

Response to the Information Futures consultation paper “Scholarly information in a digital age – choices for The University of Melbourne”

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Libraries are one critical component of a modern research program. The consultation paper explores issues relating to libraries and access to published information in a detailed and thorough way.

However, at least for scientific research, the library is but one of many technology services utilised on a day to day basis by researchers. This document outlines, in three broad categories, information services that are not currently provided by the University but which are regularly used in the course of scientific research. Inclusion within the consultation document would broaden the scope of the 10 year vision for scholarly information, providing a more well-rounded view of the technological challenges that lie ahead for the University.

1. Communication tools: The University provides high-quality integrated email support for staff and students. However, collaboration involves other forms of digital communication. In fact, email is increasingly seen as inappropriate for many of the tasks it has been traditionally used for (e.g. collaborative document writing). The following technologies are currently used widely and could form part of a 10 year vision for University supported digital communication services.
 - a. Collaborative websites: Private wikis for collaboration are essential for many projects. Accounts for both University of Melbourne staff and others, administered directly by research staff, are required. As an example, our research group deployed a wiki in 2005 for the Network of Infectious Disease Modellers of Australia. The system has accounts for approximately 40 members from across the world. Once authenticated on the system, users can edit pages, exchange documents and keep each other informed of research progress. All information is centralised and archived (unlike email where each users habits on archiving lead to accountability issues). The ANU has recently deployed a university wide wiki system for staff. External collaborators can be invited to sign up.
 - b. Instant messaging (IM): Instant messaging, using open protocols (e.g. XMPP, as used by Google Talk and Jabber services) is increasingly used for real-time communication between colleagues, replacing the telephone in many cases. Currently, IM is provided through 3rd parties, and similar accountability (and privacy) issues exist as for email. A centralised, university supported system could ensure appropriate logging of communications for scientific rigour.

- c. Video conferencing. Along with telephone services, video conferencing is increasingly used for long distance communication. This form of communication is all the more important for an Australian institution given our geographical isolation. Initiatives such as Access Grid have the potential to revolutionise scholarly communication.
2. Data storage and computation: With increased computational power, scientific research is making ever greater use of mathematical, numerical and stochastic models. Such endeavours require significant investment in high performance computing and also require ongoing research staff time for maintenance and systems administration. In research fields where computational research is not mature, there is a distinct lack of expertise or strategic support. Individual research groups develop solutions in an ad hoc way, and success or otherwise for resourcing of computational projects is largely a matter of having an appropriate local expert. As an example, our research group has invested in a number of high performance workstations, but budgetary limitations mean our group is regularly held back by computational requirements. At other times, our machines can spend weeks without running computations while we are in a different phase of research. A widely available shared computational resource would provide significant efficiencies. Data storage is also a challenge. Having high-availability, high-bandwidth, redundant data storage facilities is increasingly important. Ideally these should be available from anywhere in the world. The associated security issues pose a challenge.
3. Knowledge transfer: With the increasing focus on community engagement and open-transfer of knowledge (as well documented in the current consultation paper), researchers have a desire to provide world-wide anonymous access to certain research outcomes and data sources. As an example, in our research group, we have developed an online, searchable database of difficult to find historical data on the 1918-19 influenza pandemic. Some of the data we have published on the website was previously lost to the world's scholarly community. However, the website is running on recycled hardware and maintained in an ad hoc manner. Provision of centralised services that could meet the diverse needs of different research groups is worthy of consideration in the consultation paper.

In conclusion, the current consultation paper deals with the issues surrounding the library system most thoroughly, but does not as yet address many of the other digital technologies, and their associated challenges, that already play a critical part in scientific research. The feasibility, or otherwise, of providing services to research staff as outlined above, should be part of the discussion in developing a 10 year vision for scholarly information in a digital age.

Questions Relating to Future Information Policy for the University of Melbourne

1. To what extent should the University, as an institution, provide long-term support for research archives that have been generated, in whole or in part, through the efforts of University researchers, and which can continue to be useful, on a continuing basis, for future research?
2. If the University is to become involved in the support of such research archives, what arrangements should be made for:

- a. Ownership & Governance – eg legal agreements or MOUs with other parties
- b. Funding and/or cost recovery
- c. Access – open , or restricted (eg with identifiable data)
- d. Legal liability

Our research group would be very happy to expand on the possibilities raised in this document. Please contact James McCaw (jamesm@unimelb.edu.au, 8344 9145) in any future correspondence.