



**Citizen-created content, digital equity and the preservation of community memory**

**By Penny Carnaby**

National Librarian and Chief Executive  
National Library of New Zealand  
Te Puna Mātauranga o Aotearoa  
Wellington, New Zealand

***Presented by:***

**Sue Sutherland**

Deputy Chief Executive  
National Library of New Zealand  
Te Puna Mātauranga o Aotearoa  
Wellington, New Zealand

**Meeting:**

**146. Asia and Oceania**

---

**WORLD LIBRARY AND INFORMATION CONGRESS: 75TH IFLA GENERAL CONFERENCE AND COUNCIL**  
23-27 August 2009, Milan, Italy  
<http://www.ifla.org/annual-conference/ifla75/index.htm>

---

**Abstract**

*While the complex issues concerning the protection and preservation of digital assets are better understood by the information professions, there is still much thinking required about the preservation and protection of the new wave of citizen-created content.*

*Traditionally information professionals in all types of memory institutions have clearly met the need for, and nature of, the preservation activities around formal and authoritative knowledge services and systems. However, informal, citizen-created knowledge activities are far less straightforward in terms of preservation. These activities arise and evolve as individual citizens develop as authors, content creators, thought leaders, filmmakers, blog diarists, etc. There is at present an extraordinary unleashing of content creation by individual citizens.*

*This development challenges established organisational systems and professional practice in an unprecedented way. This paper outlines some of the issues involved in the preservation of digital assets in this new environment. It explores how all memory institutions including archives, galleries, museums and libraries in particular, can value and protect a country's digital assets in both the formal and informal arena.*

## Māori welcome

E te iwi tena koutou ko huihui mai nei tenei ra.  
Tenei te mihi atu ki Milano te iwi o tenei rohe.  
Nga mihi hoki ki nga manuhiri tuarangi  
Ko Sue Sutherland taku ingoa no Te Puna Mātauranga o Aotearoa.  
Noreira te hunga iwi e tau nei.  
Tena koutou tena tatou katoa

**Translation:** Greetings to the congregation and people who have gathered here today. I acknowledge the local people of this region (Milan). Greetings to all international visitors. I am Sue Sutherland, National Library of New Zealand. Now, greetings to the people that are here today.

## Introduction

The new order of citizen-created content is challenging established authoritative, trusted knowledge systems, shaking the foundations of information management and professional practice in libraries throughout the world. In the age of information democracy, the content creator is often at centre stage, and with this comes an extraordinary unleashing of digital content. As national libraries globally, our role is to preserve and protect content and we have well-established practices for authoritative knowledge systems. But what about citizen-created content? What are we doing locally, nationally and internationally to protect and preserve that content?

## The Delete Generation

We are all part of the “delete generation”. Every second of every minute of every day people around the world are deleting their history, their thoughts and arguments, which these days are invariably presented in a digital environment. Our understanding of the impact of this kind of loss has not really matured. It may take a generation to actually understand what this means for the transmission of ideas and information over time. Do we yet understand what we are losing and does it matter? What is the economic, social and cultural impact of this loss of data?

**Slide 2**  
Digital Dark Ages  
Digital Amnesia  
Digital landfill

We have terms such as the ‘[Digital dark ages](#)’<sup>1</sup> or ‘[digital amnesia](#)’<sup>2</sup> or more recently ‘[digital landfill](#)’<sup>3</sup> to jolt our consciousness into appreciating the urgency of the situation. So what do we do about it? All of us will have deleted valued information, often unintentionally. What are the professional challenges for librarianship? For centuries we have catalogued, indexed, described, and managed information in an orderly and predictable way so that it is protected and preserved for future generations to explore and enjoy. We also do this so it may be accessed and used to build new knowledge and understanding, as well as help us understand our past or to better understand the present.

<sup>1</sup> Term introduced in 1998 at the *Time and Bits* Conference  
<<http://www.longnow.org/projects/conferences/time-and-bits/>>.

<sup>2</sup> Penny Carnaby, ‘E-Learning and digital library futures in New Zealand’, *Library Review*, 54, 6, 2005, p. 353.

<sup>3</sup> Attributed to John Mancini, president of the Association for Information and Image Management (AIIM), by Brian Summerfield, ‘Cleaning Up the Digital Landfill’, *Chief Learning Officer Newsletter*, July 2008, <<http://www.clomedia.com/executive-briefings/2008/July/2265/index.php?pt=a&aid=2265&start=0&page=1>>.

How uncomplicated and predictable the analogue, print and tangible world now seems!

