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Editorial

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It is a great pleasure to be able to introduce this issue of the IJDC. Included within are a second batch of articles drawn from the 2011 International Digital Curation Conference, which focused on opening up data. The articles explore some of the pre-requisites for this: from the skills and tools needed by researchers to manage and share their data effectively, through the technical infrastructure needed to host the data, to the evidence needed to embed open data in current practice. We also have two new papers on unlocking legacy resources for the benefit of current and future research.

Over the past thirty years, the forensics community has developed some impressive tools and techniques for extracting information from digital devices, with an emphasis on preserving provenance and maintaining the highest levels of accuracy. As Kim and Ross discuss in their paper, the strict standards demanded by the courts have led to the creation of archival storage formats that surpass many of those commonly used by digital archives and repositories today.

While digital curators should never need to use digital forensic techniques to recover the data in their care, there will be times when they have to deal with long-neglected data. In such cases, digital forensics may well hold the key. Knight highlights one such circumstance, sure to become increasingly commonplace: that of a repository receiving the personal digital archive of a notable individual. Over time, we can expect such archives to increase in size and temporal extent, meaning that more data will be at risk in obsolete formats and media.

A quite different set of challenges are presented by interactive CD-ROMs, which lock their information inside a custom application. Building on work previously reported in this journal, Brown describes an endeavour to save a series of early CD-ROM titles targeting the classic Mac platform (i.e. pre-OS X). The barriers here include the interdependence of audio and data tracks on the same CD, copy protection mechanisms and copyright law.

Not only do institutions have legacy data to preserve, but there is increasing pressure for them to support formal research data management. In this issue we have

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two different perspectives on setting up the required technical infrastructure. Poschen et al. describe the establishment of a successful research data management service at the University of Manchester, piloted among biomedical researchers. Curdt et al., meanwhile, describe a system built to handle data from one large, multidisciplinary and multi-institutional project. Though the specifics of the two systems are obviously different, it is instructive to note the broad similarities that exist between them.

Institutions must also consider how they will develop the human infrastructure for research data management; an important part of this is building up the skill set of researchers. For those developing training courses in the subject, the list of recommendations provided in the article by Molloy and Snow should prove most helpful. It derives from a synthesis of live data management courses with reference to two different skills development models.

Even with a good grasp of the issues, it is easy for researchers to miss something important when it comes to planning the research data management for a project. This is why services such as DMP Online and DMPTool are so important in driving up standards. Sallans and Donnelly compare and contrast these two tools, exploring how the needs of their target audiences have shaped their eventual design and functionality. One thing both tools promise is the ability to gain an insight into data management practice in aggregate, and thereby calculate some of the resource implications.

In a time of economic austerity, with many competing priorities for funding, it is important to be aware of the costs of good research data management, and to balance them against the numerous benefits. Beagrie et al. provide an overview of the Keeping Research Data Safe (KRDS) Benefit Analysis Toolkit, a pair of tools that can help with the latter task: one for identifying benefits and one to help evaluate their impact.

A major demotivating factor for researchers managing their data is a perceived lack of personal benefit from doing so, since data are all too infrequently considered a first-class research output. This is especially true in disciplines where data are not routinely reviewed for quality by specialist curators or peer researchers. Grootveld and Egmond report on a pilot study seeking to change that by introducing peer review in an institutional data archive. What I find interesting is that the reviewers targeted were researchers intending to reuse the data for real; this means the data originators are getting useful feedback on how understandable and useful their documented datasets are in practice.

Getting due recognition for research data is just one battle among many. As Littauer et al. remind us, the scientific workflow is another type of output that contributes to the reproducibility and impact of research. They provide a set of recommendations on how best to share and promote workflows to maximise their impact, based on an analysis of an active workflow repository.

To conclude, I am pleased to report that behind the scenes at the IJDC we continue to improve both our own internal workflows and the way in which information is presented to you, the reader. Now, the details needed for citing our papers by DOI are not only visible in the PDF but also in the online tables of contents and abstract pages. Please do let us know what you think of the new look, and of any other improvements you would find useful.