What the Digital Curation Centre can do for you

Digital Curation help for

- researchers
- research councils
- data producers and custodians
- government
- university managers
- the media
- funding agencies
- librarians
- data scientists
- informaticians
Digital Curation

The DCC Charter and Statement of Principles describes digital curation as maintaining and adding value to digital information throughout the information lifecycle.

Why should this matter to you?

- Data are evidence supporting research and scholarship, and sound research is based on verifiable data, which may in turn lead to new knowledge
- Some data are unique and cannot be recaptured or reproduced
- Data may also represent records and be subject to legal requirements or an implicit duty to manage

Curation will allow us to protect all of these data for the future and manage the inherent risks that threaten them.

Need more convincing?

As research councils and funding bodies continue to seek ways to maximise their return on research investment, provision for the long-term curation of research outputs is fast becoming a requirement for successful funding bids - regardless of project size or duration.

Effective curation requires active contributions from a range of stakeholders over the entire lifecycle of data. Whether you are involved directly in active research, in the funding of research or in the management of data produced for and from research, you are a stakeholder.

Need help?

This brochure describes a range of tools and services provided by the Digital Curation Centre (DCC) that can help you meet the challenges associated with curation. To learn more, please take a look inside, or visit our more detailed resources at www.dcc.ac.uk.

DCC Charter

Extract from the DCC Charter and Principles: The full text of the Charter and Principles can be found at www.dcc.ac.uk/charter

The Digital Curation Centre

- Supports data creation, access, use, and reuse, both in the short and longer term, within and across disciplines, sectors and communities
- Promotes the development and implementation of sound data management plans and appropriate data sharing policies
- Advocates effective preservation and management models to support digital curation communications and shared activity
- Champions the practice of creating sufficient documentation and metadata to provide context and facilitate the future discovery, access, use and reuse of data
- Works with data centres and repositories in their support of data creators submitting data and other research materials for curation and long-term preservation
- Advocates that repositories and other archive and preservation services should identify, collect, and share both data and information structures necessary to render archived data in a form that is understandable over the long-term
- Emphasises the need for the persistent identification of digital objects to facilitate efficient and effective discovery, linking, and citation over time
- Conducts formal or informal audits to assess the scale of data holdings, the risks facing those holdings, and to predict the extent of required curation activity
- Provides access to appropriate and effective curation tools, quality training and learning resources, as a means of building capacity and skills within the higher education community
Curation Services

Community Discussion Curation Blogs, News and Email lists

Digital curators from a community in the early stages of development are often uncertain who their peers are or where to go for help or topical information.

How can the DCC help?

The DCC provides a range of mechanisms to support the community as it develops.

The Digital Curation Blog, the DCC Blawg and the Research Data Management Forum (RDMF) blog provide topical information, commentary and analysis. DCC News items on the main web site alert readers to events, publications and policy changes of interest to curators. The DCC-Associates email list provides the capability for digital curators to ask their peers for comments on a wide range of issues. The DCC Forum provides another mechanism for discussion open to Associates Network members.

Digital Curation Blog
http://digitalcuration.blogspot.com/

DCC Blawg
http://dccblawg.blogspot.com/

RDMF Blog
http://data-forum.blogspot.com/

Curation Tools

The DCC is focused on providing tangible services that will help data custodians undertake curation activities and subsequently assess their own effectiveness. To this end, the DCC has developed tools including:

- Data Audit Framework (DAF) toolkit, which provides organisations with the means to identify, locate, describe and assess how they are managing their research data assets;
- Digital Repository Audit Method Based on Risk Assessment (DRAMBORA), which enables the self-assessment of digital repositories using a risk based approach;
- Registry and Repository of Representation Information (RRORI) which allows for centralised and persistent storage and retrieval of Representation Information (RepInfo), including Preservation Description Information (PDI), as defined by OAIS;
- DCC DIFFUSE Standards Frameworks, which offers a browsable database of standards that can be used together to inform digital curation and preservation aims. The standards are contextualised by both the sector using them (e.g. archivist, researcher, repository manager) and the curation lifecycle action that they support. Advice regarding the applicability and implementation of featured standards is also available from our Standards Advisor.

To facilitate the scientific testing and evaluation of curation tools and approaches, the DCC has developed its Methodology for Designing and Evaluating Curation and Preservation Experiments and associated workflow, for use within the Planets Testbed. The DCC’s use-case driven methodology enables end-users to determine their own success criteria and to rate the overall effectiveness of tools and approaches based on their particular requirements. Most importantly, this approach allows end-users to share and compare their results with their peers.
Data Sharing and Curation Support

Every year, over £3 billion of public money is invested in research, of which the primary output is data. We want to help you maximise the research opportunities that such a diversity, richness and quantity of data provides. One of the best ways of achieving this is to ensure that data are properly curated and preserved for sharing and informed use beyond the originating research teams.

