Wednesday, 18 April 2007
10.00 am – 4.00pm
Council Room
National Library of Australia
LIBRARIES AUSTRALIA ADVISORY COMMITTEE
MEETING
18 April 2007
Council Room
National Library

AGENDA

10:00 am
1. Welcome and introduction, apologies
2. Election of new chairperson and deputy chairperson
3. Draft Minutes of the previous meetings and business arising LAAC/2007/2/1
4. Director-General’s remarks (oral)

10:45 am Morning Tea

FOR DISCUSSION

12.30 pm Lunch

FOR INFORMATION
9. IT architecture project report LAAC/2007/2/6
14. Conclusion & Review of resolutions (if any)

4.00 pm Close of Meeting
DRAFT MINUTES OF THE LIBRARIES AUSTRALIA ADVISORY COMMITTEE MEETING

Thursday 2 November 2006

University House
University of Melbourne

The meeting commenced at 10:00 a.m.

Present:

Chair
Mr John Arfield
University Librarian
University of Western Australia

Members
Dr Warwick Cathro
Assistant Director-General, Innovation
National Library of Australia

Ms Elizabeth Ellis
Mitchell Librarian and Director,
Collection Management
State Library of New South Wales

Ms Pam Gatenby
Assistant Director-General
Collections Management
National Library of Australia

Mr Lindsay Harris
Library Manager
Queen Elizabeth Hospital, South Australia

Ms Linda Luther
University Librarian
University of Tasmania

Ms Joan Moncrieff
Associate Librarian, Technical Services
Deakin University

Ms Monika Sznuejko
Manager, Access
State Library of Western Australia

Dr Naida Tattersall
Manager, Libraries Social & Cultural Branch
Gold Coast City Council
A summary of action items and resolutions is included at Attachment A.

**Agenda Item 1  Welcome, Introductions and Apologies**

Mr Arfield welcomed members of the Advisory Committee to the meeting, particularly Ms Szunejko who was attending her first face to face meeting.

No apologies were received, as all members attended the meeting.

**Agenda Item 2  Minutes of the Previous Meeting and Business Arising (LAAC/2006/3/1)**

Mr Boston reported that he and Dr Cathro did not have the opportunity to meet with CAUL members in Perth in September to discuss Libraries Australia subscription fees for universities. It is hoped that Ms Fullerton will be able to arrange a meeting with the CAUL Executive in the near future.

Ms Luther indicated that CAUL discussion of subscription fees is ongoing and that continued contact between Ms Fullerton and the CAUL Executive would be
beneficial. Ms Fullerton agreed and suggested that the National Library could provide a clearer starting point for discussions by presenting a subscription proposal to the CAUL Executive.

Mr Boston reported that the next release of Libraries Australia Search (due 28th November) would include a revision of the text on the Inter Library Loan form.

Mr Boston said that a media release on the 25th anniversary of the Australian National Bibliographic Database had been prepared, and would be made available. A celebration of the event was scheduled for later that evening and would included remarks by Hans Groenewegen, Eric Wainwright, Dr Cathro and Ms Fullerton.

Mr Boston noted that a paper discussing proposed business and strategic directions for Libraries Australia was included in the papers for this meeting.

RESOLVED: That the minutes of the teleconference of 10 August 2006 be accepted.

Agenda Item 3 Director-General’s remarks (oral)

Ms Fullerton provided a summary of the National Library’s activities over the past year, including:

- Progress on the Newspaper Digitisation Project
- The second whole of .au domain harvest has been completed with the assistance of the Internet Archive (USA). Over a period of 5 weeks, 516 million files were harvested and are currently being indexed. Once complete, the files will be available for searching from within the NLA.
- Metadata from DESTRA Music is being loaded to Music Australia and from late January, users will be able to order music downloads from DESTRA. The availability of these resources increases access to contemporary music (including in copyright materials) via Music Australia.
- The National Treasures Exhibition would be opening on the 17th of November in Brisbane. So far the exhibition has been seen by over 216,000 people.
- The National and State Libraries Australasia (NSLA) National Site Licence project had reached the tender evaluation stage.
- The NLA’s IT architecture plan was being reviewed.
- The NLA plans to make a submission regarding the proposed Copyright Amendment Bill 2006, which currently lacks provisions dealing with the preservation of digital resources.

Following Ms Fullerton’s report, there was a discussion of the directions taken by the NLA to provide access to contemporary resources. Mrs Fullerton said that the NLA was aiming to remove barriers to ‘getting’ items, and had adopted different mechanisms for different services to provide access to such content. In the case of Music Australia, metadata had been purchased from DESTRA Music while for Picture Australia, a relationship with Yahoo!7’s flickr photo sharing service provided access to contemporary resources.
Agenda Item 4 Libraries Australia Annual Report (LAAC/2006/3/2)

Mr Boston spoke to the report and highlighted the following:

- The Libraries Australia Cataloguing, Search, Administration and Document delivery modules were implemented at the end of November 2005.
- Re-branding of the service from Kinetica to Libraries Australia.
- Chinese, Japanese and Korean script data has been incorporated into the Australian National Bibliographic Database (ANBD).
- Introduction of a new subscription charging model.
- Launch of the free Libraries Australia search service on the 27th of February 2006.
- 84 new members joined Libraries Australia in the past year.
- Launch of the Trans Tasman Interloan Service on the 1st March 2006.
- The number of Libraries Australia searches has increased significantly to over 10 million per year.
- The Kinetica Redevelopment project Post-Implementation Review report had been positive.
- Aims to increase visibility of ANBD items through internet search engines (e.g. Google, where ANBD data are available via Google Scholar and Google Book Search).
- Open Search support would be implemented soon.
- Ongoing database quality improvement and increased coverage of the ANBD.
- Regular improvements to Libraries Australia Search through new software releases.

There was some discussion of the Open Search protocol. Mr Boston explained that Open Search was a lightweight search protocol, which was relatively simple to implement, though it did not include fielded searching. Dr Cathro said that the NLA, in collaboration with the Heads of Commonwealth Institutions (HOCI) was investigating federated Open Search services.

The Committee expressed relief that the provision of the free Libraries Australia service had not reduced the number of searches by subscription users, and in fact there had been more members joining the subscription service.


Mr Boston spoke to the report. Following discussion it was agreed that in future the statistical report will be publicly available.

Agenda Item 6 Libraries Australia Customer and Stakeholder Satisfaction- Qualitative Findings (LAAC/2006/3/4) (CONFIDENTIAL)

Ms Wilson reported that Nielsen NetRatings had been engaged to conduct the survey and the qualitative aspect of the survey had been completed. Overall, the 16 CEOs surveyed had a high regard for Libraries Australia and there is a high level of support for the service. Ms Wilson said that the survey results indicated that CEOs still see Libraries Australia as a service for library staff rather than one for library clients and...
end users. She said that Nielsen NetRatings had identified a task for Libraries Australia to promote end user services to CEOs.

Ms Wilson said that qualitative information had been gathered from practitioners in a series of focus groups. Overall practitioners had found the new Libraries Australia service an improvement over Kinetica. She said that that the quantitative survey would be conducted early in 2007.

**Agenda Item 7** Libraries Australia Business Plan Development (LAAC/2006/3/5)

Mr Boston spoke to this paper which described and discussed possible strategic directions for Libraries Australia. The paper was intended for discussion as an input to the development of the Libraries Australia Business Plan for the period July 2007 to July 2010. He noted that changes to the service and technologies that underpin the services would partly drive the plan, as would the ‘social networking’ directions of web services such as WEB 2.0 and questions as to the future of library catalogues. Relevance Ranking, faceted browse and record clustering would be included as options for the future. The Committee then discussed each of the sections of the paper.

**International business relationships**

There was a detailed discussion regarding the direction of the business relationship with OCLC’s WorldCat. Licensing issues, the need to retain relevance of Libraries Australia services, networking standards and the need to provide access to WorldCat was discussed. Mr Taylor provided valuable input to the group of his experiences with WorldCat.

**Agenda Item 8** Libraries Australia Forum (LAAC/2006/3/6)

Ms Anne-Marie Schwirtlich, CEO and State Librarian, State Library of Victoria and chair of the 2006 Libraries Australia Forum, joined the meeting for this item. Ms Schwirtlich sought clarification on any last minute requirements or instructions in her role as Forum chair and there was some discussion on the exact location of the Forum and the Law Faculty.

**Agenda Item 7 (Continued)** Libraries Australia Business plan Development

**Australian business relationships**

Mr Boston outlined strategies under Australian business relationships. It was noted that the potential for Libraries Australia to generate revenue from booksellers by promoting the website as an advertising mechanism did not mesh well with the National Library’s stated goals. The key objective of links to booksellers is to support ‘getting’ and there is limited potential for revenue from individual booksellers particularly when offset against the problems this raises with the bookseller community. There are also ethical, business and legal issues which prevail when dealing with private advertising through a government funded service. Mr Taylor’s suggestion for the option to personalise booksellers’ lists will be considered as an enhancement.
It was noted that the strategy to improve access to article-level metadata, primarily through free search access to journal literature would proceed cautiously. Ms Gatenby confirmed that discussion is occurring with key stakeholders and that the library was aware of how complex the negotiations would be as different agencies face considerable challenges and vulnerability to existing business models in delivering free access to article-level metadata.

The Committee contributed a range of advice on the Libraries Australia relationship with Australian school libraries. The earlier ABN service more actively marketed to schools, and while Libraries Australia does not discourage participation it does not actively market to this sector. National or state licensing arrangements could be considered though it was noted that licensing may work better in some states (e.g. South Australia) than in others. Schools listed in the Australian Libraries Gateway (ALG) and those perceived as high profile institutions could be early targets for gauging interest in a national access solution as would testing a clustered access option based on school sectors such as Catholic schools, Independent schools and so on. Other marketing activates were suggested including presentations at the ASLA conference, articles or advertising in the ASLA journal, targeting Teacher/Librarians, and initiating discussions with earlier board members of SCIS.

It was also noted that although Libraries Australia wished to provide access to the SCIS database, this might be of limited value if the data lacks holdings. Investigating options to provide location data would be addressed in negotiations with Curriculum Corporation.

Subscriptions

Mr Boston outlined the key features of the subscription model. The Committee recommended the business strategy include a section on “relationships with libraries”. Ms Quinn recommended that the business plan specifically mention expanding coverage of the ANBD to include larger special libraries that are not currently contributing.

There was considerable discussion on the type of relationship that Libraries Australia should establish with libraries. The ‘customer/supplier’ relationship could have a negative impact for the service. For example those libraries that saw themselves as ‘customers’ could choose to opt in and out of the service. The Committee recommended that Libraries Australia should emphasize collaboration, partnership and the shared building of national infrastructure.

Some concern was also expressed as to whether the subscription model had sufficient incentives for data contribution and maintenance, whether it had diminished a libraries obligation to contribute, and how Libraries Australia could tell if institutions were contributing. It was noted that the subscription model did differentiate and reward contributing libraries. The Committee suggested strategies such as incorporating statements of mutual obligation into user agreements, a further extension of financial disincentives for non-contribution, and greater recognition of all contributors and not just the top 10 agencies as had been done in the past in order to manage the perception that contributions are undervalued.

The Committee also recognized that it was difficult to devise a model that was perceived as fair by all libraries and that mechanisms for communicating to certain
groups (such as CAUL) would need to both clarify the model and reassure that the model is fair and appropriate.

Products

The Committee was encouraged to provide ideas for additional Libraries Australia Products. In recognition of the efficiencies afforded libraries when e-collections data is maintained and distributed through a single source Libraries Australia will enter a non-exclusive arrangement with Serials Solutions to supply the Australian e-collections titles currently maintained for the Informit collections while continuing to supply these Australian sets to smaller libraries who cannot afford Serials Solutions. Similar arrangements with other vendors would also be sought on the proviso that location data would be made available for loading to the ANBD.