The digital world has changed all of that and there is now a further layer of complexity to traverse as well. It is not only the sheer quantity of digital content that is being created, but also the changing order in terms of who is the writer, artist, researcher, film-maker in the 21<sup>st</sup> century. The world of Web 2.0 (and 3.0, 4.0 and 5.0)<sup>4</sup> is turning established, authoritative knowledge systems upside down.

**Slide 3**  
YouTube  
Facebook  
Twitter

There is a new equity emerging where individual citizens are using social networking sites like YouTube, [Facebook](#), blogs and wikis to broadcast their ideas, views or news in a much more immediate way. Established ways of communication are being challenged. In the Web 2.0 environment an individual citizen is more likely than established news feeds to first transmit news of a cyclone devastating New Orleans or a bombing on the London underground. Do we judge the citizen-created content in a harsher way just because it appears to lack the customary formality of what we have grown used to?

In our throwaway society, are we making judgements about what is good content (and therefore worth keeping) and what is transitory, of little regard? What did we do in the analogue world? If something was published, did we not consider it worth keeping? If something was unpublished, a letter, manuscript or document of some description, did we not make a judgement in the same way to keep it, either because we hold the author or creator in some regard or because it depicted something that we thought was useful? And did we not keep ephemera? As you will note, I am posing a great many questions without giving any immediate answers. For the world of the 'delete generation' in which we live there is no map. There are no easy answers as we struggle to understand that this is a social revolution and that the power of communication is spreading from the one to the many; from established authority to citizens' empowerment, even anarchy at times.

### **Preservation and protection in the digital world**

There is an emerging equity that needs to be understood and which enables all of us to potentially be a writer, creator, or film-maker. While the literature on community/citizen-created content is clear regarding the worth of this content and the need to readily access and share it<sup>5</sup>, there is a deafening silence about the need to protect and preserve it. This need exists, of course, so that we can harness the ideas of 21<sup>st</sup> century creativity and inspiration for future generations to understand, and draw new learnings from.

---

<sup>4</sup> Ajit Kambil, 'What is your Web 5.0 strategy?', *Journal of Business Strategy*, 29, 6, 2008, pp. 57 & 58.

<sup>5</sup> Peggy Anne Salz, 'Power to the people: do it yourself content distribution', *EContent*, 28, 6, 2005, p. 36.

Wan Wee Pin, 'Library 2.0: The New E-World Order', *Public Library Quarterly*, 27, 3, 2008, p.245.  
Gobinda Chowdhury, Alan Poulter, David McMenemy, 'Public Library 2.0: Towards a new mission for public libraries as a "network of community knowledge"', *Online Information Review*, 30, 4, 2006, p. 456.

To be fair we do not yet have a satisfactory answer to the preservation and protection of digital content from formal and authoritative knowledge systems. We generally recognise that citizen-created content is just as important but a key and complex issues is how we preserve and curate digital objects in perpetuity.

**Slide 4**  
National  
Library Act  
of NZ 2003

We, as a profession, must shift our focus to what can be done to arrest this unacceptable loss of data rather than dwelling on the complexities of doing it. So, let me tell you what we doing in New Zealand to arrest the loss of our digital heritage. Much of the NLNZ activity in this field is well known. To summarise briefly, the new [National Library of NZ Act](#) in 2003 made New Zealand one of the first countries to legislate for the requirement of bringing legal deposit into an electronic or digital domain. This gave the National Library the mandate to collect and preserve New Zealand born-digital publications and all electronic activity in New Zealand - blogs, wikis, anything publicly accessible on the web. In 2004 the New Zealand Government supported a \$24 million project to build a trusted, curated digital repository for the long-term protection and preservation of New Zealand's digital assets.

**Slide 5**  
NDHA

**National Digital Heritage Archive (NDHA) - A New Zealand case study**

In February 2009 the Minister Responsible for the National Library launched the [National Digital Heritage Archive \(NDHA\)](#), the first fully contained commercial solution to the protection and preservation of digital heritage.

**Slide 6**  
NDHA  
Partners

This solution was developed in partnership with [Ex Libris](#) and [Sun Microsystems](#) who were our software and hardware partners. Sun Microsystems has recently published a white paper - [Case Study: Digital Preservation at the National Library of New Zealand: Preservation: A Forward-Looking Mission](#) - on the information architecture reference site using the NDHA. The digital preservation system is marketed as [Rosetta](#) by Ex Libris.

**Slide 7**  
NDHA Peer  
Review  
Group

It was very important from the outset that we also involved both international and New Zealand stakeholders in how we ultimately shaped the NDHA. This included the Peer Review Group whose mandate was to guide the partnership and the resulting creation of a commercially viable solution, and included highly respected institutions such as the British Library, Cornell University Library, the Getty Research Institute, the National Library of China and Yale University to name a few.