The responsible sharing of data allows further high-quality, ethical research to be developed, including the testing of new hypotheses and analyses, through linking and pooling of datasets, and from new opportunities for the validation of research output. Appropriately supported data management and sharing not only reduces duplication in data creation but also enhances the long-term scientific value of existing data, benefiting the wider research community and generating new opportunities for scientific advancement.

The DCC has both the vision and expertise necessary for developing and implementing strategies that will deliver improvements in securing improved returns on this considerable national investment. If you are committed to sharing your research data but need help in designing a strategic framework then contact us today.

Data Curation Learning Resources

Access to an evolving range of learning resources is essential for honing and maintaining skill-sets and raising awareness of curation issues. The DCC provides access to a wide range of learning resources spanning various expertise and interest levels. From high-level briefing, legal, standards, and technology watch papers to detailed digital curation manual instalments and case studies, the DCC offers learning resources specifically designed to help you effectively engage in digital curation activities.

Authored by experts in the field, each resource is designed to assist data curators to better understand the specific challenges they face and the role(s) they play in creating, managing and preserving their digital information over time.

Need more help?

DCC advisors are always on hand to assist with any data curation queries you might have.
Data Curation Training

In recent years there has been an ever-increasing number of useful events devoted to raising awareness about the curation and preservation of digital information. However, there is a still a need to provide access to practical training for those engaged in conceptualising, creating, preserving access to and re-using data over time. Through a range of online learning resources and in-person training opportunities, the DCC seeks to bridge the gap that exists between this general awareness of curation and preservation issues and the ability to address them practically in a real working environment.

Our Digital Curation 101 (DC 101) course equips researchers with an overview of the range and nature of curation activities that span the curation lifecycle, providing data managers with key messages to take back to their own institutions to encourage and support researchers engaging with the curation process.

While we aim to produce a range of training events to meet most needs, we are more than happy to explore the possibility of dedicated training events that can be tailored to meet your own particular institutional requirements. More information on our training events and resources is available from our website.

International Digital Curation Conference

The International Digital Curation Conference (IDCC) is a well-established annual event creating a valuable meeting for all who are interested in digital curation & preservation, bringing together presentations from high-level policy makers and strategists and showcasing new projects and research.

The conference attracts delegates from across the globe and provides unique opportunities to network, exchange ideas and establish collaborative partnerships for the future. It attracts support from influential organisations including the National Science Foundation, the Institute of Museum and Library Services and the National e-Science Centre, and sponsorship from key companies including Microsoft Research and Sun Microsystems.

Previous conferences have been held in Bath, Glasgow, Washington DC and Edinburgh and have covered key questions including the global collaborative challenge posed by digital curation and ways in which science is being transformed by ‘Radical Sharing’. The 5th IDCC, ‘Moving to Multi-Scale Science: Managing Complexity and Diversity’ will be held in London in December 2009 and will focus on the concept of a data-driven infrastructure for science - covering the multi-dimensional principles of scale, discipline, skills, sectors and funding. The 6th IDCC will be held in Chicago in 2010.

Outputs from all previous conference are accessible permanently via the conference proceedings, the IJDC (International Journal of Digital Curation) and the DCC website.
The International Journal of Digital Curation (IJDC) is the only journal in the world dedicated to the field of digital curation. Published by the DCC in electronic form, now three times a year, it is produced by UKOLN at the University of Bath. The IJDC fills a ‘niche gap’, offering insight into the research challenges, service developments, best practice and policy approaches associated with this field. It is international in coverage and draws on an eminent international editorial board to inform and guide its progress. All the papers are peer reviewed, thereby guaranteeing the quality and validity of the content.

The peer reviewed section of the journal includes research papers from the International Digital Curation Conference. These papers are uniquely available to the IJDC. The journal also contains general articles, project updates, event information and news, and from 2009 there are plans to expand its coverage to include papers from related conferences.

The readership is made up of researchers, developers and practitioners as well as policy makers, strategists and funders from the Higher Education sector, e-Science and e-Research.

Legal Services

You can keep up to speed on relevant legal topics by reading our Legal Watch Papers:
http://dcc.ac.uk/resource/legal-watch. These easy-to-read papers provide overviews of key legal areas relevant to digital curation. Previous topics have included IPR in Databases, Sharing Medical Data, and Creative Commons Licensing. Coming soon: Science Commons and Open Data.