Marketing

The Committee was pleased to note that the launch of the Free Service hadn’t caused a reduction in subscriptions. Libraries Australia is keen to see more libraries take up end user access and requesting. Data quality and currency are critical to supporting the Free Service and there would be an increased focus on acquiring and maintaining public library holdings. Libraries Australia would undertake another survey of Australian libraries’ holdings on the ANBD to get a better indication of the currency and coverage of the ANBD and discover important gaps in coverage.

Personalisation was discussed in some detail. It was recognised that different libraries have different requirements for interfaces and even within an institution there can be different customization requirements for different groups and levels of users. This was tied to the issues raised in Dr Cathro’s paper on the future of the catalogue and that some organizations may choose to discard their OPAC in favour of a customized view of a larger catalogue.

Australian National Bibliographic Database and Cataloguing Issues

The Committee’s discussion focused on authority work, data standards, record retention (deletion) policy, and data refresh loads.

Mr Harris indicated that authority work had become a controversial matter with misattribution of works to authors seen as a breach or infringement of the quality framework for research. It was noted that citation level data did not adhere to the same standards as required for authority work but that different data management strategies would need to evolve to accommodate both whole item and article level metadata. Mr Walls informed the Committee that a pilot on batch loading authority records would be undertaken in 2007.

Dr Cathro expressed some concerns about the record deletion policy. It was noted that Australian content with holdings was always preserved and Mr Arfield clarified that a function of the ANBD was to support the Australian National Bibliography. Libraries Australia indicated that it would review the record deletion policy.

There was discussion on data standards including the need for publicity to remind users of the minimum record standard. Libraries sometimes hesitate to contribute what they judge as lower quality records. It was noted that where libraries contribute
unique items that the minimum standard might be lowered and that the metadata associated with different types of data, for example digital repositories and ABS datasets, may not meet nor be compatible with ANBD standards yet it was still important to find ways in which to discover and get such resources.

The last point of discussion pertained to data refreshes. The Committee acknowledged the strain this put on resources and noted that Libraries Australia would be communicating with libraries on better ways to manage and maintain data on the ANBD. It was also recommended that the Director General write to all contributing members encouraging them to contribute and maintain their data. This was seen as a way that mid-level managers could leverage for better resources in order to contribute and maintain their locations although it was noted that the likely success of this strategy was limited. Ms Moncrieff expressed concern about her institutions holdings data not being deleted from the ANBD even though update files had been provided. It was noted that data matching was often subject to the quality of the data (contributed and/or already on the database) but that LIBRARIES AUSTRALIA would continue to work with libraries to adhere to record standards and in particular to use key record control numbers.

Search issues

Key directions for the Libraries Australia Search service were discussed. Mr Boston described relevance ranking noting that the LAAC information paper (LAAC/2006/3/10) contained further details on the process. Relevance ranking would be launched with the next upgrade to the Search service on the TeraText platform and it would be further enhanced on Lucene software which had better support for searching, presentation and linking including for example the ability to cluster results and a faceted browse functionality. It was also confirmed that the current advanced search functionality would be retained including Z39.50 functionality which would have to be built on as the product did not inherently support this protocol. The Committee recommended that Libraries Australia communicate with libraries and assure them that sophisticated search options would not be lost.

The discussion on annotations in Libraries Australia’s Search service drew passionate comment from the Committee. There was concern that unverified user contributions can be detractors in a quality information service and that Libraries Australia would need to address issues such as credibility, balancing comment with fact, the need to moderate annotations and how to authenticate and maintain the integrity of annotations. It was noted that this facility was sought and expected by most internet users so the challenge was to determine how a library annotation service could stand apart or be differentiated from a more commercial implementation. Mr Taylor suggested that it was desirable to support personalisation to optionally include or exclude social tagging. It was also noted that other libraries may wait to see how Libraries Australia implement such a feature before they progress with local strategies to support similar services.

Document delivery

In reviewing the document delivery issues it was noted that, with one exception, all of the recommendations of the Expert Advisory Group on Document Delivery have been implemented. The recommendation to develop a separate simpler LADD interface
had not been implemented as it was now possible to configure LADD in order to streamline accounts and simplify workflows.

The Business Plan will be developed over the first half of 2007 to cover the three year period 1 July 2007 to 30 June 2010. It was noted that the draft plan would be mentioned at the Libraries Australia Forum and that a suitable version would be distributed via the Libraries Australia list. The Committee recommended that the released version be renamed a “strategic plan” rather than a business plan.

It is planned to engender support and ownership of the plan from key Libraries Australia constituents and to employ the plan in building relationships with the Australian library community, for example in forums such as User Group meetings to stimulate discussion on key strategies and encourage input from users on directions and issues.

**ACTION:** Libraries Australia to consider Mr Taylor’s suggestion for the option to personalise booksellers’ lists as a possible enhancement.

**ACTION:** The National Library to contact Curriculum Corporation to discuss options for acquiring school library holdings for addition to the AND.

**ACTION:** Libraries Australia to undertake another survey of Australian libraries’ holdings on the ANBD to get a better indication of the currency and coverage of the ANBD and discover important gaps in coverage.

**ACTION:** Libraries Australia to ensure that all LAAC members are subscribed to the librariesaustralia-l email list.

**ACTION:** Libraries Australia to develop a strategic plan for the period 1 July 2007 to 30 June 2010 encouraging input from and disseminating results to the Australian library community.

**Agenda Item 9  Australian National Bibliographic Database: Quality Issues (LAAC/2006/3/7)**

Mr Walls spoke to the report. Part 1 addresses quality issues of interest during the post-implementation period of the new Libraries Australia Cataloguing Service. Part 2 provides a Quality Improvement Plan which will be used to address and prioritise data improvement and maintenance activities over the coming year.

Items highlighted from Part 1 of the paper included progress with support for additional non-Roman scripts such as Cyrillic, Greek and Tamil, and the status of the automated de-duplication software. Mr Walls also noted the large number of records currently awaiting human review and that this was primarily due to large re-loads of bibliographic and holdings data from several libraries. He said that libraries would be encouraged and informed on improved processes and methods for keeping their holdings up-to-date on the ANBD in order to avoid the large global refreshes which adversely impact on ANBD data maintenance activities. It was also expected that the automated de-duplication software would be implemented with the next upgrade to
CBS software which is currently in testing and scheduled for implementation first quarter of 2007.

The emphasis with the Quality Improvement Plan was to engage in activities that would support the creation and maintenance of good quality data and focus less on those tasks that correct one-off data errors. To this end the plan stresses maintaining data validation rules, and also further refining the match merge and automated de-duplication software. One off projects will be undertaken for example, the continued manual changes of Wade-Giles to Pinyin Romanisation in Chinese subject headings.

**ACTION:** Libraries Australia Database Services to advise users on way to keep their ANBD holdings up-to-date and to avoid large global data refreshes.


Mr. Walls introduced the report by summarizing the EAG’s progress to-date and indicating that three responses had been received on the draft guidelines. These included requests for more examples, particularly for static resources and also to expand the scope of the guidelines to cover electronic books. The EAG will consider all comments at their next teleconference and the plan is to release the final version of the guidelines in December. Mr Taylor queried if the group had considered the data standards implications associated with ERM modules used in local systems. It was noted that the EAG had discussed ways to support and encourage data contributions from libraries that use automated metadata generation techniques to manage electronic collections within their local systems. Mr Taylor indicated that metadata created by ERM modules did not adhere to library standards (for example AACR2). Ms Luther said that the scope of the guidelines (e.g. updating and/or static resources) should be clearly described in the introduction.

**ACTION:** Mr Taylor undertook to forward the URL of a site maintained by a defacto advisory group in the United States that is addressing such standards issues and who has published a draft paper which vendors are trying to implement.

**Agenda Item 11** NLA Paper on the Future of the Catalogue (LAAC/2006/3/9)

Dr Cathro spoke to the paper indicating that the primary aims of this work are to address under-utilization of library catalogues and collections and to support users in discovering and accessing library resources where their initial query originates from sources outside library catalogues. It was noted that the National Library has done extensive work in outlining the steps and tasks required to address the inhibitors listed in the paper if they are to deprecate their local catalogue and utilize Libraries Australia. There was recognition that even if local OPACs were abandoned the data that is held only within local systems such as detailed holdings information and institution specific data was still essential to support user pathways to items held within the library.
Agenda Item 12  
NLA report on Relevance Ranking and the ANBD (LAAC/2006/3/6) (CONFIDENTIAL)

Mr Boston spoke to the report. Mr Boston outlined the key objectives and processes of the research project undertaken by Ms Delitt with support from Mr Fitch who developed the prototype search service. Capabilities of the preferred platform, Lucene, were re-iterated such as clustering, better support for logical views, faceted browsing, support for OpenSearch protocol and good performance. It was noted that services built on Lucene would be easier to develop than TeraText as it has a larger developer base and that as Lucene was open-source these developments would be easier to share with other agencies. The Committee expressed their thanks and appreciation for Ms Delitt’s clear and informative report.

Conclusion and review of resolutions

It was agreed that the next Libraries Australia Advisory Committee would be held in Canberra in April 2007. The next Libraries Australia Forum would be held in Brisbane in September 2007. Specific dates would be set for both meetings. Venue suggestions from the Committee included the new State Library or Brisbane City Council Library in the Brisbane CBD, the new buildings for the Gold Coast library, or Queensland University Library.

The meeting closed at 4.00 p.m.
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<th>Agenda item</th>
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| **Agenda item 10**  
Report on the Expert Advisory Group on Cataloguing Electronic Resources | Mr Taylor undertook to forward the URL of a site maintained by a defacto advisory group in the United States that is addressing such standards issues and who has published a draft paper which vendors are trying to implement. |
DRAFT MINUTES OF THE LIBRARIES AUSTRALIA ADVISORY COMMITTEE TELECONFERENCE

Tuesday 27 March 2007

The meeting commenced at 1.30pm.

Present:

Acting Chair
Ms Linda Luther
University Librarian
University of Tasmania

Members
Dr Warwick Cathro
Assistant Director-General, Innovation
National Library of Australia

Ms Elizabeth Ellis
Mitchell Librarian and Director,
Collection Management
State Library of New South Wales

Ms Pam Gatenby
Assistant Director-General
Collections Management
National Library of Australia

Mr Lindsay Harris
Library Manager
Queen Elizabeth Hospital, South Australia

Ms Anne Horn
University Librarian
Deakin University

Ms Joan Moncrieff
Associate Librarian, Technical Services
Deakin University

Ms Monika Szunejko
Manager, Access
State Library of Western Australia

Dr Naida Tattersall
Manager, Libraries Social & Cultural Branch
Gold Coast City Council

Mr Chris Taylor
Executive Manager, Information Access Services  
University of Queensland

Apologies
Ms Sherrey Quinn  
Libraries Alive! Canberra

Observer
Ms Jan Fullerton  
Director-General  
National Library of Australia

Officers in Attendance
Mr Tony Boston  
Assistant Director-General, Resource Sharing Division  
National Library of Australia

Ms Debbie Campbell  
Director, Collaborative Resource Sharing Services  
National Library of Australia

Mr Robert Walls  
Director, Database Services  
National Library of Australia

Minutes
Ms Karen Mackney  
Libraries Australia Database Services  
National Library of Australia

A summary of action items and resolutions is included at Attachment A.

Agenda Item 1 Welcome, Introductions and Apologies

Ms Luther welcomed members of the Advisory Committee to the meeting, and extended a special welcome to Ms Anne Horn University Librarian, Deakin University, to her first meeting.

Mr John Arfield's role as LAAC Chair was acknowledged, and thanks were given for his contribution from November 2003-2006.

A letter will be sent to Mr Arfield by the National Library conveying its thanks and that of the Advisory Committee.

An apology was received from Ms Sherrey Quinn.

Agenda Item 2 Minutes of the previous meeting of 2 November 2006 (LAAC/2007/1/1)

Ms Luther suggested that this item be deferred as the meeting was a teleconference and had two detailed discussion papers for members’ consideration.

