

# The International Journal of Digital Curation

Issue 2, Volume 4 | 2009

## Letter to the Editor: Authentic Digital Objects

Andrew Wilson

August 2009

### Summary

Long-term preservation of digital objects requires curators to be able to guarantee the archival authenticity of the objects in a digital repository. In *IJDC* 4(1), Ronald Jantz suggested that a digital certificate is sufficient to ensure authenticity. The letter writer takes issue with this view and points out some of the archival misinterpretations in the Jantz article. He maintains that the archival literature is a rich source for discussions of authenticity that has been ignored to the detriment of Jantz's arguments.

Dear Editor

As a professional archivist of long-standing I must address what I see as some errors of interpretation and some of fact in the article by Ronald Jantz, “An Institutional Framework for Creating Authentic Digital Objects” in Vol. 4, No. 1 (2009) of the *IJDC*.

Having practised professionally in Australia for some 30 years you’d probably recognise that, like antipodean archivists generally, I have a commitment to the continuum view of records (which is equally applicable to any other digital objects) rather than a lifecycle view. One of the consequences of the northern hemisphere’s widespread lack of understanding of the continuum model and its principles (and the adherence to a lifecycle model) is amply shown by Jantz’s failure to recognise that a lot of the things he suggests archivists should take on (involvement upstream, (Jantz, [2009](#), p. 80); creation of authentic digital objects, p. 80) are already being done by all major archival institutions in Australia and New Zealand, and by a number of others around the world, for example, the UK National Archives (TNA), Library and Archives Canada (LAC), and so on. I will not pursue this aspect further except to point to:

- 1) some of the work by McKemmish, Upward, and Hurley to get an understanding of the continuum view (McKemmish, Reed, Piggott, and Upward, [2005](#)).
- 2) the material available on the websites of the National Archives of Australia, State Records New South Wales, Archives New Zealand, and TNA (UK).

The archival profession has been thinking, talking and writing about authenticity for a couple of hundred years (give or take), since it is one of the central planks of the archival mission. Jantz seems to be quite unaware of any of this prior work, and, while suggesting that “archivists” need to start doing something about authenticity (Jantz, [2009](#), p. 80), has the effrontery to say that librarians should serve as trusted third parties for authenticity (p. 77). This is not the place to list the archival literature on authenticity but I’d be happy to point to some of the relevant work that indicates the long-developed thinking and professionalism of the archival view of authenticity.

I also take issue with a number of unsupported assertions in the article, and what I see as some errors of fact, and I detail these concerns below.

The implication that authenticity and reliability are only of concern to diplomatics (p. 73) is not only incorrect, it ignores the contributions to the archival literature by dozens of professional archivists who would not see themselves as diplomatists. This would appear to demonstrate a lack of knowledge of the archival profession and the archival literature. This view follows immediately after the unsupported assertion (citing a work by three diplomatists as evidence is hardly compelling) that “Diplomatics concerns itself with the archival document or record in contrast to archival science which is typically concerned with aggregations of records” (p. 73). To an archivist, this couldn’t be more wrong, and indeed strikes me as overconfident coming from a non-archivist. To cite Duranti for this (the major modern proponent of diplomatics and a declared opponent of the continuum approach) suggests

unfamiliarity with the wider archival profession as a whole, or the concepts and theories that underpin it. I would contend that all archivists (modern continuum archivists even more so) are explicitly concerned with documents and records as the focus of their work. Aggregations (eg. series) are a convenient locus of descriptive and intellectual control but are not the primary concern of the archivist, especially those addressing ‘front end’ issues of business systems and record creation, nor of those concerned with back-end preservation systems. This, in my view, is a fundamental error of fact and it surprises me that it was not rectified in the *IJDC* review process before publication.

I also take strong issue with the statement: “An internationally recognised method for meeting requirements of authenticity is to create certificates by encrypting and digitally signing the source document” (p. 73). There is no citation given for this belief and I certainly do not agree with it; indeed I’m not sure it would be possible to find a professional archivist who would recognise certificates as sufficient to establish authenticity. In any case, the reality is that the ISO Records Management standard (ISO 15489:2002) views an authentic record as:

“one that can be proven

- (a) to be what it purports to be,
- (b) to have been created or sent by the person purported to have created or sent it, and
- (c) to have been created or sent at the time purported”

The ISO Standard goes on to say in regard to authenticity, that “organizations should implement and document policies and procedures which control the creation, receipt, transmission, maintenance and disposition of records to ensure that records creators are authorized and identified and that records are protected against unauthorized addition, deletion, alteration, use and concealment.” And as Boudrez (2007) clearly points out in an article cited by Jantz, authenticity requires both integrity and identity and digital signatures have no means of asserting, proving or guaranteeing identity.

I believe that if the writer had read in the archival literature more widely I doubt he would have come across any archivist who would say that a digital signature is enough to meet requirements for archival authenticity. As the ISO Standard makes clear, authenticity involves a lot more than can be done with a digital signature – it is about both integrity and identity of the record. I question the author’s understanding of authenticity – he seems unfamiliar with archival views and understanding of the concept.

This misunderstanding is then compounded by a lack of understanding of records, archivists, and the role of archival institutions. On page 74 the author asks the question “who is making the claims” (about authenticity) and then goes on to say it is the creator and the archivist who ingests it who are making the claims. However, in the view of “archival science”, it is the record that is making the claim, although it is obviously the creators’ role to do their best to ensure authenticity by following agreed standards and procedures as listed in the ISO Standard (ISO 15489). This is why metadata are (and always have been) of such crucial concern to archivists. It is the metadata that ensure a digital record is authentic both at the level of integrity and in terms of its identity, not merely a digital signature. I think all modern archivists would

accept this. The archivists' role (in my mind) can only be to pass on the records' claims about authenticity to the user, not to be the guarantor of those claims – except where the archivist migrates the digital record to new formats for preservation purposes. Then yes, the archivist has to be able to assure the user of the authenticity of the migrated record but again, this involves ensuring both integrity and identity. I'm puzzled that a digital signature on the original record could be seen as enough to assure future users that the record is authentic without the support of the metadata to confirm assertions about identity. Narrowing the meaning of authenticity in an archival context (Jantz, 2009, p. 80), and asserting that all the problems of digital signatures identified by Boudrez (2007) have been overcome is hardly sufficient. Jantz does nothing to address Boudrez's damning argument against digital signatures that they do not deal with the issue of identity, which is intrinsic to archival authenticity (i.e., (b) and (c) in the ISO 15489 fragment quoted above).

One further claim by the author must be discussed. At page 76, Jantz claims "A major part of life cycle management involves the migration forward of the archival master to new formats and standards". Again, this is a sweeping generalisation that is not supported by evidence and which rejects widespread views about digital preservation approaches that now exist. It is not correct to characterise migration in this way. Many digital curators argue that emulation and, for instance, the CEDARS migration on demand concept are both viable alternatives to migration. And migration itself has a number of recognised variants which cannot be generalised ("forward") like this.

To conclude, while digital certificates can assist in asserting integrity, they are not in themselves sufficient to ensure that records will remain authentic over time nor can they guarantee it. For that to happen, digital preservation systems need models, metadata standards and appropriate preservation processes. The concept of archival authenticity is a complex one that requires a rather more nuanced and studied approach than that demonstrated in this article.

Yours  
Andrew Wilson

Andrew Wilson is Director, Policy & Strategic Projects at the National Archives of Australia; in this letter he is writing in a personal capacity and not for or on behalf of the National Archives of Australia.

## References

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