trinity College Library Dublin (TCLD)

Trinity College Library Dublin is pleased to announce the opening of its Digital Resources and Imaging Services (DRIS). The new unit is dedicated to the generation, presentation, and preservation of new digital resources to support the expansion of academic scholarship and research at Trinity College Dublin. The DRIS will be focused on the digitisation of key portions of the libraries holdings, with special attention being placed on the Manuscript and Early Printed Book Collections.

Initial projects will include digitisation of the 'Book of Dimma' Irish Pocket Gospels (TCD MS 59), and fragments from the 'Codex Usseianus Primus' (TCD MS 55), prior to their display at the Europaia. Europa 2007 exhibition in the Palais des Beaux-Arts, Brussels.



Image courtesy of Trinity College Library Dublin

DPC Member Projects

University of Oxford

Born-digital archives and manuscripts: The Bodleian Archive for Digital Manuscripts was established. It provides basic digital preservation for born-digital archive and manuscript collections and will evolve through initiatives like Cairo (below). This is a timely development as the Library has recently made its first purchase of born-digital archive material and is actively seeking hybrid (traditional + digital) archives to add to its collections.

The Cairo project (<http://cairo.paradigm.ac.uk>) is developing an open source tool for ingesting born-digital archive collections, with descriptive, preservation and relationship metadata, into repositories. It has published a tools survey and use-cases. Current work focuses on content modeling, software development, and survey work to identify born-digital materials already extant at participating libraries. Alpha versions will be released soon.

The Paradigm project (<http://www.paradigm.ac.uk>), on preserving personal digital collections will be releasing its Workbook on Personal Digital Archives in hardcopy.

Digitised resources: ODL activities – Sun Centre of Excellence, Electronic Ephemera project.

Research papers: The Oxford University Research Archive (<http://ora.ouls.ox.ac.uk/>) was established to collect copies of Oxford's journal articles, conference papers, theses and other types of research publication. It participates in a number of externally-led preservation projects, including Preserv2, SHERPA-DP2 and the UK LOCKSS Pilot.

Electronic legal deposit: OULS staff continue to contribute to expert working parties established to assist the British Library with its development of a suitable digital preservation infrastructure to support electronic legal deposit.

University of Southampton

The University of Southampton's active involvement in digital preservation centres on its support for digital and institutional repositories. With many repositories worldwide based on the university's EPrints software [1], including two of the largest at the university [2,3], the aim is to support a diversity of content types in high quality repositories. This includes not just research papers, but research data as well and other types of media produced within academic institutions, which can all benefit from the improved access provided by repositories. Notable initiatives in these areas are the JISC projects Preserv 2 [4], developing Web-based preservation services for initiatives in these areas are the JISC projects Preserv 2 [4], developing Web-based preservation services for repositories, and eBank UK [5], investigating how to present research data through

repositories. Both projects are joint with other major institutions. Preserv 2 is seeking to test a range of preservation planning and action services, extending the PRONOM-ROAR format profiling service developed in phase one of the project. eBank recently produced a report on curation and preservation issues for data repositories [6]. Both projects benefit from working with real repositories and content, and are applying and developing open standards-based approaches from preservation and content perspectives, respectively.

1 <http://www.eprints.org/>

2 <http://eprints.soton.ac.uk/>

3 <http://eprints.ecs.soton.ac.uk/>

4 <http://preserv.eprints.org/>

5 <http://www.ukoln.ac.uk/projects/ebank-uk/>

6 <http://www.ukoln.ac.uk/projects/ebank-uk/curation/>

Research Councils UK

The Research Councils continue to develop the implementation of their four principles on access to research outputs, which includes the need for the outputs from current and future research to be preserved and remain accessible not only for the next few years but for future generations. These activities include individual research councils' policies on research publications, the development of repositories such as UK PubMed and ESRC Society Today, and the ongoing work on common principles for the value, accessibility and management of research data. Individual research councils are active in a number of additional projects. Some projects where STFC (Science and Technology Facilities Council) is working with other bodies on digital preservation on several projects, including a project on Software Repositories. Many research outputs come in the form of software and its associated artefacts such as documentation; install scripts, test cases, tutorials, etc. Tools and guidelines for the preservation of software research outputs is a JISC funded project investigating issues around the deposition and preservation of software artefacts in repositories. It will develop guidelines for preservations of software research outputs, in particular by monitoring and analysing in detail the activities around a particular thematic software repository in the software engineering domain. The project will focus on four areas: the classification of software artefacts to enable their retrieval and use in new contexts; the preservation of software artefacts as their associated environment evolve; the role of standards in preservation of software; and the process of depositing software as part of the research project workflow to enable validation of analyses undertaken in the course of the research lifecycle.