It was agreed that the Minutes of the Previous Meeting and Business Arising would be deferred until the next face to face meeting on the 18th April 2007.
Mr Boston advised that the teleconference had been convened because of the need to give ninety (90) days notice to Libraries Australia subscribers of any changes to their subscriptions, which would result from the adoption of the recommendations made in the discussion papers to be dealt with at this meeting. This requirement meets the terms of the Libraries Australia User Agreement and notice of subscription costs for 07/08 would be given to all Libraries Australia subscribers by the 31st March 2007.

**Agenda Item 3  Libraries Australia Agreement with OCLC (LAAC/2007/1/2)**

Mr Boston spoke to this paper and provided some context for development of the agreement with OCLC. The current Small Libraries Agreement of 2002, negotiated by Ms Roxanne Missingham, allows small libraries to access WorldCat through Libraries Australia, but this excludes larger libraries, including NSLA and CAUL members. Many of these larger libraries subscribe directly to WorldCat outside of their subscription to Libraries Australia. RLG and OCLC merged in 2006 and RLG union catalogue records will be migrated to WorldCat by the middle of 2007. All Libraries Australia users currently have access to the RLG Union Catalogue and this agreement would secure access beyond August 2007. There is also a trend for National Union Catalogues to contribute to WorldCat, including a number of European National Libraries, and the National Library of New Zealand which recently announced a partnering agreement with OCLC for supply of Te Puna records. The National Library of Australia over a number of years has been trying to develop closer relationships with OCLC. The proposed Agreement builds on this work, and this OCLC offer is the best made to date, with a substantial price decrease over previous offers.

The agreement with OCLC would allow all Libraries Australia subscribers to have unlimited search and cataloguing access to WorldCat.

Mr Taylor enquired whether unlimited search access would include end user access to WorldCat. After discussion it was confirmed that access to WorldCat would be available to all users of the subscription version of Libraries Australia Search but that it would not be available through the free version which would continue to be based on the ANBD and Picture Australia.

Mr Taylor also sought comment on the new OCLC Consortia governance and the implications of the growing number of OCLC members based on geography, putting us in the Asia Pacific Consortium.

Ms Fullerton indicated that our natural alliances with European and North American libraries make it less appropriate for Australia to be placed with Asia Pacific libraries, and that NLA staff discussed this issue with OCLC at a meeting during the Online Conference.

**ACTION:** Further advice is to be bought to the LAAC meeting on 5 September in Brisbane in relation to the OCLC Consortia and how Libraries Australia will fit with their governance model.

Ms Luther called for comments on the proposed Libraries Australia subscription fee increases.
Ms Ellis commented that these increases will perhaps need to be communicated clearly and carefully, particularly for libraries picking up the 3% increase.

Ms Horn observed that subscribers would need time to consider the benefits in relation to the price rise. Ms Horn queried how the 3% potential OCLC price rise will be passed on to LA subscribers each year.

Mr Boston indicated that any 3% OCLC price rise spread over all LA subscribers would be a relatively small amount.

A letter to all subscribers on 30 March will indicate the cost breakdown in detail for each subscribing library.

Questions were put in regard to the pricing model and the price rise. Discussion indicated a consensus for the need to carefully market the benefits of access to additional services such as WorldCat and RLG to those who currently do not have access.

Mr Boston indicated that over the next year Libraries Australia staff will look at appropriate subscription models for other library sectors, based on independent criteria to move away from historical usage.

Mr Harris raised the need for a discussion paper detailing the issues, cost impacts and trends, to warn subscribers and set the scene for change in the next year.

Mr Boston indicated that opportunities for discussion of the subscription issue will be included on the agendas for future meetings.

Ms Luther sought an indication on support for the CPI increase of 3% on general subscriptions for the coming year, with advice to customers that subscriptions now include access to WorldCat, and on support for the OCLC agreement.

The OCLC agreement was endorsed and approval was given for the letters to go to Libraries Australia subscribers detailing the new costs and benefits of WorldCat services.

**RESOLVED:** The OCLC agreement and price rise for Libraries Australia subscriptions were endorsed.

**Agenda Item 4** Libraries Australia subscription model for CAUL libraries (LAAC/2007/1/3)

Mr Boston spoke to this paper and provided context including information on the basis of the subscription model introduced in July 2005 and subsequent work by John Arfield and Roxanne Missingham in 2006 on potential subscription models for CAUL libraries.

The model being proposed is based on published total library expenditure figures for 2005 from the CAUL website. The model was developed by taking the current 2006/2007 subscription for the 37 University Libraries, adding the OCLC costs, and the proposed price rise. The median figures of these subscription totals were used as the basis for the tiers in the cost model. The proposed model is essentially cost-neutral in terms of Libraries Australia revenue.
Ms Luther expressed concern, and sought comment on whether Libraries Australia Advisory Committee has had time to inform the CAUL executive of these matters.

Ms Fullerton advised that she and Mr Boston will be attending a meeting of CAUL after the Educause Conference in May 2007 to speak on this matter. The Libraries Australia User Survey results should also be available at that stage. The last meeting with the CAUL executive was held during the Online Conference in January during which the CAUL Executive indicated its expectation that NLA would develop a fair and justifiable model for CAUL library subscriptions.

**ACTION:** NLA Executive to meet with CAUL in May to explain the new subscription model.

Ms Horn sought clarification on the process of the letters to be mailed out with advice on the model and the OCLC Agreement.

Mr Boston advised that some University libraries are paying anomalously high amounts under the current model, that one CAUL library had recently written to NLA about its high subscription and there would be the prospect of another year of this situation if the proposed model was not accepted. The letter to go out to Libraries Australia subscribers would show details of the model for each CAUL library. An advantage of the new model is that figures for total University library expenditure are on the CAUL website, so libraries can easily identify what they should be paying based on this and the tiers in the model.

Dr Cathro observed that CAUL revises the figures for library expenditure each year for this website. Mr Boston advised of the difficulty of changing the model to take this into account during the adjustment period. It was proposed that a review of library tier positions would be carried out after 3 years.

Ms Horne confirmed that the CAUL statistics are 18 months to 2 years behind, and can reflect combined budgets, and includes items like depreciation. It was acknowledged that there are some essential risks associated with the new model, but CAUL libraries would realise large savings by having access to RLG through Libraries Australia via the OCLC agreement.

Mr Taylor advised that CAUL has in the past used the same library expenditure statistics when apportioning library contributions to payments for other products. He also made the analogy of Libraries Australia as a vendor for expenditure purposes.

This was discussed and it was agreed that Libraries Australia has a different role and relationship to subscribers than a vendor description implies. It was emphasised that when communication goes out in regard to the model, that there be sufficient background information.

Ms Luther summed up the discussion, and asked that the recommendation for acceptance of the proposed model be endorsed.

**RESOLVED:** The proposed CAUL subscription model was endorsed.

**Agenda Item 5 New Chairperson for Libraries Australia Advisory Committee – Nominations**

Mr Boston thanked Ms Luther for acting as Chair for this meeting.
Mr Boston advised that with the departure of Mr John Arfield, there is a call for nominations for the position of Chair and Deputy Chair of the Advisory Committee.

**ACTION:** Nominations should be emailed to either Ms Campbell or Mr Boston by 12 April 2007. If an election is required this will take place as the first agenda item at the next meeting in 18 April 2007.

**Agenda Item 6**  
**Any other business**  
No further Business.

It was agreed that the next Libraries Australia Advisory Committee would be held in Canberra in 18th April 2007.

*The meeting closed at 2.40 p.m.*
### Attachment A – Summary Table of Recommendations and Actions

Libraries Australia Advisory Committee meeting 27 March 2007

<table>
<thead>
<tr>
<th>Agenda item</th>
<th>Recommendations</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agenda item 3</strong>&lt;br&gt;Libraries Australia Agreement with OCLC</td>
<td>The Committee endorsed the agreement with OCLC and associated price rise.</td>
<td>Libraries Australia: further advice to be bought to the LAAC meeting on 5 September in Brisbane in relation to the OCLC Consortia and how Libraries Australia will fit within the OCLC governance model.</td>
</tr>
<tr>
<td><strong>Agenda item 4</strong>&lt;br&gt;Libraries Australia subscription model for CAUL libraries</td>
<td>The Committee endorsed the CAUL subscription model.</td>
<td>NLA Executive to meet with CAUL in May to explain the new subscription model.</td>
</tr>
<tr>
<td><strong>Agenda item 5</strong>&lt;br&gt;New Chairperson for Libraries Australia Advisory Committee – Nominations</td>
<td></td>
<td>Nominations should be emailed to either Ms Campbell or Mr Boston by 12 April 2007. If an election is required this will take place as the first agenda item at the next meeting in 18 April 2007.</td>
</tr>
</tbody>
</table>
LIBRARIES AUSTRALIA STATUS REPORT

November 2006 – March 2007

<table>
<thead>
<tr>
<th>Libraries Australia 06/07 results</th>
<th>Result</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libraries Australia Searches (Mar) Year to date</td>
<td>1,092,974 150%</td>
<td>730,000</td>
</tr>
<tr>
<td></td>
<td>9,226,315 136%</td>
<td>6,770,000</td>
</tr>
<tr>
<td>ANBD &amp; CJK holdings (March) Year to date</td>
<td>150,773 120%</td>
<td>126,000</td>
</tr>
<tr>
<td></td>
<td>1,088,343 73%</td>
<td>1,489,000</td>
</tr>
<tr>
<td>LADD requests (March) Year to date</td>
<td>26,570 133%</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>202,393 126%</td>
<td>161,000</td>
</tr>
<tr>
<td>Search and Cataloguing services delivered within service levels</td>
<td>see Libraries Australia outages</td>
<td>99.5%</td>
</tr>
<tr>
<td>Percentage of batch loads added within 5 days of receipt</td>
<td>98.6%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Libraries Australia Search

In late November 2006, a new release of the Libraries Australia Search service was made available. Key features of the 2.2 release included: relevance ranking of search results; a Libraries Australia search box that can be embedded in any external search page; implementation of support for access to Libraries Australia and Picture Australia via the Open Search protocol along with other cultural collections; and enhancements for extended linking and record displays.

Libraries Australia Cataloguing Service


CBS 3.2

A new version of CBS (version 3.2) was released in October 2006. The release contains a number of important enhancements including; a simplified signon procedure for users of the web cataloguing interface, automated de-duplication, and improved keyword indexing of CJK script. Unfortunately the implementation of CBS version 3.2 has been delayed due to the limited availability of IT staff and because the test environment was not available for CBS testing in March as it was fully utilised for investigation of the Libraries Australia Search index problems. It is expected that the testing of CBS 3.2 will...
commence in mid-April with the production implementation expected in the middle of the year. Users will receive the improved functionality without the need to update their cataloguing client. Database Services expects to implement a new release of the Cataloguing Client (WinIBW) with improved interface design later in the year.

**Libraries Australia Record Export Service**

344 libraries are currently registered to use the Record Export Service.

**Libraries Australia Record Import Service**

A total of 80 libraries now contribute to the National Bibliographic Database using the Record Import Service.

**Libraries Australia Document Delivery Service**

From 1 November 2006 to 30 March 2007 the following organisations have joined the Document Delivery Service:

- Deacons Graham & James Library
- Australian Technical College - North Adelaide
- NSW Dept of Lands
- Queensland Health
- Singleton Shire Library
- Sunraysia Institute of TAFE.

The following libraries commenced interoperating with LADD using the ISO ILL protocol:

- Corangamite Regional Library Corporation
- Maribyrnong Library Service
- Moonee Valley Library Service
- Bayside Library Service.

Testing of ISO interoperability was undertaken with the University of New South Wales and the University of Tasmania.

The enhanced requesting facility is now available to VDX libraries interoperating with LADD using the ISO ILL protocol.

A trial of the LADD email alert functionality began on the 1st February with 40 participating libraries. The functionality is especially useful for infrequent users of the service as it provides an email alert when there is a change in the status of an ILL request.