Read and contribute to the DCC Blawg:
http://dccblawg.blogspot.com

This blog contains commentary, information and news on the legal aspects of digital curation. Recent posts have covered ownership of data, the Google v AAP settlement and its implications, useful resources for managing rights within repositories, news about proposed amendments to copyright law, open data arguments, open access overviews, and details of legally-focused events.

The DCC offers a Helpdesk service through which you can ask questions specific to your own project. You can access this via: info@dcc.ac.uk or 0131 651 1239. Legal topics we have provided information on recently include fair dealing for images in a database, data protection implications for survey data, repository deposit licences, types of resources protected by copyright, Creative Commons and other open copyright licences, the Science Commons Protocol for implementing open access data, copyright in collaborative works, and data ownership.

Our Legal Services staff are present at many DCC events and provide information on topics such as copyright, the database right, digital rights management, data sharing, data protection, freedom of information and licensing.
Planning for Data Curation - Advice and Guidance for Managers and Data Users

Developing and implementing a range of policies to support activity at all stages of the data curation lifecycle is vital to enabling the effective management, discovery, and reuse of data over time.

The existence of coherent policies can also help to demonstrate an institution’s commitment to supporting the research environment, where the identification of accountabilities for data curation should be expected to contribute to increased confidence in the local research infrastructure.

How can the DCC help?

To assist institutions in the development and implementation of their own data curation policies, we have produced a set of guiding questions that will help management, research and support staff at UK institutions consider and evaluate their specific aims and approaches to data curation.

We also provide access to a range of generic data curation policy templates that can be downloaded and adapted to meet specific institutional needs. Simply browse through our list of templates and find the ones that are right for your institution.

Once you have the templates, you can start the iterative development process with the appropriate members of staff.

Guiding questions, templates, and supporting documents are available for download directly from our website.

Representation Information Registry/Repository Services

Representation Information (RepInfo) is a term for the information needed to understand and use a digitally encoded object. The amount of RepInfo needed depends on the knowledge base of the designated community, and this changes over time (the more short term and localised your community, the less RepInfo you will need).

Digital curators must ensure that their digital objects are usable within their community, and so should provide adequate RepInfo to accompany their data holdings as an essential part of their work.

The RepInfo services allow digital curators to create and share RepInfo, thereby facilitating their primary task, and also to share the effort of expanding the RepInfo network needed to understand and use their data holdings.

Our example implementation, with an extensive amount of RepInfo covering a wide range of data types, is available from http://registry.dcc.ac.uk.

The DCC has expertise on the OAIS standard for digital preservation and can provide formal training events and/or advice on the main aspects of identifying, creating and curating OAIS Representation Information (RepInfo). This includes training on a number of software tools and technologies that can be used for creating and curating RepInfo and data products. In general we can provide advice on any of the aspects of using, understanding and applying OAIS to your archiving and preservation processes.
Research Data Management Forum

Our Research Data Management Forum (RDMF) is a unique and diverse community of data practitioners and policy makers that exists to enable the free exchange of experience and expertise in the management and curation of research data.

In direct response to pressure from the ‘digital data deluge’, and through the resolution of common issues arising from the practice of data stewardship, this broad cohort of stakeholders works in harmony to improve the quality, reliability and accessibility of research data, data policies and data standards.

Regular twice-yearly workshops, conducted mainly at a technical and service delivery level, address topical concerns agreed by forum members, shaped and informed by issues of strategic principle. These are supplemented by individual onsite delivery, by invitation of members.

With such a diverse membership from data centres, institutional repositories, researchers and policy makers, our Forum’s particular strength is in the facilitation of a coherent voice for the data management community.

To find out more about the RDMF please visit http://www.dcc.ac.uk/data-forum/, or have your own say in the data forum blog, which can be reached at http://data-forum.blogspot.com/

Supporting Research Grant Submissions

We are the UK’s centre of expertise in digital curation. Working closely with the research community we aim to understand its range of cultural norms and practices, from which baseline we seek to build informed solutions to the challenges involved in managing those considerable volumes of data now being generated, transmitted and stored.

More than a provider of technical solutions, the DCC has established itself as an international authority on the strategies, policies and standards applied to data management and data sharing - including those of the UK research councils and other major grant providers - and we are recognised as the UK’s principal source of knowledge in this field.