The NDHA is highly intuitive; essentially the Archive is warned when something is going out of date, and integrates the tools and services required to migrate from one generation to the next, thus ensuring that a digital object created in 2008 will be exactly the same in 50 years time.

**Slide 8**  
NZDCS

The NDHA falls out of the country's broader digital content strategy [New Zealand Digital Content Strategy \(NZDCS\)](#), which is outlined in my keynote address: [National Libraries in the digital age: leadership and collaboration](#).<sup>6</sup> This strategy was significant in that it did not discriminate between digital content created in the authoritative space and citizen-created content. It also acknowledged the benefits of re-using and re-purposing digital content from an economic, social and cultural perspective.

**A collaborative approach to formal content**

In the authoritative space, particularly in the research sector, we have made some good international progress around preserving and re-using research. There is a great deal of research being applied to the re-purposing of research data sets. Good international examples include the work of the [Joint Information Systems Committee \(JISC\)](#) in the UK; [SURF](#) in Holland and the [Department of Education, Employment and Workplace Relations](#) in Australia on sharing standards and interoperability frameworks.

Loss of research data has been a collective concern to the library sector for some years now, so it is very pleasing to see this collaborative work take place and provide tangible solutions from which we can all learn. Importantly, for librarians and information scientists, the skills being applied to solve this problem are quintessential information management skills; for example, in preservation terms a digital object is just that, with little discrimination as to whether it contains research data, moving image, or a citizen-created digit. What the profession has not predicted is the degree of disruption to the established modes of scholarly communication. David Lewis<sup>7</sup> observes that a new equity is emerging in terms of knowledge. What is undeniable is that "the wide application of digital technologies to scholarly communications has disrupted the model of academic library service that has been in place for the past century", creating opportunities "for new forms of research and scholarship",<sup>8</sup> which will require new forms of infrastructure to ensure the availability of digital content.<sup>9</sup>

**Slide 9**  
KRIS

The 'publish or perish' imperative for scholars in the print world, to a degree, still underpins the focus of scholarly communication. However where we publish and how we publish are very different indeed. Here in New Zealand the National Library offers a metadata harvesting service through the [Kiwi Research Information Service \(KRIS\)](#), which will harvest metadata across research repositories in all New Zealand's universities and Crown entities and some polytechnics.

<sup>6</sup> Penny Carnaby, 'National Libraries in the digital age: leadership and collaboration' 24 July 2009. <<http://www.ifla.org/files/hq/papers/ifla75/190-carnaby-en.pdf>>. 5 August 2009.

<sup>7</sup> David W. Lewis, 'A strategy for academic libraries in the first quarter of the 21st century', *College & Research Libraries*, 68, 5, 2007, p. 418.

<sup>8</sup> Ronald L. Larsen, 'On the threshold of cyberscholarship', *JEP: The Journal of Electronic Publishing*, 11, 1, 2008. <<http://quod.lib.umich.edu/cgi/t/text/text-index?c=jep;cc=jep;q1=3336451.0011.1%2A;rgn=main;view=text;idno=3336451.0011.102>>.

<sup>9</sup> Ronald L. Larsen, 'On the threshold of cyberscholarship', *JEP: The Journal of Electronic Publishing*, 11, 1, 2008. <<http://quod.lib.umich.edu/cgi/t/text/text-index?c=jep;cc=jep;q1=3336451.0011.1%2A;rgn=main;view=text;idno=3336451.0011.102>>.

While this is a satisfactory way of ensuring New Zealand's publicly-funded research outcomes are publicly accessible, it is not at this stage a protection from loss. While scholars still publish in recognised scholarly hard-copy and e-journals, open-access research repositories are rapidly gaining ground right around the world, bringing collaboration to the fore.

While there are emerging solutions in the formal authoritative space internationally, particularly in relation to research outputs, it is not completely straightforward in terms of Intellectual Property (IP). Digital curation is expensive and the less resolved and arguably equally important space is how we manage citizen-created content in terms of long-term curation and protection.

### **A new approach for informal content**

The professional shift from information disseminator to collaborator is significant and challenges much of our established thinking in terms of services. The really thought-provoking question in the informal knowledge systems sector is what content should we protect and preserve over time? We know the loss of something as simple as email activity may mean that over time we lose our understanding of human discourse and how we communicated with each other early in the 21<sup>st</sup> century. Many thoughts and ideas are simply deleted. This is exacerbated by the web 2.0 explosion of citizen-created content. It is a wonderful unleashing of human creativity but what should we, and what can we, collect over time? What should we inject into a nation's heritage archive and what are the technical issues that need to be resolved?