The loading of ex-ILAnet NSW public library reciprocal borrowing data (about 11,000 services) was completed.

Use of the Trans Tasman interlending link between the LADD and Te Puna Interloan systems continues to grow. For the period 1 November 2006 to 31 March 2007:

- 1,928 items were supplied to NZ libraries
- 1,027 items were supplied to Australian libraries
Libraries Australia Administration & Help Desk

Total Enquiries: 3,127

<table>
<thead>
<tr>
<th>Issues</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>385</td>
</tr>
<tr>
<td>Cataloguing</td>
<td>253</td>
</tr>
<tr>
<td>Document delivery</td>
<td>444</td>
</tr>
<tr>
<td>Picture Australia</td>
<td>214</td>
</tr>
</tbody>
</table>

Several new staff joined the Customer Services team in early 2007:

- Debbie Campbell, Director of Collaborative Services Branch;
- David Ong, Manager of Customer Services;
- Karen Mackney, Marketing Officer (a new position in the Customer Services team); and
- Mary-Louise Weight, Help Desk & training.


Libraries Australia: outages

The Libraries Australia Search service experienced outages between 20 February and March 2007. The initial focus of the Customer Services team was to restore the service as quickly as possible before identifying the cause of the outages, which is still under investigation. A range of technical considerations are being assessed, including the addition of more memory and storage; placement of application modules on different servers; and configuration tuning.

During business hours, the service was available for 94.83% of the time from 1 July 2006 to 31 March 2007.

New registrations and cancellations

From 1 November 2006 to 30 March 2007

New registrations:
- Angela Tan (Individual)
- Australian Technical College - North Brisbane, North Queensland, Northern Adelaide, South Adelaide
- Capel Public Library
- City of Gosnells
- Clarkson Library
- Department of Lands
- East Gippsland Institute of TAFE
- Frank Ruberto (Individual)
- Melbourne Theosophical Society
- NSW Nurses’ Association
- Protect-a-Book
• Serials Solutions
• St Michael’s Grammar School
• St Patrick’s College
• Sunraysia Institute of TAFE
• Wanneroo Mobile Public Library
• Wanneroo Public Library
• Whyalla Public Library
• Williams Public Library
• Yanchep Public Library

Cancellations (due to library closure):

• Coles Myer
• Tabcorp Holdings Library

Business relationships

With OCLC
The National Library resumed negotiations with OCLC in August 2006 for cataloguing and search access to WorldCat on behalf of subscribers to Libraries Australia. The starting point for negotiations with OCLC was that any agreement should have benefits for all Australian libraries and support the continued development of the Australian National Bibliographic Database (ANBD).

In February 2007, the National Library reached agreement with OCLC regarding access to WorldCat for Libraries Australia subscribers. The Libraries Australia Advisory Committee endorsed the proposal at a teleconference on 27 March 20071. The Agreement between the two organisations will be formally signed in May.

With ERA
From May, the Libraries Australia Help Desk will provide a modest Information Line service for Electronic Resources Australia, an initiative of the National Library that aims to increase access to electronic resources across Australian libraries.

Libraries Australia Customer and Stakeholder Satisfaction Survey

The *Evaluation of Customer Satisfaction with Libraries Australia* online survey closed on 28 February. Nielsen Net//Ratings have commenced data analysis and interpretation of the more than 600 responses received during the period of the survey (12 -28 February 2007). Draft reports on the CEO and practitioner responses are due in mid April and will incorporate results from the qualitative research undertaken in August last year.

<table>
<thead>
<tr>
<th>Library type</th>
<th>Survey respondents by Library type (CEOs &amp; practitioners)</th>
<th>Libraries Australia subscribers by Library type</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Library</td>
<td>7.8%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

1 Libraries Australia Agreement with OCLC [LAAC2007/1/2]
<table>
<thead>
<tr>
<th>Library Type</th>
<th>Result July 2006 – March 2007</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAFE or other higher education</td>
<td>5.6%</td>
<td>12.30%</td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Library</td>
<td>23.1%</td>
<td>23.60%</td>
</tr>
<tr>
<td>State Library</td>
<td>3.7%</td>
<td>0.60%</td>
</tr>
<tr>
<td>National Library</td>
<td>1.4%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Health Library</td>
<td>11.4%</td>
<td>16.20%</td>
</tr>
<tr>
<td>Law Library</td>
<td>6.4%</td>
<td>7.00%</td>
</tr>
<tr>
<td>Other Corporate Library</td>
<td>6.7%</td>
<td>10.20%</td>
</tr>
<tr>
<td>Federal Government Library</td>
<td>9.4%</td>
<td>7.30%</td>
</tr>
<tr>
<td>Local or State Government Library</td>
<td>14.1%</td>
<td>13.60%</td>
</tr>
<tr>
<td>Other Type</td>
<td>8.6%</td>
<td>3.90%</td>
</tr>
<tr>
<td>Commercial Agent</td>
<td>1.9%</td>
<td>0.30%</td>
</tr>
</tbody>
</table>

**Market share**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Result July 2006 – March 2007</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation by key library sectors (measured annually)</td>
<td>100% of State and university libraries; 82% of public libraries; 84% of key government, health and law libraries</td>
<td>100% of State and university libraries; 80% of public libraries; 80% of key government, health and law libraries</td>
</tr>
<tr>
<td>Customer retention</td>
<td>98%</td>
<td>100%</td>
</tr>
<tr>
<td>Libraries using Libraries Australia Document Delivery</td>
<td>6 new libraries</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Total: 750</td>
<td></td>
</tr>
</tbody>
</table>

**Marketing and customer relations**

A wikipedia entry for the National Library has been expanded to include Libraries Australia. <http://en.wikipedia.org/wiki/National_Library_of_Australia>

An option to order Libraries Australia pamphlets and flyers has been added to the Online Enquiry form. <http://librariesaustralia.nla.gov.au/enquiry.html>

**Presentations & papers**

- 29 January to 2 February 2007.
  Information Online07, Sydney. Tony Boston, Assistant Director-General Resource-Sharing Division & Alison Dellit, Bibliographic Standards & Strategy. The paper presented was “Relevance ranking of results from MARC-based catalogues: from guidelines to implementation exploiting structured metadata”

- David Ong & Natasha Simons. *Taming the Tasman: International interlending under the Southern Cross*
  http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published /EmeraldFullTextArticle/Articles/1220350107.html

**Sponsorship/Attendance at other events/conferences**

- 2 - 3 November 2006.

- 2 - 3 November 2006.
  Metropolitan Libraries Association NSW, Penrith. Morning tea sponsorship.

- 29 January to 2 February 2007.
  Information Online07, Sydney. Libraries Australia coordinated and staffed the National Library’s trade stand at this conference.


**User Group Meetings**

A teleconference was held with all State and Territory User Group convenors on 15 February to establish a schedule of user group meetings for February to June 2007. The following dates have been set.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>National Library representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queensland</td>
<td>1st March</td>
<td>David Ong, Debbie Campbell</td>
</tr>
<tr>
<td>Australian Capital</td>
<td>7th March</td>
<td>David Ong, Debbie Campbell, Tony Boston</td>
</tr>
<tr>
<td>Territory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New South Wales</td>
<td>4th May</td>
<td>David Ong, Debbie Campbell</td>
</tr>
<tr>
<td>Western Australia</td>
<td>21st May</td>
<td>David Ong, Debbie Campbell</td>
</tr>
<tr>
<td>South Australia</td>
<td>22nd May</td>
<td>David Ong, Debbie Campbell</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>23rd May</td>
<td>David Ong, Tony Boston</td>
</tr>
<tr>
<td>Victoria</td>
<td>7th June</td>
<td>David Ong, Debbie Campbell</td>
</tr>
<tr>
<td>Tasmania</td>
<td>8th June</td>
<td>David Ong, Tony Boston</td>
</tr>
</tbody>
</table>
Training

<table>
<thead>
<tr>
<th>Training Service Provider</th>
<th>Date</th>
<th>LACC training</th>
<th>#</th>
<th>LADD training</th>
<th>#</th>
<th>LA training</th>
<th>no</th>
<th>LADD Q &amp; A</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT Library</td>
<td>Oct-Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>State Library NSW</td>
<td>Oct-Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lyn Farkas ACT</td>
<td>Oct-Dec</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caroline Wood SA</td>
<td>Oct-Dec</td>
<td>2</td>
<td>17</td>
<td>1</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Library WA</td>
<td>Oct-Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lyn Evans QLD</td>
<td>Oct-Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>George Panagiotidis VIC</td>
<td>Oct-Dec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Helen Gourkova VIC</td>
<td>Oct-Dec</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

George Panagiotidis VIC also reported that:
LADD online training Oct-Dec 2006 – 1 course & 1 participant.
LADD online training Jan-Mar 2007 – 0 courses.

New projects

Collaborative Services Branch has scheduled three distinct projects for 2007. They are:

1. A web site refresh for the information pages pertaining to Libraries Australia. Much information will be archived. In addition, the NSP-L, Kinetica-List and KDD-L discussion lists will be archived. The National Library will be encouraging more participants to subscribe to the librariesaustralia-l and librariesaustraliadocdel-l. This project has commenced, and is being led by Emma Corbett.

LAAC/2007/2/2
Page 7
2. A directory integration project. The Customer Services team will oversee the integration of the Australian Libraries Gateway (ALG) details and the Interlibrary Resource Sharing (ILRS) Directory into the Libraries Australia Administration system. Any useful pages from the ALG and ILRS directories will be kept and rebranded as Libraries Australia. This project will start later in 2007.

A project commenced by OCLC, the WorldCat Registry (described at <http://www.worldcat.org/registry/Institutions>), provides an opportunity for Australian library directory data to be made more visible. Libraries Australia is providing a test base for OCLC which will coincide with the directory integration project. Further information about the WorldCat registry is available at <http://www.oclc.org/worldcat/registry/default.htm>.

3. An exploration of the open source software package Lucene, with a view to migrating the Libraries Australia Search service later in 2007. All Libraries Australia users have been invited to comment on the performance of the new application in the National Library’s Library Labs at <http://ll01.nla.gov.au/>. Library Labs also explains how to link to Libraries Australia from the Amazon service.

New responsibilities

The Collaborative Services Branch provides for the management of Libraries Australia, Picture Australia and ARROW (Australian Research Resources Online to the World), and will adopt Music Australia in the near future with others to follow. Staff in the Branch also oversee the development of the People Australia Project. These transitions will lead to the location of most of the National Library’s resource discovery services in the one area, with the ultimate aim of streamlining both business and technical functions.

Recommendation

The Libraries Australia Advisory Committee to note the report.

