

There is a rapidly increasing volume of information which exists in digital form. Whether created as a result of digitising non-digital collections, created as a digital publication, or created as part of the day-to-day business of an organisation, more and more information is being created digitally and the pace at which it is being created is accelerating. In the UK, initiatives such as the People's Network and the National Grid for Learning have emerged with a consequent need for quality digital materials to support them. Numerous other digitisation initiatives either planned or underway are constantly being announced within the commercial, higher education, and public sectors. In addition, a Government white paper announced the intention to have all newly created public records electronically stored and retrieved by 2004 ([PRO 1998](#)).

This activity is occurring in an environment in which there is a growing awareness of the significant challenges associated with ensuring continued access to these materials, even in the short term. In the UK, a series of research reports were commissioned by JISC (Joint Information Systems Committee) and the NPO (National Preservation Office) which served to highlight various aspects of digital preservation ([see note](#)). The reports provided a broad overview of key issues and two in particular (

[Beagrie and Greenstein 1998](#)

and

[Hendley 1998](#)

) recommended that further research be undertaken to explore the issues they raised in more detail.

The combination of these two factors is both challenging and troublesome. On the one hand, there are considerable opportunities offered by digital technology to provide rapid and efficient access to information. On the other hand, there is a very real threat that the digital materials will be created in such a way that not even their short-term viability can be assured, much less the prospect that future generations will also have access to them. The need to create and have widespread access to digital materials has raced ahead of the level of general awareness and understanding of what it takes to manage them effectively.

The need for guidance

Both the JISC/NPO studies and the second workshop in digital preservation organised by the JISC and the British Library in 1999 at Warwick identified the need to improve guidance on digital preservation. At around the same time, a survey commissioned by RLG (Research Libraries Group) investigated the needs of member institutions ([Hedstrom and Montgomery](#)

[1998](#)

). A clear picture emerged

from both sets of activities of a complex and rapidly changing environment in which those creating and/or acquiring digital resources would require guidance on how to manage those resources most effectively.

All organisations in all sectors have been or will soon be creating digital materials. They may be created as part of their organisational records, they may be created by digitising non-digital collections in order to enhance access to them, or they may be created digitally ([born digital](#)). However, they come into being, they will need to be managed as early as possible in their life-cycle, preferably at the design stage, but if not as soon as practicable thereafter, if they are to remain accessible as long as they are required. Practical experience and expertise in this area is still scarce so there is a clear need for guidance to ensure that the significant opportunities are not overwhelmed by the equally significant threats.

Given this conjunction of factors, it seemed timely to embark on a handbook which aimed at both identifying good practice in creating and managing and preserving digital materials and also providing a range of practical tools to assist in that process. This handbook is being produced at a time when an important body of experience is emerging from recent research projects into digital preservation and from established data archives in the sciences and social sciences. Although many challenges remain, it is now possible to point to many examples of good practice and to suggest ways in which institutions can begin to address digital preservation. By providing a strategic overview of the key issues, discussion and guidance on strategies and activities, and pointers to key projects and reports, the handbook aims to provide guidance for institutions and individuals and a range of tools to help them identify and take appropriate actions.

Development of the handbook

In 1999 the AHDS (Arts and Humanities Data Service) submitted a proposal to the Preservation of and Access to the Recorded Heritage Research Programme. The proposal aimed to build on work which has already taken place in identifying the broad issues and challenges associated with digital preservation, and to provide more detailed guidance to all those creating and/or acquiring digital materials. The AHDS has considerable experience in collecting and managing digital materials and has been active in providing guidance in creating digital materials for the arts and humanities. Many of the challenges associated with ensuring continued access to digital materials are identical regardless of how or where they are created, so it made sense to build on this practical experience and to aim at a wider audience. The project was awarded funding of £33,561 from Resource: The Council for Museums, Archives and Libraries, with

contributing in kind funding from AHDS and JISC, institutions represented by the Advisory Group, and participating case studies. The work was undertaken between July 1999 and September 2000 by Neil Beagrie and Maggie Jones on behalf of the AHDS.

An Advisory Group consisting of experts in the field of digital preservation was formed, all of whom had first hand knowledge of the range of complex issues involved. An early decision was that a handbook would be the most appropriate mechanism to provide the range of advice and guidance required for such a diverse audience. Research to compile the handbook combined traditional desktop research, utilising the world-wide-web as a source of freely available current information, as well as subscription-based print and electronic journals, supplemented with case studies and specialist interviews. Three very different case studies were selected to help develop the practical nature of the handbook and to ensure that it addressed key issues currently being faced by organisations. Through structured interviews with selected specialists, workshops and conference presentations, and the case studies, it was possible to gauge the overall level of awareness and understanding of digital preservation and to transfer that knowledge to the development of the handbook.