However, we should not be too hard on ourselves. We have made some good progress in addressing community-created content and some of the issues I have already raised. The following are two examples, Aotearoa People's Network and Creative Commons Aotearoa, which could apply to any small country around the world.

### **Aotearoa People's Network**

As an outcome of the New Zealand Digital Strategy 2.0 2008, Government funds were made available to develop a joined-up framework for open source community repositories in New Zealand. The first intervention was the need to lift the ability of communities to create content to contribute to community memory projects.

The [Aotearoa People's Network](#), launched in 2007, and based on the very successful UK People's Network, is a strategy for getting broadband and internet into communities, particularly in rural and provincial New Zealand. The APN is run through local public libraries and has been a real success story in demonstrating how minimal improvement to broadband capability has seen an extraordinary outpouring of community creativity.

**Slide 10**  
Aotearoa  
People's  
Network –  
newspaper  
clippings

Each of the member libraries has emerging community repositories or “ketes”, such as [Kete Horowhenua](#), where stories important to communities are developed. These open source repositories are truly amazing and this year we will roll out 10 ketes to local iwi, or Māori tribes, so indigenous knowledge systems are recognised as well. With the originators’ permission through [Creative Commons Licences](#), the National Library continues harvesting metadata and ingesting digital objects into the Heritage Archive, thus ensuring some protection from losing these precious and unique stories of New Zealand told from a community perspective.

**Slide 11**  
Creative  
Commons  
logo NZ

### **Creative Commons**

At another level, we have also addressed the protection issue through the international creative commons licences. Late last year, New Zealand launched its own [version](#) of these licences, which give our commercial content creators and artists, authors, educators and researchers access to Kiwi-based free copyright licences which are accessible on line.

You might ask what is the relevance of these licences? For us, the legitimacy of informal content - the citizen-created content - is important. I recall when we initially brainstormed our digital content approach and brought together a great group of web experts into one room - and these people really pushed our thinking to include informal content, citizen-created content. For example, the social network revolution we are seeing started to take hold with wikis, blogs, Flickr etc – they are all relevant and are really starting to impact on what I would call mainstream content.

So the Creative Commons licences are really about protecting and looking after content - where a citizen can assert some rights around their content but also state who they will allow to use it, and how. This is of particular interest to indigenous New Zealand tribes (iwi) in the management of their intellectual property rights, alongside material relevant to iwi held in public institutions or in the public domain. We are now working with international communities to see if an indigenous Creative Commons licence is warranted. New Zealand actions in this domain may break new ground.

### **Summary**

Now the discerning ones of you in the audience will be thinking that the protection and preservation of community memory may be fraught with fishhooks and you would be right - it feeds nicely into my initial questions about deciding what we should keep? What are the conditions, standards and policy frameworks needed to harvest and protect a country’s informal knowledge systems in the future? These questions concern us all.

This leads me into some concluding comments about the professional challenges facing those preparing library and information professionals for the knowledge-led world of the 21<sup>st</sup> century. Are we preparing professionals to address the issues surrounding unacceptable loss of data, memory ideas and creativity? Are we preparing the new generation of professionals to understand the information management issues of the delete generation that they are themselves part of? Some of the issues we need to think about are strangely comforting for those of us who have spent our whole professional lives ensuring the free flow of

information in our society. Structuring and understanding the digital is conceptually similar to the analogue and print world most of us have grown up in.

Here I also draw from some of the thoughts of Steve Knight, who works in the National Library of New Zealand and is the intellectual leader of the NDHA project and highly regarded internationally for his thought leadership in the preservation and curation of digital objects over time. From his perspective this is not primarily a technical problem but more one of how we re-engineer our current processes to accommodate the complexities of citizen-created content including asking some very important questions:

- What citizen-created content would most enrich our existing metadata?
- What do we need to know to assist users in determining the benefit, value, authenticity, and integrity of citizen-created content? (source, authorship, affiliation, type of contribution, language, context...?)
- How do we make citizen-created content searchable in a seamless manner with other metadata content?
- How do we manage citizen-created content vocabularies (folksonomies) in the context of our usual taxonomies?
- Are there privacy issues for citizen-created content?
- Are there data ownership issues for citizen-created content?
- Does citizen-created content require editorial review?
- Are there legal or liability issues related to citizen-created content?

To which I would add – what parallels can we draw, what lessons can we learn from libraries ‘traditional’ approach to preserving ephemera in ‘traditional’ form?