Collaborative Services Branch
Contact: Debbie Campbell
dcampbell@nla.gov.au
02 6262 1673

4 April 2007
### 2006/2007 Libraries Australia Statistics

Report for Libraries Australia Advisory Committee

<table>
<thead>
<tr>
<th></th>
<th>Result</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>$3,026,778</td>
<td>$2,977,000</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td>$2,181,446</td>
<td>$2,329,000</td>
</tr>
<tr>
<td><strong>Search Activity</strong></td>
<td>9,226,315</td>
<td>6,770,000</td>
</tr>
<tr>
<td><strong>Holdings Added</strong></td>
<td>1,088,343</td>
<td>1,489,000</td>
</tr>
<tr>
<td><strong>Bibliographic Records Added</strong></td>
<td>1,072,970</td>
<td>no target set</td>
</tr>
<tr>
<td><strong>Libraries Australia Doc Del Requests</strong></td>
<td>202,393</td>
<td>161,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Projected</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>$4,035,000</td>
<td>$3,982,000</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td>$3,150,000</td>
<td>$3,200,000</td>
</tr>
<tr>
<td><strong>Search Activity</strong></td>
<td>12,300,000</td>
<td>9,000,000</td>
</tr>
<tr>
<td><strong>Holdings Added</strong></td>
<td>1,500,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td><strong>Bibliographic Records Added</strong></td>
<td>1,430,000</td>
<td>no target set</td>
</tr>
<tr>
<td><strong>Libraries Australia Doc Del Requests</strong></td>
<td>275,000</td>
<td>230,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>% of Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Result vs Target</strong></td>
<td>101%</td>
</tr>
<tr>
<td><strong>Expenses vs Target</strong></td>
<td>98%</td>
</tr>
<tr>
<td><strong>Search Activity</strong></td>
<td>136%</td>
</tr>
<tr>
<td><strong>Holdings Added</strong></td>
<td>73%</td>
</tr>
<tr>
<td><strong>Bibliographic Records Added</strong></td>
<td>126%</td>
</tr>
<tr>
<td><strong>Libraries Australia Doc Del Requests</strong></td>
<td>126%</td>
</tr>
</tbody>
</table>

### Libraries Australia Revenue and Expenses

- **Revenue**: $0 to $600,000
- **Expenses**: $0 to $400,000

### Holdings Added

- **Holdings Added**: 0 to 450,000

### Search Activity

- **Search Activity**: 500,000 to 1,250,000

### Libraries Australia Document Delivery Requests

- **Requests**: 0 to 30,000
LIBRARIES AUSTRALIA SUBSCRIPTIONS FOR 2007/2008

Background

The current revenue model for Libraries Australia has been in place since 1 July 2005. Although subscribing libraries do not incur a per transaction charge, historical usage has been used to project annual subscription when the model was introduced.

Events outside the control of libraries sometimes create a mismatch between the current and the previous years’ usage figures. For this reason, the National Library has been looking at a new baseline for subscriptions.

In February-March 2007, a new subscription model for 2007/2008 was developed for CAUL member libraries. Preserving the principles expressed for the Kinetica charging¹, the new tiered model sought to bring fairness, transparency, and sustainability to subscriptions. This new model was endorsed by the Libraries Australia Advisory Committee on 27 March 2007.

Proposal

While CAUL member libraries will be introduced to the new tiered subscription model from 1 July 2007, remaining Libraries Australia customers will continue with their existing subscriptions (CPI-adjusted) for the new financial year 2007/2008.

However, the National Library would like to use 2007/2008 to develop a subscription model for each library sector, to be deployed in 2008/2009 pending endorsement by the Libraries Australia Advisory Committee.

Libraries Australia identifies the following sectors as requiring separate models:

- state;
- university (already endorsed);
- public;
- special: TAFE, government, discipline-based, corporate;
- school;
- national;
- commercial;
- individual; and
- overseas.

The model for each sector will vary according to parameters which are transparent for the sector.

Implementation strategy

It is likely that while than one parameter will be assessed for each library sector, for comparative purposes and to ensure fairness when applying new subscriptions, only one parameter will be used to establish the fee. Parameters will include population figures,

¹ Libraries Australia Subscription Model for CAUL Libraries [LAAC 2007/1/3]; based on the Kinetica pricing model: proposed subscription model [KAC/2005/1/6]
based on published Australian Bureau of Statistics tables; total budget; and contribution
to the National Bibliographic Database.

The use of a modest number of tiers within a sector will also afford some predictability
and allow for administration of the fees to be streamlined.

The National Library will look for economies of scale wherever possible in terms of the
delivery of services. The integration of WorldCat into the offering from Libraries
Australia is an example of this, and other possibilities will be explored during

The new models will be presented to the Libraries Australia Advisory Committee at its
September meeting.

**Recommendation**

The Libraries Australia Advisory Committee to note the report.

Collaborative Services Branch
Contact: Debbie Campbell
dcampbel@nla.gov.au
02 6262 1673
LIBRARIES AUSTRALIA DIRECTIONS FOR 2007

Introduction

This paper outlines intended directions for Libraries Australia in 2007. The National Library of Australia plans to disseminate this document after the April meeting of the LAAC and seek feedback from the library community as an input to the 2007-2010 strategic plan to be developed later in the year.

There have been many changes to our Australian National Bibliographic Database (ANBD) service over recent years, including the Kinetica Redevelopment Project from 2003-2005, introduction of a new subscription model in July 2005 encouraging increased usage, the re-branding of the service as Libraries Australia and the launch of the free Libraries Australia Search service in 2006.

Business relationships

In 2002, the National Library negotiated a “small libraries agreement” that allowed Australian libraries, excluding NSLA and CAUL members, to access WorldCat for a per search cost through Libraries Australia. In 2007 a new agreement covering all subscribers to Libraries Australia was negotiated that provides unlimited access to WorldCat.

Key points of the Agreement are:

- All Australian libraries who subscribe to Libraries Australia would have unlimited search and cataloguing access to OCLC’s WorldCat;
- Libraries must be Libraries Australia subscribers to get access to WorldCat through this Agreement;
- FirstSearch and OCLC ILL access are not included in the Agreement;
- The Agreement includes access to RLG Union Catalogue and SCIPIO data which will be migrated to WorldCat by mid 2007;
- The Agreement includes cross-synchronisation of records: provision of in-scope ANBD records with Australian library holdings from the ANBD to WorldCat and provision of WorldCat records with Australian library holdings from WorldCat to the ANBD;
- Exposure of ANBD bibliographic and holdings records in search engines through the Open WorldCat program and on the web through WorldCat.org is included in the Agreement; and
- Australian libraries who contribute all of their current cataloguing and holdings to the ANBD and WorldCat will become governing members of OCLC.

The National Library believes that the contribution of Australian library holdings to WorldCat will be of benefit to Australian libraries by increasing the visibility of our collections worldwide. The Agreement will also streamline retrospective cataloguing by Australian libraries through improved access to WorldCat.

The National Library is working with Serial Solutions to improve the mechanism for provision of MARC records for electronic resources to Australian libraries. Serial Solutions has become a commercial member of Libraries Australia and is obtaining Australian serial records for inclusion in its e-sets for both Australian and international libraries. Through an Agreement between the National Library and Serial Solutions,
MARC records are provided to five state and territory libraries as well as to the National Library. A copy of these records, together with holdings, are provided to the ANBD as part of the Agreement. It is expected that all state and territory libraries will become party to this Agreement. Serials Solutions have also agreed that CAUL libraries that are obtaining MARC records from them may opt to have a copy of these records supplied to the ANBD. The National Library plans to seek similar arrangements with other e-resource management services.

The National Library has been working with Google to expose bibliographic records from the ANBD to various Google services. To date about 1.2 million ANBD records have been matched to records in Google Scholar and all ANBD records have been added to Google Book Search. This provides a new discovery pathway for users of these services who can link directly from Google results to Libraries Australia. ANBD records are now also starting to appear in the main google.com service and Google have made a commitment that all records will be accessible by the middle of 2007. With the implementation of the OCLC agreement, this work is of a lower priority as records will be made available to Google, Yahoo!, Windows Live Academic and several bibliographic and bookselling sites via the Open WorldCat program1.

To date 57 booksellers (50 Australian and seven international) can be linked to through Libraries Australia Search. For seven of these booksellers which have an open API (Application Programming Interface), Libraries Australia Search can check their databases to see if an item is in stock. The National Library would like to extend this feature to other booksellers.

There is a need for ongoing evaluation of potential new targets to be added to the Libraries Australia Search service. Examples under consideration include: AGIS (the Attorney-Generals Information Service) and MediText from RMIT Publishing and die Deutsche Bibliothek Database. As far as possible Libraries Australia will attempt to negotiate site licences for new database targets so they can be rolled into the base subscription and made available to all Libraries Australia customers.

Dialogue will continue with the Curriculum Corporation about the possibility of access to SCIS (Schools Catalogue Information Service) as a target through Libraries Australia or the loading of schools data into the ANBD.

The National Library is exploring ways to improve access to Australian journal literature. The advent of services such as Google Scholar has raised user expectations that at least the discovery part of the information seeking equation will be free. The Library is developing a model for the national pooling of metadata for Australian journal articles to support free discovery and shared indexing. The relationship between any new journal article metadata discovery service and Libraries Australia is under discussion, including whether article level information should be stored in the ANBD.

Products

The Products service will be further enhanced by:

- Identifying further Australian datasets for the Electronic Collections Datasets service (eg Australian standards, Parliamentary papers); and
- Investigating an agreement with Serial Solutions to provide access to RMIT Publishing Informit records supplied from the ANBD on an updated basis.

1 Open WorldCat program. OCLC. http://www.oclc.org/worldcat/open/
Marketing

The free Libraries Australia Search service was seen by some as a potential threat to the Libraries Australia business model as for some libraries who use Libraries Australia only for resource discovery, the free service may be sufficient to meet their needs. To date there has been no significant loss of subscribers to Libraries Australia and in fact the number of subscribers has increased over the last twelve months.

Our marketing focus over the coming period will aim to retain current customers, encourage more customer libraries to provide end user access to the subscription Libraries Australia Search service, increase promotion of the free Libraries Australia Search service, and target existing customers to use the full functionality of Libraries Australia Search. Data quality, currency and completeness are more critical issues now that we have a free Libraries Australia Search service and the contents of the ANBD are more widely exposed. Existing search customers will be targeted to contribute or update data (for example public library holdings) and to use services like Libraries Australia Document Delivery.

A web site refresh for the information pages pertaining to Libraries Australia will also be undertaken. Much older information will be archived. In addition, the NSP-L, Kinetica-List and KDD-L discussion lists will be archived. The National Library will be encouraging more participants to subscribe to the librariesaustralia-l and librariesaustraliadocdel-l

Libraries Australia Cataloguing

Development of the ANBD is an ongoing process with improvements in coverage, currency and quality of the data held being a priority. The following areas have been identified as work priorities during 2007:

1. Implement a new version of CBS (version 3.2) containing a number of important enhancements including: a simplified signon procedure for users of the web cataloguing interface, automated de-duplication, and improved keyword indexing of CJK script.
2. Continue to refine the CBS matching and merging algorithms.
3. Review online and batch processes for cataloguing. In the Kinetica system, there were a number of advantages for batch record contribution over online cataloguing. In the Libraries Australia system these no longer apply and libraries should be encouraged to adopt the most efficient cataloguing workflow for their organisation.
4. Create cataloguing guidelines for non-roman, non-CJK records. Guidelines have been released for the cataloguing of Cyrillic, Greek, Tamil and Thai data in the ANBD. Guidelines will be developed for the cataloguing of Arabic and Hebrew data once testing of these scripts has been completed.
5. Improve data quality, especially by implementing duplicate detection and removal processes, with a focus on Australian materials.
6. Remove unused records: remove records without holdings, Australian content indicator or Table of Contents that have not been changed for more than five years.
7. Improve the data coverage of the ANBD:
   - Complete loading of data from the Australian Parliamentary Library. Target contributions from State Parliamentary libraries;
   - Improve coverage of community language materials from public libraries particularly in large metropolitan centres like Sydney and Melbourne;
   - Improve coverage of government publications;
   - Increase coverage of theses; and
• Improve coverage of public library holdings which are especially important now that there is a free Libraries Australia Search service
8. Develop the Record Import Service (RIS) to support import, matching and evaluation of authority records.
9. Investigate SRU Update\(^2\), a standard supported by CBS 3.2, and apply it initially for cross-updating of WorldCat. If successful, offer SRU Update as a service for Libraries Australia customers which would provide a new way to supply data to the ANBD.
10. Develop a link checking service to advise the publisher or record contributor when a broken links are found in ANBD records.

Libraries Australia Search

In late 2006, the Library undertook a review of its IT architecture (LAAC/2007/2/6) for digital library and resource discovery services. The review recommended adoption of a service oriented architecture and migration of the Library’s resource discovery services, including Libraries Australia, to a new software platform. During 2007 there will be several maintenance releases of Libraries Australia Search on the existing software platform (Teratext) and preparations for the migration of the search service to the new software platform (Lucene) will commence.