A consultation period for peer review and assessment was provided between 8 August and 4 September 2000. Comments were also accepted up until the end of the project to allow those wishing to comment to do so.

In general, the research for the handbook showed that the level of awareness of, and interest in, digital preservation is gradually increasing but is not keeping pace with the level of digital resource creation. In particular, institutions that have not played a role in preserving traditional collections do not have a strong sense of playing a role in preserving digital materials. Individual researchers were keen to "do the right thing" but frequently lacked the clear guidance and institutional backing to enable them to feel confident of what they should be doing. The difficulties of allocating responsibilities for preservation and maintenance in an environment in which digital resource creation is frequently a by-product of collaborative projects, which may well be funded by yet another external agency, was also mentioned. Overall, it appears that there is still a need to raise the level of awareness of digital preservation, particularly among funding agencies and senior administrators with responsibility for the strategic direction of an institution. This needs to be combined with more detailed guidance and training at the operational level. Moreover, the guidance needs to be able to accommodate people with varying levels of awareness and understanding of digital preservation, in a wide range of institutional settings, all of whose staff have significant constraints on their time.

Audience and purpose

Digital preservation has many parallels with traditional preservation in matters of broad principle but differs markedly at the operational level and never more so than in the wide range of decision makers who play a crucial role at various stages in the lifecycle of a digital resource. Consequently, this handbook is aiming at a very broad audience. In the first instance it is intended to provide guidance to institutions at national, regional and local levels who are involved in or contemplating creation and/or acquisition of digital materials. Within those institutions, the handbook is aiming at both administrators and practitioners and is accordingly structured to include a mix of high level strategic overviews and detailed guidance. In addition, the handbook is aimed at service providers who may be in a position to provide all or part of the services needed to preserve digital materials. It is also relevant to funding agencies who will need to be aware of the implications of the creation of digital materials. Finally, it will be of interest to data creators whose involvement in the preservation of their digital materials is still crucial, despite being restricted by the overarching business needs of their organisation.

The handbook fully recognises that these groups may have different interests and involvement with digital materials at different times. By adopting the life-cycle approach to digital preservation it aims to help identify dependencies, barriers, and mechanisms to assist communication and collaboration between these communities.

The need to tailor the handbook to the needs of individual institutions, including those where digital preservation may be outsourced and those where digital preservation may only be short-term, means that the handbook needs to be seen as acting as a catalyst for further concerted action within and between institutions.

The broad issues associated with digital preservation are global in nature and examples of good practice, research activity and sources of advice and guidance have been drawn from around the world. However, there is a UK focus in terms of the background to the study and some examples, e.g. legislation, are UK specific. The text of the handbook will indicate a UK focus whenever relevant. It is still hoped that the handbook will be relevant to an international audience as many of the models and references provided are not UK based and are in any case applicable to any country. Wherever their country of origin, the users of the handbook will need to tailor it to their specific needs.

The overall theme of the handbook is that while the issues are complex and much remains to be clarified (and may never be definitively resolved), there is nevertheless much that has already been achieved and much that can be undertaken immediately by all involved in creating and/or

acquiring digital materials. This activity will help to protect the initial investment in digital materials creation and offer considerably improved prospects for the long-term.

Web version of the handbook

In such a rapidly developing environment, it will clearly be necessary to maintain the handbook to ensure its currency. This will be achieved by having this electronic version available on the web, which will be updated on an annual basis to ensure currency of web references and cited projects. The print publication provides a convenient reference work which will be complemented and supported by the web version. All urls cited in the handbook are correct as of May 2002 but may be subject to future changes. Users of the print and CD versions should consult the website regularly for current urls and future updates.

Future development and support

The development of the handbook to date has been the result of collaboration and input from a wide range of institutions and individuals. We hope the momentum and focus for future development and maintenance of the handbook has been created by the establishment of the Digital Preservation Coalition in 2001. This will provide the opportunity to link the handbook to supporting materials and training workshops and to add further case studies and exemplars as experience and practice in digital preservation grows.

The Digital Preservation Coalition welcomes feedback and constructive suggestions for improving the online edition of the handbook. Please send comments to:

Email: info@dpconline.org

Mail:
Digital Preservation Coalition
Innovation Centre
York Science Park
York

YO10 5DG