**Slide 12 & 13**  
Citizen created content wall images

In summary, I have taken a high level view of the unprecedented loss of digital content both in the formal and authoritative knowledge systems as well as emerging user-generated content in a Web 2.0 environment. I have demonstrated, through New Zealand examples, some early steps to address this loss, focussing on the leadership role New Zealand currently plays in digital curation internationally, and particularly in relation to born digital publishing research data sets and web harvesting.

**Slide 14**  
Closing slide  
NZNL Logo

New professional challenges are faced by library and information professionals worldwide as we move to make sense of the challenging throwaway knowledge habits of the delete generation.

Thank you for listening everyone. Noreira tena koutou, tena tatou katoa



## Bibliography

Aotearoa People's Network. 5 August 2009. <<http://www.peoplesnetworknz.org.nz/>>.

Carnaby, Penny. 'E-Learning and digital library futures in New Zealand', *Library Review*, 54, 6, 2005, p. 353.

Carnaby, Penny. 'National Libraries in the digital age: leadership and collaboration'. 24 July 2009. <<http://www.ifla.org/files/hq/papers/ifla75/190-carnaby-en.pdf>>. 5 August 2009.

*Case Study: Digital Preservation at the National Library of New Zealand: Preservation: A Forward-Looking Mission*. 5 August 2009. <<http://www.sun-pasig.org/pdf/NLNZ%20Case%20Study.pdf>>.

Chowdhury, Gobinda, Alan Poulter, David McMenemy, 'Public Library 2.0: Towards a new mission for public libraries as a "network of community knowledge"', *Online Information Review*, 30, 4, 2006, pp. 454-460.

Creative Commons International, New Zealand. 5 August 2009. <<http://creativecommons.org/nz/>>.

Creative Commons Licenses. 5 August 2009. <<http://creativecommons.org/licenses/>>.

Department of Education, Employment and Workplace Relations. 5 August 2009. <<http://www.deewr.gov.au/Pages/default.aspx>>.

*Digital amnesia – the challenges of government online*, 21 April 2005.

Ex Libris. 5 August 2009. <<http://www.exlibrisgroup.com/>>.

Facebook. 5 August 2009. <<http://www.facebook.com/>>.

Joint Information Systems Committee (JISC). 5 August 2009. <<http://www.jisc.ac.uk/>>.

Kambil, Ajit, 'What is your Web 5.0 strategy?', *Journal of Business Strategy*, 29, 6, 2008, pp. 56-58.

Kete Horowhenua. 4 August 2009. <<http://horowhenua.kete.net.nz/>>.

Kiwi Research Information Service (KRIS). 5 August 2009. <<http://nzresearch.org.nz/>>.

Larsen, Ronald L, '[On the threshold of cyberscholarship](#)', *JEP: The Journal of Electronic Publishing*, 11, 1, 2008.

Lewis, David W, 'A strategy for academic libraries in the first quarter of the 21<sup>st</sup>

- century', *College & Research Libraries*, 68, 5, 2007, pp. 418-434.
- National Digital Heritage Archive (NDHA). 5 August 2009.  
<<http://ndha-wiki.natlib.govt.nz/ndha/>>.
- National Library of New Zealand (Te Puna Mātauranga o Aotearoa) Act 2003. 5 August 2009. <<http://www.natlib.govt.nz/catalogues/library-documents/nlnz-act-03>>.
- New Zealand Digital Content Strategy (NZDCS). 5 August 2009.  
<<http://www.digitalstrategy.govt.nz/Resources/New-Zealand-Digital-Content-Strategy/>>.
- Pin, Wan Wee, 'Library 2.0: The New E-World Order', *Public Library Quarterly*, 27, 3, 2008, pp. 244-246.
- Rosetta. 5 August 2009.  
<<http://www.exlibrisgroup.com/category/ExLibrisRosettaOverview>>.
- Salz, Peggy Anne, 'Power to the people: do it yourself content distribution', *EContent*, 28, 6, 2005, pp. 36-41.
- Summerfield, Brian, 'Cleaning Up the Digital Landfill', *Chief Learning Officer Newsletter*, July 2008.  
<<http://www.clomedia.com/executive-briefings/2008/July/2265/index.php?pt=a&aid=2265&start=0&page=1>>.
- Sun Microsystems. 5 August 2009. <<http://www.sun.com/>>.
- SURF. 5 August 2009. <<http://www.surf.nl/nl/Pages/Home.aspx>>.
- Time and Bits Conference*, 1988. 5 August 2009.  
<<http://www.longnow.org/projects/conferences/time-and-bits/>>.
- Youtube. 5 August 2009. <<http://www.youtube.com/>>.