The following areas have been identified as work priorities during 2007:

1. Implement improvements to Libraries Australia Search relevance ranking to boost in results lists: works by relative to works about an author, and works with more holdings.
2. Deep link from Libraries Australia to more local library catalogues especially for special and public libraries.
3. Implement new targets for searching including, but not limited to, Deutsche Bibliothek, RMIT Publishing’s AGIS and Meditext databases.
4. Investigate mechanisms for improved “getting” services including extension of end user requesting and home delivery.
5. Investigate applying personalisation to the free Libraries Australia Search service.
6. Commence specifications for migration of Libraries Australia Search from TeraText to Lucene.
7. Test Z39.50 interface to Lucene.
8. Test implementation of results clustering and faceted browse using Lucene.
9. Test use of OCLC work identifiers to produce work clusters (FRBR) in search results.
10. Investigate links to value added information, eg:
    a. Links to full text (eg Google Book Search);
    b. Links to book reviews (eg Amazon reviews); and
    c. Links to search inside the book services (eg Amazon).

Libraries Australia Administration

The following areas have been identified as work priorities during 2007:

1. Re-develop Australian Libraries Gateway (ALG) interface and brand it as part of Libraries Australia.

2. Directory integration project: consolidate information held in the Libraries Australia Administration LDAP directory, ILRS and ALG directories. All information should be stored in the Libraries Australia Administration directory.

**Libraries Australia Document Delivery**

The following areas have been identified as work priorities during 2007:

1. Implement ISO interoperability with NLA (VDX to Relais) and other Australian and overseas libraries.

**Recommendation**

That the Libraries Australia Advisory Committee note the report.

Assistant Director-General, Resource Sharing  
Contact: Tony Boston  
(02) 6262 1143

4 April 2007
In later 2006 the National Library undertook a review of its IT architecture to support the management, discovery and delivery of the National Library of Australia's collections and delivery of resource discovery services over the medium term. The current architecture which has successfully delivered digital library functions and resource discovery services over the last five years has become increasingly difficult to maintain and is hindering the Library's ability to innovate and bring new services online.

The report identifies a new framework for building digital library and resource discovery services that should address these issues by:

- Implementing a service-oriented architecture
- Adopting a single-business approach
- Considering open-source solutions when these are functional and robust.


**Recommendation**

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4 April 2007
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OVERVIEW

Purpose
The aim of this report is to define the IT architecture that will be needed to support the management, discovery and delivery of the National Library of Australia’s collections over the next three years. The current architecture has enabled the Library to develop a significant digital library capability over the last decade. Now the burden of maintaining and supporting existing systems and services is increasingly hindering us from bringing new services online, improving the user experience, exploring new ideas or responding to technological change. In the meantime, enormous changes are occurring in the broader environment.

Outcomes
The report identifies a new framework for building digital library services that should address these issues by:
- Implementing a service-oriented architecture
- Adopting a single-business approach
- Considering open-source solutions when these are functional and robust.

Scope
The changes proposed in this report apply to the Library's core mandate to develop and maintain a national collection of library material and to make this collection available. They deal with the digital library services needing to be in place to collect, to preserve and to provide access to resources in any format. Services needed to support the creation and publication of resources by the Library are dealt with only in terms that would also apply to any creator or publisher needing to contribute resources to the national collection or to reference resources in the national collection in exhibitions, publications and other works. Similarly, corporate services such as human resource management and finance are dealt with only in terms of shared infrastructure such as identity management and authentication.

Benefits

Service-oriented architecture
A service-oriented architecture is a way of thinking about software as a set of interfaces that can be called to execute a business function. It is becoming widely accepted as best practice in the IT industry where its adoption is being enabled by the emergence of web services based on accepted standards. Implementing a service-oriented approach will result in significant efficiencies through the use of a common shared technical infrastructure that enables innovation supported by an overarching service framework allowing business owners and developers to have a shared understanding of requirements and directions.

Single business approach
Even with a service-oriented approach, the Library's capacity to meet its directions will continue to be eroded as new applications are brought online. As budgets continue to tighten and the Library needs to do more with less, there will come a time when a large proportion of development effort will be spent just maintaining existing applications.

To address this issue, and as part of implementing the service-oriented architecture, it is proposed that the Library regard its digital library services as a single business with a single data corpus that can be deployed in a range of contexts. Rather than developing separate
applications to meet a new requirement, each requirement would be viewed as an enhancement to the business that could be deployed across all relevant business contexts. This is a significant change to the way the Library currently works. As well as resulting in further significant efficiencies for IT staff, it has the potential to bring library staff together in unprecedented ways to work on problems and ideas and to prototype solutions that enhance the user experience regardless of the point of access.

Open-source solutions

To achieve further efficiencies, it is also proposed that the Library regularly review the capability of the software products it uses to meet its directions and that, as part of this review, it consider open source solutions where these are robust and functional. For functionality developed in-house, it is proposed that the Library return intellectual property to the public domain.

This is a change from the current policy, which, although it encourages the use of open source software, still reflects a preference for a buy-not-build approach and for licensing models or the transfer of intellectual property to a product vendor.

Credits

IT Architecture Project Team:

- Kent Fitch (Technology & Architecture)
- Paul Hagon (Web Publishing)
- Simon Jacob (Collection Access)
- Alexander Johannesen (Web Publishing)
- Ninh Nguyen (Collection Infrastructure)
- Judith Pearce (Feasibility & Standards)
- Mark Triggs (IT Services)
BACKGROUND

Context

A primary legislative mandate of the Library is to develop and maintain a national collection of library material (including a comprehensive collection of library material relating to Australia and the Australian people) and to make this national collection available\(^1\). In practice, the national collection is distributed, with the national and state libraries sharing a deposit role for Australian materials and all libraries focusing on the specific needs of their constituencies for overseas materials.

For more than thirty years, information technology has been a major enabler for fulfilling this mandate. The establishment of the Australian Bibliographic Network to support the development and maintenance of a national union catalogue in 1981 was a key milestone, as was the implementation ten years later of an Integrated Library Management System to manage and provide access to the Library's own collection.

Growth in use of the Internet as a publication medium and as a mechanism for service delivery presented significant new challenges in the 1990s. The Library recognised that its collecting mandate had to include Australian electronic publications and defined three levels of collecting: electronic publications the Library itself safeguarded for future access; those that were safeguarded by other agencies; and those that were considered of current interest only and linked to in the catalogue for the life of the publication.

Current IT architecture

In 1996, as part of the Digital Services Project, the Library developed an architecture to support the collection of electronic publications and the digitisation of materials in traditional formats. The architecture has five loosely-coupled layers: a discovery service layer, a resolver service layer, a delivery system layer, a digital object management system layer and a digital object storage system layer.

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Principles

The following principles informed the development of this architecture and still inform all of the Library's digital library development activities:

- the need to unite the functions of the traditional library with those of digital library services in ways that enable discovery of wanted resources regardless of format;
- the need to describe resources once, as part of collection management workflows in ways that enable re-use of the resulting metadata in a range of local and federated contexts;
- the need to be able to cite content and metadata in ways that are unique, persistent and resolvable;
- the need to support discovery in a range of local and federated contexts in ways that enable delivery even when conditions are imposed on access or analogue processes are involved; and
- the need to manage resources in ways that preserve them and facilitate future access.

Achievements

Over the last decade, the digital library capabilities of the Library have been significantly enhanced under this framework. In Endeavour’s Voyager (now part of the Ex Libris product suite), the Library has acquired a third generation Integrated Library Management System that is used as the source of metadata for the digital object management system layer. PANDORA\(^2\) provides a permanent digital archive for Australian websites and the Digital Collections Manager (DCM)\(^3\) integrated collection management and delivery facilities for its digital still image and audio collections. Both of these services have been developed in-house and use persistent identifiers and a resolver service to enable access to content. Digital objects are stored on file systems that are regularly augmented to meet capacity requirements. Delivery services are supported by a document request management system based on Rélais.

In Libraries Australia\(^4\), the Library has acquired a means of providing end-user access to the collections of Australian libraries, and support for delivery workflows. Picture Australia\(^5\), Music Australia\(^6\), the Register of Australian Archives and Manuscripts (RAAM)\(^7\) and ARROW (Australian Research Repositories Online to the World)\(^8\) exemplify how specialist digital library services might be developed and delivered based on metadata harvested from a range of partner agencies.

All of these services have a metadata repository and search system component based on Inquirion's Teratext software. The Australian Bibliographic Database which delivers the Library's union catalogue is developed and maintained through bibliographic utility services provided by OCLC Pica's CBS software and interlending utility services provided by Fretwell Downing's VDX system.

The Library has also had some success enabling the discovery of items in Australian library collections through other pathways, not just its own web-based services. It has done this by making its metadata collections accessible through standard protocols such as Z39.50, OpenSearch and OAI-PMH, by seeding search engines with resource descriptions and images of its digitised collections and by working with Google to make records from the Australian

\(^2\) http://pandora.nla.gov.au/  
\(^3\) http://www.nla.gov.au/digicoll/  
\(^5\) http://pictureaustralia.org/  
\(^6\) http://musicaustralia.org/  
\(^7\) http://www.nla.gov.au/raam/  
\(^8\) http://search.arrow.edu.au/
National Bibliographic Database (ANBD) accessible through Google Scholar. It has also looked at the feasibility of providing access to the collection as a logical view of the ANBD and prototyped new models for a national discovery service\(^9\).

**Future directions**

In its Directions for 2006-2008\(^{10}\), the Library describes its major undertaking for 2006-2008 as to "enhance learning and knowledge creation by further simplifying and integrating services that allow our users to find and get material, and by establishing new ways of collecting, sharing, recording, disseminating and preserving knowledge".

Five desired outcomes are identified for this period:

- to ensure that a significant record of Australia and Australians is collected and safeguarded;
- to meet the needs of our users for rapid and easy access to our collections and other resources;
- to demonstrate our prominence in Australia's cultural, intellectual and social life and foster an understanding and enjoyment of the National Library and its collections;
- to ensure that Australians have access to vibrant and relevant information services; and
- to remain relevant in a rapidly changing world, participate in new online communities and enhance the visibility of the Library.

Outcome 5 has become a mantra for the Library and informs strategies for achieving all the other outcomes.

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\(^9\) Library labs (http://l01.nla.gov.au/).

THE PROBLEM TO BE SOLVED

In spite of the achievements identified above, there is still a huge amount to do over the next few years to position the Library to achieve its directions and to respond to the changes that are occurring in the broader environment.

Challenges

Collection management and delivery

The Library's response to the volume of material being created in digital form now needs to be increased by orders of magnitude if the PANDORA Archive is not to become increasingly irrelevant over time. The Library's collection management and delivery infrastructure needs to be extended to support the deposit of electronic publications, to rescue digital content in the collection that is stored on physical carriers, to take regular snapshots of the Australian web domain and to support the mass digitisation of Australian newspapers and journals. There is also a need for an integrated digital repository infrastructure to ensure preservation of and access to content collected through the Library's various management systems.

In the medium term it is unlikely that there will be any significant decrease in the volume of material needing to be taken into the Library in traditional formats. It will be an ongoing priority to make material in traditional formats accessible in digital form, either by digitising it or by acquiring or linking to digital versions. In order to do more with less, staff will need access to workflow systems that minimise the need to re-key data and automate processes as much as possible.

Discovery and access

To fulfil its mandate to make the national collection available the Library needs to ensure that items in the collection can be discovered and accessed in many different contexts, both inside and outside of the Library's control. This is particularly relevant to achieving Outcome 5. Like many agencies the Library tends to focus on the development of its own web-based services. To remain relevant in an increasingly digital world it needs to take its unique data to other online spaces. To do this effectively, it needs to enhance its record import and export services to support the collaborative development of trusted aggregations of both metadata and full text indexes, to define and market these aggregations and to make them available through standard protocols for re-use by other players.