(<http://www.e-science.clrc.ac.uk/projects/information/software.htm>)

DPC Member Projects

UK Data Archive, (UKDA)

The UKDA has been working on the DEXt (Data Exchange Tools) project as part of the JISC Repositories Programme. The main thrust of the project is to provide standard preservation formats for representing both quantitative and richly-encoded qualitative data. At the time of writing these data formats are currently being refined and tested.

Also under development in this project are tools which will facilitate data exchange, for both qualitative and quantitative datasets. In the former case these tools will facilitate annotated data interchange and comparison among data collections and enable data and linked products to be imported and exported directly into and out of CAQDAS packages, avoiding the reliance on just a single product. For quantitative data the tools will ensure that data and metadata is completely extracted from propriatory software packages and can be imported back into specific packages without any loss of information. The UKDA is collaborating with the Open Data Foundation in the DEXt project on the quantitative elements while most of the qualitative work is taking place in-house. Further details can be found at: <http://www.data-archive.ac.uk/dext/>

The UKDA celebrates its fourtieth anniversary in 2007. The House of Commons was the location for a special reception where Michael Wills, the Minister of state at the Ministry of Justice gave a welcoming speech. A workshop was held on the following day at the University of Essex in the new UKDA premises. The UKDA re-located to a purpose-built building in March which was funded by the Higher Education Funding Council for England and the University of Essex at a cost of £6.5 million. During these hectic months, the UKDA also published a booklet, <i>Across the decades: 40 years of data archiving</i> which reviews the history and achievements of the UKDA and the challenges it has overcome. The booklet is available by post from the UKDA, and a special series of webpages has been launched which contains a history of the UKDA, and its role in digital preservation over the years. See: <http://www.data-archive.ac.uk/ukda40/>.

University of London Computer Centre (ULCC)

As well as continuing to operate the National Digital Archive of Datasets for The National Archives, ULCC has been expanding its range of digital archiving services and continuing its involvement in research and development

projects, many in collaboration with other DPC members. Following the success of the Digital Preservation Training Programme (DPTP) we were pleased to receive modest additional funding from JISC to allow continued development of those parts of the course which deal with the more rapidly-changing aspects of digital preservation technology and tools. We anticipate running a number of shorter versions of the course in the coming year.

2007 saw the finalisation of RLG/NARA Trusted Repository Audit and Certification toolkit, a document with which we've been actively involved from the outset. We were willing participants in the trials of the DCC's DRAMBORA toolkit, which draws heavily on the RLG/NARA work, and are interested in supporting others who might wish to apply this work in their own institutions. This year also saw the end of a 13-year partnership as we exported the last of the British Library's digital assets back to the BL to find a new home in their own digital preservation systems.

We're seeing increased interest in our managed repository services, working most recently with the Linnaen Society of London to use eprints to deliver access to a number of large sets of digitised images from their unique collections, as well as linking to related material elsewhere, such as the Linnaean correspondence. We've also continued our support of JISC in carrying out collections management of its section of the UK Web Archive and are actively involved in the transition plans for this system along with other consortium partners.

Wellcome Library

Through its Digital Curation in Action project the Wellcome Library is building on its past activities and has begun to acquire born digital archival materials for its collections. In the past year the Library has produced a workflow for its engagement with digital material which sets out processes and responsibilities for each stage of the management process.

The Library has also produced a Preservation Plan (<http://library.wellcome.ac.uk/assets/wtx038065.pdf>), and donor agreement forms and manifests that deal specifically with digital materials.

Current activity includes the development of requirements for a digital object repository and activities designed to educate, inform and encourage donor/creators to transfer digital material to the Library.

SUMMARY FINANCIAL STATEMENT

Income	£	£
Membership subscriptions	161,994	
Forum fees	1,710	
		163,704
Expenditure		
Salaries	53,787	
Pensions	5,449	
Recruitment costs	458	
Training	767	
Telephone	669	
Printing, postage & stationery	1,279	
Travel & subsistence	5,047	
Insurance	281	
Books	128	
Rent	7,245	
Internet/web site costs	7,867	
Computer costs	2,537	
Hospitality	71	
Forums & meetings	1,257	
Gifts	169	
Audit & accountancy	2,580	
Legal fees	15	
Advertising & promotion	3,322	
DP award	1,753	
Bank charges	373	
		-95,054
		68,650
Depreciation		-1,473
Deposit account interest		5,282
Taxation		-1,004
Net profit for the year		71,455

General reserves:	
Pre-incorporation reserves	68,509
Reserves brought forward at 1/8/06	4,181
Profit for the year	71,455
	144,145

The DPC accounts are audited by J Matthiae & Co.
The Tythings, West Winterslow, Salisbury. Wiltshire, SP5 1RE