

The use of science to enhance our understanding of the past: A response from the Digital Preservation Coalition

Introduction

1. The **Digital Preservation Coalition (DPC)** is a not-for profit membership organisation whose primary objective is to raise awareness of the importance of the preservation of digital material and the attendant strategic, cultural and technological issues. Its vision is to make **our digital memory accessible tomorrow**.
2. The Digital Preservation Coalition welcomes the opportunity to comment on the National Heritage Science Strategy (NHSS). This is our second contribution and is a response to Report 2: *The Use of Science to Enhance our Understanding of the Past*, July 2009.
3. In our previous submission we considered the digital estate, expressing the view that digital resources can have 'lasting value and significance, and therefore constitute a heritage that should be protected and preserved' (after UNESCO 2003).
4. In this submission we consider the role of digital resources as a product and resource that supports heritage science. We share the view articulated in the report that there is a need for 'improved storage and long-term curation of digital data resulting from heritage science'. We introduce a selection of initiatives that the committee may wish to consider. We believe that the **National Heritage Science Strategy will be best served if it aligns with these emerging initiatives**.
5. We note the opportunity cost associated with loss and poor access to digital resources within heritage science. Configured for long term management, heritage science has a distinctive need to access, transmit and manipulate data through generations.
6. Experience shows that long term access is facilitated by early intervention. In particular the actions of data creators have a significant bearing on the continuing viability of data. Emerging obligations about data management within research apply to heritage science.
7. Experience also shows that long-term access to digital resources is not merely an issue of storage or access. On-going access implies a range of appropriately configured services such as refreshment, replication, migration, and technology watch.
8. The Digital Preservation Coalition is a cross-sectoral organisation with a distinctive capacity to explore, develop and deliver co-ordinated approaches to the management of the UK's digital legacy. **We offer our support** in articulating this element of the National Heritage Science Strategy.

Digital data within research: emerging tools and policies

9. We note the common cause between the needs of heritage science and many of the policy, strategic and practical tools associated with digital preservation. The steering committee may wish to take account of these within their deliberations: an abbreviated account is presented below. The National Heritage Science Strategy will be well served if it can align with these existing and emerging tools and policies.
10. In 2007 the Office for Science and Innovation reported the need for a 'E-infrastructure for Science and Innovation', which called for a national infrastructure which enables 'the preservation of digital information output as a vital part of the nation's cultural and intellectual heritage' (OSI 2007: 9).
11. An independent study funded by Research Councils UK (Brighton 2008) reviewed the impact of 'open access' on research and scholarly communication. In response, the heads of the Research Councils have agreed to support increased open access by mandating grant holders to deposit data in appropriate repositories and extending their support for open access publishing.
12. Individual research councils have been active in supporting research data facilities. Amongst these is the AHRC's funding of the Archaeology Data Service which hosts the OASIS grey literature service, also partly funded by English Heritage which itself is a member of the DPC.
13. Many major research institutions in the UK are in the process of developing and implementing institutional strategies that pertain to data as well as more traditional scholarly outputs. Typically called 'institutional repositories' researchers are mandated to deposit results from their research with these services. Varying in maturity scope and size, these repositories necessitate consideration and commitment to digital preservation.
14. A range of tools and services have emerged within the research community that have assisted the implementation of localised digital preservation strategies. These include the Data Audit Framework and the Research Data Management Forum produced by the Digital Curation Centre (<http://www.dcc.ac.uk>) and the Assessing Institutional Digital Assets (AIDA) from the University of London Computer Centre (<http://aida.jiscinvolve.org/>). Both of these have received funding from the JISC.
15. Outside the research community, a range of national and international initiatives such as the EC-funded PLANETS project, led by the British Library, have produced tools directly focussed on long-term data management. PLANETS is particularly interesting in this respect because the practical tools and services which it offers are shortly to be released for general use.

The distinctive threats to digital heritage and mechanisms to offset them

16. In our previous submission we described the distinctive threats to digital heritage and emerging mechanisms by which they can be offset. We will not repeat that description but

note that the same threats pertain to data created and used to access, research and manage heritage.

17. The report is right to point to the need for better consideration of storage of digital outputs. We call on the committee to look at the wide range of services which may be required for long term access noting that storage is only one aspect that needs to be addressed.
18. The heritage sector has previous experience of the implications of data loss and its impact on access. Celebrated cases of loss - and managed recovery - include the BBC Domesday Project (Darlington, Finney and Pearce 2003) and the Newham Museum Archaeological Service (Austin et al 2001). The intellectual framework within which these examples arise – risk and loss of data associated with very long-lived analogues – are perhaps unique to the heritage sector and make a distinctive strategic argument for digital preservation.
19. These examples also show that appropriate consideration of the long term at the start of a project can have a disproportionate impact on long term maintenance. Costs of ingest can be expensive (Beagrie et al 2008) so appropriate attention early in the life of a project is likely to bring cost savings and improvements in performance.
20. In our previous submission we demonstrated that policy and practice in digital preservation has matured quickly and that many of the challenges can and have been addressed. While capacity is a recurring weakness (Boyle et al 2008, Waller and Sharpe 2006), it is no longer possible for researchers or their institutions to abdicate responsibility for long term access on the premise that such access is unachievable.

References

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