The Library also needs to continue enhancing its own web-based services to ensure that they deliver a recognisable and competitive product, are easy to use, facilitate learning and knowledge creation and meet user needs. There is a need to consolidate existing services, to improve the capability of searches to deliver results through relevance ranking, clustering and contextualisation, to enable user collaboration in the development and interpretation of content, to ensure a seamless workflow between discovery and delivery and to implement new models for unmediated delivery.

Inhibitors

Goals to address these needs have been identified in the three-year IT Strategic plan\(^{11}\) but the burden of maintaining and supporting existing systems and services is increasingly hindering the Library's capability to bring new services online, to innovate and to respond to new technologies. Each new project adds to the number of applications requiring support and hence to the availability of staff to work on new projects.

During 2006-2007 alone, it is planned to build three major new federated services - Australian Newspapers Online, Journals Australia and People Australia - and to redevelop ARROW and RAAM. One of the benefits identified for Libraries Australia was that it would provide a generic infrastructure to support innovation and the development of new federated services. In practical terms this has not been achieved.

New services are still being developed as separate applications. Separate solutions are being developed to solve the same problem. Code is not being shared. Enhancements to one service are not immediately able to be applied to others with similar requirements. Services such as RAAM become increasingly more out-of-date as they wait for migration to new technologies. New services such as Music Australia have long enhancement registers. Workflow enhancements that might provide significant efficiencies to the Library have to defer to higher priority projects. At the same time, the cost of recruiting and maintaining staff is rising, so that less can be done with available resources.

Requirements

For the Library to meet its directions for 2006-2008 and beyond, it needs a new approach to the development and deployment of its digital library services. This approach needs to enable the Library to do more with less by making development and support processes more efficient. It needs to support the incorporation of features to improve the user experience that are still lacking in existing services, such as good relevance ranking, clustering, FRBR, annotations and rich relationships. It needs to support a fast response to changes in technology, making it easier to take up and test new ideas and opportunities as they arise. It also needs to support a prototyping environment that enables the Library to look beyond the bounds of current services and ways of doing things, and to tackle some of the things that seem too hard to do now or that it has found too hard to do in the past. These may be what truly differentiate its services from those of other players in an increasingly digital world.
CHANGE 1: ADOPT A SERVICE-ORIENTED ARCHITECTURE

A service-oriented architecture is a way of thinking about software as a set of self-contained components that can be called to execute a business function. Components can be based on existing software or built from scratch. The service uses mappings to translate messages into the form required by the underlying technology.

Benefits

A service-oriented architecture frees business from the constraints of technology by leveraging on existing assets while easily enabling change.

- Services developed once can be re-used in a range of applications.
- Enhancements to a service are immediately available for use by all applications using it.
- Bugs fixed once are fixed for all contexts in which the service is used.
- Interfaces can be easily established with third-party applications.
- Prototypes are easy to develop, supporting innovation and iterative development.
- Functionality can be tested through a web browser.
- Legacy systems can be supported until they are no longer required.
- Underlying technologies can be interchanged without changing the applications.

Service framework

The efficiencies delivered by a service-oriented architecture can be optimised through an overarching service framework that enables business owners and developers to work together to create maintainable, extensible, compliant systems.

The diagram above identifies a set of high level, abstract services that would need to be supported in a service-oriented approach. These are grouped into six sets.

- Common services - Authenticate, Authorise and Pay - work across applications to identify who the user is, what they are able to do and the conditions that apply and also to manages any e-commerce obligations.
• Collection services - Select, Acquire, Describe, Control and Preserve - support the development and maintenance of the collection.

• Metadata services - Contribute, Save, Alert and Harvest - support the development and maintenance of federated aggregations of content and the sharing of this content with other players. Contribute includes both online and offline methods of contribution, and the contribution of metadata of all kinds, including annotations.

• Discovery services - Search, Locate, Request - support the finding of wanted resources and the transfer of requests for access or use to the resource provider.

• Delivery services - Resolve, Supply, Lend and Reserve - support the delivery of wanted resources, either by resolving directly to the resource once conditions have been met for access, by supplying or lending a copy or by reserving a copy if it is currently in use.

• User services - Register, Ask, Personalise and Monitor - deal with the relationship of the user with the service - enabling the user to register for value-added services, to engage in a dialogue with the service provider in order to get help or provide feedback, to set preferences for their interaction with the service and to monitor their own usage. Monitor also allows the service provider to monitor usage across all users and functions.

The registry service layer provides access to the information about users, contributors, target collections, resource providers, access and use policies and protocol information that needs to be collected and maintained to support these functions.

The Digital Library Federation (DLF) is actively working on the development of a service framework for libraries, based on the example set by the E-learning Framework (ELF)\textsuperscript{12}. This work will help the Library to refine its own framework and identify any new protocols and data schemas needing to be supported by its services, the gaps needing to be addressed through a standards-based approach to ensure interoperability with external systems and opportunities for collaborative activities.

Case studies

Case studies showing how a service-oriented architecture might be implemented for Search and Ingest and Delivery functions may be found in Appendix 1.

Enablers and inhibitors

Service-oriented architectures are becoming widely accepted as best practice in the IT industry where their adoption is being enabled by the emergence of web services based on accepted standards. For the Library, this is an achievable way of addressing the following issues with staying with the current development approach:

• How to prevent maintenance of applications from absorbing more and more of the available IT resource.

• How to bring new functionality online faster.

• How to improve the efficiency of IT staff so that they can do more with less.

• How to meet user needs in a consistent way.

• How to be responsive to user feedback.

• How to be responsive to technological change.

• How to foster innovation.

• How to enable software development as a facilitator of business change.
• How to embrace collaboration in ways that provide a significant return on investment in terms of new capabilities.

One of the highest inherent risks is that business areas and IT do not work together to ensure the re-use of services. The primary control for this is the subject of the next section.
CHANGE 2: SINGLE BUSINESS

A service-oriented architecture is not a technology that can be implemented out-of-the-box but rather a way of thinking that informs the development process. There are still challenges in agreeing how a service should be implemented across applications; and risks that the new way of thinking will be only partially deployed, with some applications continuing to be developed independently. This risk could be mitigated, and further significant efficiencies achieved, by treating the Library's digital library services as a single business with a single data corpus that can be deployed in many different business contexts.

The single business approach could be implemented at two levels:

- The Library could think in terms of a single business and a single data corpus as part of its strategic and operational planning processes. This would mean that, instead of separate business plans for each new service and separate enhancement registers with competing priorities, there would be one business plan informed by coherent strategies for enhancing the single business. Such strategies might involve the development of new functionality or focus on refining the capability of the business to meet needs in priority areas of interest.

- The IT Division could implement digital library solutions in ways that minimise the number of separate applications needing to be maintained and enable new functionality or refinements developed for one business context to be easily deployed to another.

This document recommends adopting the single business approach at both levels.

Benefits

Collection management and delivery

In many ways the Library is already treating collection management and delivery as a single business and reaping the benefits. It has a single system (DCM) that supports the digitisation of both still image and audio materials. Work is underway to build a fully-generalised delivery system for digitised content and a Rights Management System Project is addressing the need to manage access and use across most material types.

Implementing a service-oriented architecture will enable DCM and PANDAS (the PANDORA management system) to share an underlying repository and one could argue that both systems support such separate workflows that they do not need to be regarded as serving a single business. Functionality is converging, however, in areas such as rights management and the requirement to collect electronic publications. There is also a risk that the Newspaper Digitisation Project will deliver a separate but strongly overlapping digital content management solution for newspapers if this is seen as a separate business requirement.

A single business approach to collection management and delivery would enable the Library:

- to replace existing applications over time by a suite of collection management and delivery workflow systems targeted to specific contribution methods and content models; and

- to ensure that metadata and full text indexes are aggregated into appropriate logical views of the single data corpus to support federated resource discovery, regardless of the methods used to collect the content.

In the case of collection management and delivery, workflow systems may be delivered by separate applications where the contribution methods and content models sufficiently diverge and where the identified solution has been developed by a third party, for example, the Web Curator Tool as a replacement for PANDAS to support website harvesting workflows.
**Discovery and access**

The benefits of treating discovery and access as a single business cannot be overstated. It is here that most of the Library’s development effort is spent and here that there is most duplication of functionality and most need to improve the user experience if the Library is to remain relevant in a digital age. The Library simply cannot go on the way it has, creating stand-alone applications with strongly overlapping functionality, and achieve its directions. A clear way forward is to build a new single national discovery service that can be accessed through a range of different business contexts.

With a single national discovery service, developers would only need to support one application. Staff would work closely together to identify priorities for the service. Users would have the same opportunities to find relevant information whether they had started the search from a generic search box or from a manuscript or pictures context or from an Internet search engine. The data corpus searched would be the same in each case. The only difference is that the results might give precedence to manuscripts or music or pictures depending on the context.

There would still be a need for projects like People Australia or Journals Australia to address gaps in the information infrastructure but the primary outputs of these projects would be new partners, an enriched data corpus and enhanced functionality that could immediately be deployed to other business contexts.

Instead of redeveloping the same Contribute / Search / Alert / Harvest paradigms for each new application, the Library would be able to invest resources in improving the finding and getting process across all business contexts and in developing support for personalisation and user participation. It would be able to do this in a coherent and cohesive way that crosses project boundaries, through an iterative prototyping process, using laboratory versions to test proposed solutions with real users, and building their feedback into the development and release loop.
Single data corpus

For some time the Library has been thinking about treating the content it makes available through its discovery services as a single data corpus that may be accessed through different logical views. The data corpus could consist of one physical repository or of a number of separate aggregations. Pictures, newspapers and journals may be better managed as separate aggregations to the ANBD, for example. There will also be a need to distinguish aggregations of resources from aggregations of topics (people, organisations, places or subjects).

Treating this data as a single corpus with a range of trusted logical views means that users do not have to search across multiple targets with overlapping content for full recall. The scope of each target can be simply stated and promoted - Australian library collections, our collection, pictures, newspapers, music.

Whether users elect to search the whole corpus or a subset, there is no dumbing down of search results. Tools such as relevance ranking, clustering and assistance with spelling and terminology can be applied to the whole corpus, enhancing search outcomes. In addition, the contextual approach to discovery implemented for Music Australia and being developed for People Australia can be applied across all business contexts and all types of topics.

The corpus itself would also be extendable to aggregations maintained by other stakeholders, including Google Scholar for international journal resources and Wikipedia for topics not included in the Library’s own authority files. Each business context would also have target aggregations that would extend the data corpus for that context: for example, the manuscripts context would also report on hits in the National Archives of Australia collection or, for authorised users, RLG’s Archival Resources.

Musings

Musings about how a single business approach might be taken to discovery and access may be found in Appendix 2. The second section discusses topic-based searching. It shows how the benefits of the People Australia Project can easily be extended to other business contexts and other topics through this approach. Other sections look at the wanted resource, user participation, matching and merging, branding and marketing and the need for partnerships with Google Scholar and Wikipedia as ways of extending the data corpus.

Enablers and inhibitors

The main enabler for taking a single business approach is that the Library itself has been looking at ways in which it might re-organise itself better to meet its directions and to do more with less. A physical restructure is probably needed less than a new way of sharing ideas, communicating what is happening across the Library and building up the IT literacy of all staff. The single business approach provides a way of doing this by bringing people together to work on solutions to shared problems and by enabling all staff to be involved in testing and evaluating prototypes.

The main risks have to do with acceptance of the single business approach and migration of existing services.
CHANGE 3: OPEN SOURCE DEVELOPMENT MODEL

The Library's current policy (last articulated in the 2005-2008 Strategic Plan) is:

- to base the development of services on solutions that are available in the marketplace, unless these solutions fall well short of the Library's functional requirements, do not fit the Library's IT environment, are too costly, or involve unacceptable levels of risk;
- to minimise software costs by utilising open source software whenever this provides a functional and robust solution; and
- to minimise maintenance and support costs of in-house developed software by exploring models for collaborative software development, the licensing of software for use by other agencies or the transfer of intellectual property to a product vendor.