Data management and sharing plans

Who better to turn to when you need to write that plan? Using our suite of templates, not only can you produce a carefully reasoned and expert submission, which can be tailored to your individual situation, you can also top and tail it with the official DCC seal of approval. And if the templates on their own don’t entirely meet your needs, further assistance is available through the DCC Help Line: 0131 651 1239.

The requirement for researchers to produce data sharing plans is legitimate and justified. It makes sense. But it does not make sense to expect that you should prepare such plans on your own and without expert advice or assistance.

At the DCC we not only understand the requirements of the digital curation lifecycle, we are also familiar with the expectations of each of the principal funding agencies. So all we need now is to know you.
DCC Facts and Figures 2004 - 2009

Events

We have held four International Conferences:

International Conferences:

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The fifth International Digital Curation Conference will take place in London in December 2009.

Since 2004, the DCC has organised over 45 workshops on topics ranging from database preservation to the legal environment for digital curation, and numerous Information Days, seminars and national and international presentations. Digital Curation 101 was launched successfully in 2008 over 4 days and is repeated in 2009 over a shorter timescale.

Blogs

We now host three separate blogs, accessible through blogspot.com:

- The Digital Curation Blog (http://digitalcuration.blogspot.com)
- The DCC Blawg (http://dccblawg.blogspot.com)
- The Research Data Management Forum Blog (http://dataforum.blogspot.com)

We have published the following learning resources:

- DCC Website
- Curation Lifecycle Model
- 17 Briefing Papers
- 4 Legal Watch Papers
- 6 Standards Watch Papers
- 6 Technology Watch Papers
- 9 Case Studies
- 6 Interviews
- 8 FAQs
- 12 Curation Manual Instalments
- Glossary of 87 curation terms
- 68 Publications
- 98 Research Papers
- 12 Associate Network Newsletters and 9 Curation News Roundups.
- 4 Issues of IJDC

Curation services

- Advisory Service
- DCC DIFFUSE Standards Frameworks
- ERP/AePRINTS Service
- UK LOCKSS Alliance

Community building and collaboration

- Associates Network
- RDMF and workshops
- Information Days
- e-Science Days
- DCC Charter
- e-Science Liaison

Curation Tools

- Data Audit Framework
- DRAMBORA
- Curation Lifecycle model
- RRORI
What the DCC has done for others

‘Having attended IDCC for the past two years, I find it to be one of the top conferences I attend regularly.’
Lee Dirks, Microsoft

‘The International Digital Curation Conference has been consistently the most interesting and illuminating conference out of the many conferences that I attend in the areas of digital libraries, repositories, preservation, and scholarly and scientific communication. By bringing together people from a wide range of disciplines, it has presented a wonderful picture of the diversity of challenges that arise in the preservation of the outputs of science.’
Evan Owen, Portico

‘We thank you for taking time to prepare and present a stimulating and professional set of talks during the Data Management Workshop. Feedback at and following the event has been very positive.’
NERC

‘It seems to me that DCC is doing a pretty good job in this area (preparatory standards documents).’
Matthew Woollard, UK Data Archive

‘I just took a closer look at the Data Curation Manual and found the business case section right on target’
Deirdre Stam, Long Island University

‘I can’t thank you enough for taking the time to respond - so richly - to my email.’
Gillian Elliot, University of Otago

‘In response to the question ‘What will you be able to take from this event back to your own organisations?’ the respondent replied, ‘A much deeper knowledge and appreciation of the issues involved in digital preservation and a resolve to be involved’.
Feedback to DC 101
The DCC Curation Lifecycle Model

The DCC Curation Lifecycle Model provides a graphical high level overview of the stages required for successful curation and preservation of data from initial conceptualisation or receipt. The model can be used to plan activities within an organisation or consortium to ensure that all necessary stages are undertaken, each in the correct sequence. The model enables granular functionality to be mapped against it; to define roles and responsibilities, and build a framework of standards and technologies to implement. It can help with the process of identifying additional steps which may be required, or actions which are not required by certain situations or disciplines, and ensuring that processes and policies are adequately documented.
The Digital Curation Centre has been confirmed as the UK’s official member of CODATA, the Committee on Data for Science and Technology of the International Council for Science (www.codata.org). The mission of CODATA is to improve the quality, reliability, management and accessibility of data that are of importance to all fields of science and technology, an aspiration bearing considerable synergy with the DCC’s own focus on the promotion of expertise and good practice, both national and international, for the management of all research outputs in digital format. The DCC has secured a two-year national membership to CODATA and is keen to develop a community of UK scientists and researchers who would like to benefit from the our involvement. Please get in touch if you’d like to learn more at info@dcc.ac.uk. We look forward to a long and active relationship.