The following changes are proposed to this policy:

- to evaluate open source solutions on equal terms with solutions available in the marketplace through a rational costing process; and
- to return in-house developed software to the public domain.

By evaluation on equal terms is meant the use of a rational costing method that takes into account the work that would need to be done to enhance an open source solution to meet the Library’s needs, the benefits of that work to the wider community and the lost opportunity costs to the Library itself and to the wider community with a commercial solution if the vendor’s development priorities are not aligned with those of the Library.

Benefits

Collection management and delivery

The benefits of this approach are already being demonstrated for collection management and delivery through the Library's involvement in the APSR Project (Australian Partnership for Sustainable Repositories)\(^{13}\) and the International Internet Preservation Consortium (IIPC)\(^{14}\). The Web Curator Tool developed by the National Library of New Zealand and the British Library\(^{15}\) may provide the migration path for PANDAS to a service-oriented architecture. The Global Digital Format Registry\(^{16}\) will provide the Library with preservation management capabilities it could not have afforded to develop by itself.

Discovery and access

Similarly, for discovery and access, a recent decision by the Library to adopt the open source product Lucene as the Library's metadata repository and search system will enable the Library to take advantage of further enhancement of this product by an international community with a strong interest in ensuring it remains a robust and functional product.

The Library itself will contribute to this process by enabling its metadata collections to be searched through a Z39.50 -SRU gateway and returning this code to the public domain. This will mean that other agencies wishing to implement new web-based search protocols while still supporting access through legacy protocols will be able to do so, using a best practice service-oriented approach.

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\(^{13}\) [http://www.apsr.edu.au/](http://www.apsr.edu.au/).


\(^{16}\) [http://hul.harvard.edu/gdfr/](http://hul.harvard.edu/gdfr/).
Choosing Lucene as its metadata repository and search system rather than a commercial product has also positioned the Library to look at open source solutions for document analysis and the clustering of search results.

*Library management system software*

When it comes to a mission-critical system like the ILMS with hundreds of person years of intellectual property invested in its development, it may seem axiomatic to take a buy-not-build approach. Even here, questions are being raised by industry leaders such as Lorcan Dempsey about the future of the ILMS industry. He suggests the following not necessarily exclusive future scenarios:

- Single monolithic system (one of the ILS vendors left standing)
- Vertically integrated system (e.g., with financial, HR, course management, and campus or community portal systems)
- Open Source system (e.g., Evergreen, Koha, the University of Rochester's eXtensible catalog)
- Suite of dis-integrated or interoperable systems
- OCLC custom service suite

The Library has already identified a requirement to replace the OPAC module with a logical view of the NBD but there are other limitations of Voyager that are hindering the Library from achieving its collection management objectives. It tends to be Voyager's support for workflows that dictates the Library's business processes rather than the other way around. Voyager's recent merger with Ex Libris also places the Library at risk of having to replace its current ILMS sooner than it may have planned. It would certainly be of value as part of the planning process to review the capabilities of current open source ILMS solutions and to assess the cost of enhancing the most promising product to meet the Library's needs.

As part of assessing this cost, the Library needs to look at opportunities lost by continuing to depend on the capabilities of the industry to meet the needs of Australian libraries; and opportunities that might be gained by actively working with an international community to develop a robust and functional ILMS in the public domain. These include opportunities to improve the efficiency of collection management and delivery processes in the National Library itself and in other libraries as well as opportunities to develop and enhance the NBD as a national union catalogue. There could be benefits in prototyping solutions to specific problems such as the time taken to do subject cataloguing and the need for workflows to support a federated approach to authority control.

**Enablers and inhibitors**

Open source software development models have accelerated with the advent of the Internet. The commercial world is now also starting to recognise it as a way of reducing costs and achieving directions.

The Library is already using open source software for some applications and contributing to the development of open source solutions through a range of collaborative projects. Implementing a service-oriented architecture will make it easier to test the capability of open source software components. The reputation of the Library will be increased as stakeholders see it taking a leadership role in areas where commercial products are not meeting their needs or the needs of their users.

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Risks of this change in policy are minimal. The financial risk is low as the Library does not have a history of significant return on investment through the licensing of code. Risks associated with operations and services will be addressed through controls already provided by the Library’s project management methodology.
CONCLUSION

Information technology is a crucial enabler for delivering the Library's digital library services. Over the last ten years the Library has developed a digital library architecture that supports discovery and access to wanted resources regardless of format. This architecture has some strongly separated components. The metadata repository and search system, for instance, uses the Z39.50 search and retrieval protocol, enabling one product that is Z39.50 compliant to replace another. In other areas the architecture is less modularised. In both DCM and PANDAS workflow systems are tightly coupled to the underlying repository. In addition. Within each component, there are also many more functions that could be seen as self-contained and built in ways that would enable them to be shared between applications and delivered through different technologies as technologies change.

In the IT industry these issues are being addressed by adopting a service-oriented approach. The Library is well positioned to take such an approach because of the number of standards that are already in place or under development to support interoperability in a global information environment. The Library’s IT Division has already started to implement a service-oriented architecture, beginning with the services required to support currently scheduled projects. This will change the way the Library specifies requirements and builds and maintains applications.

There will need to be more planning and peer review at the start of projects to determine what services are needed and how they might need to be enhanced to support the new requirement. Services will be built iteratively, with early versions only delivering the functionality that is immediately required. Short development timeframes for work packages will allow for prototyping, frequent business and user testing and experiential learning. Once a suite of services are in place, development times will be shortened as services start to be shared between applications. Business analysts will draw on a set of core use cases. It will be easier to prototype and iteratively test solutions. As a result development teams will be able to work more efficiently and to size, cost and schedule projects with more confidence.

Even so, the capability of the Library to meet its directions will continue to be eroded as new applications are brought online. As budgets continue to tighten and the Library needs to do more with less, there will come a time when a large proportion of development effort will be spent just maintaining existing applications. To address this issue the Library needs radically to rethink how it might continue to fulfil its core mandate to develop and maintain a national collection of library material and make it available.

This report recommends that the Library regard its digital library services as a single business with a set of clearly defined products. This is a significant change to the way the Library currently works. Rather than developing separate applications to meet a new requirement, each new requirement would be viewed as an enhancement to the business. Projects like Music Australia and People Australia would result in new partnerships, an enhanced data corpus and new functionality that would become immediately available to other business contexts.

Coupled with this recommendation is a quite significant change to the Library's software development policies. Although the Library does use open source software, its current policy is to prefer solutions available in the marketplace unless they significantly fail to meet the Library's needs. The IT Division now proposes to compare open source solutions on an equal basis with solutions available in the marketplace, using a rational costing method and to return intellectual property developed by the Library to the public domain.
These three strategies will position the Library to bring new functionality online faster and to meet user needs in a more consistent way. The Library will be able to respond more easily to user feedback and technological change. There will be more opportunities for innovation through prototyping and beta releases, raising the profile of the Library in the community. Library staff will work together to develop ideas and identify priorities and to be informed about what the Library is doing. Time will be needed for experimenting, learning, training, there will be some slippages with scheduled projects in 2007 to start implementing the new architecture, but opportunities for earlier deliverables as new services come online. Over time, the full benefits will start to be realised, with services only needing minor configuration changes to be adapted to meet a new requirement.
APPENDIX 1:  
SERVICE-ORIENTED ARCHITECTURE CASE STUDIES

Search

All of the Library's federated search services are currently accessible to third party systems through the Z39.50 search protocol. However, it is not possible to use the metadata in these collections without implementing a Z39.50 client and this is not a trivial exercise. This is inhibiting the Library from looking at new ways in which data could be used and combined, both in its own on-line spaces and at other points of user need. There is no coherent strategy for promoting the Library's metadata collections to new players and staff do not have a shared understanding of the importance of this need in terms of meeting Outcome 5.

A service-oriented approach to search would address this problem by making the capability to support multiple search protocols as both a requester and a responder part of the digital library infrastructure. In the diagram above, a single search service supports requests and responses in a range of protocols by means of a converter. When a new target is registered, mappings are made to a single internal protocol. This target then becomes available through all the supported protocols. When a new protocol needs to be supported, changes are needed in just one place for all registered targets to be enabled.

The SRU standard is the most likely candidate for the internal protocol. It has an extension capability that can be used to carry requests for services like clustering or ranking based on user preferences that are not natively supported. These services will distinguish the Library's web-based applications from those of third parties searching the same target. However, using SRU as the internal protocol also positions the Library to standardise the extensions in order to offer these services to third parties.

The approach illustrated above for Search can also be extended to other services in the Library's service framework in ways that will support current and legacy protocols. The benefits of having a native level of support for standard protocols in the architecture cannot be overestimated. A standards-based service-oriented approach for core services such as Contribute, Alert, Harvest and Request will allow protocols such as SRU Update, RSS, OAI-PMH and OpenURL to be supported across all applications. It will also ensure that these...
protocols are part of the Library's way of thinking when training new staff or prototyping new requirements; and that gaps in standards are identified and addressed through a testbed approach, as part of the development process.

**Ingest and Delivery**

For historical reasons, PANDORA and DCM have been developed as two separate applications, with separate data models and separate Ingest and Deliver services. This has made it hard to decide which system to use for new kinds of materials and new contribution methods. PANDAS has on its enhancement register a requirement to support the deposit of electronic publications in a range of formats. DCM is being enhanced to support the management of subscription service datasets and electronic publications on physical carriers. Meanwhile, the Library has begun using the Open Journal System (OJS) software to assist groups to publish Australian journals on its website. It has a licence for the VTLS Vital software as part of its participation in the ARROW Project, with plans to use this software for an independent scholar's repository. There are also requirements to support mass digitisation for Australian newspapers and journals, with a concomitant requirement for workflow support. For all of these collections, there is a need to implement a preservation management regime that is file format-based and independent of the system used for the lodgement or capture of material.

A service-oriented approach to ingest and delivery would enable the systems used to support collection management and delivery workflows to be separated from the underlying repository. The diagram below shows the various systems that would need to interoperate in the proposed architecture and the interfaces between them.

![Diagram of systems and interfaces](image-url)

Submission systems would use the Ingest service to pass a Submission Information Package (SIP) to the archive. Delivery systems would request a Dissemination Information Package (DIP) from the Archive. Partner archives would submit or request packages as part of a
transfer of content between one system and another. Preservation monitoring and management systems would use a search protocol to request reports from the archive about the status of content in particular file formats.

The Library now has a good understanding of the protocols and data schemas needed to implement this framework - METS for structural metadata, ALTO for OCRd text, PREMIS as a framework for preservation metadata, XACML for access and rights management and ISO 2146 as a framework for registry services. Through its involvement in the APSR Project it has developed an Australian PREMIS profile based on METS and through the IIPC it has been involved in the development of the WARC format for archived websites and open source tools for the large-scale archiving of websites.

The Library is currently considering FEDORA for its repository software solution but what software is used is less important from the architectural point of view than a service-oriented approach with standard interfaces that will allow this software or some of its components to be replaced if a new technology better meets the Library's directions.
APPENDIX 2
SINGLE BUSINESS MUSINGS

Wanted resource

A useful simplification when talking about the digital library business is to think in terms of "the wanted resource". The diagram below shows that physical and digital objects share characteristics such as bibliographic level, whether something is still available from the original publisher or not, whether it is in or out of copyright, whether it is freely available or conditions apply and whether it is available now or in use for some purpose.

![Diagram showing physical and digital objects characteristics]

A collection manager's capacity to manage a wanted resource should not be limited by these characteristics. They will determine how the item will be described, stored and preserved. However the required specialisation only needs to occur at the point where separate workflows take over; for example, when an item is to be digitised or ingested into a digital repository or requires preservation action specific to its carrier and format.

Similarly, a user's capacity to find and get wanted resources should not be limited by these characteristics. They will determine which type of delivery service will be used, whether the delivery service needs to support functions such as authentication, authorisation and payment and how the item will be delivered. However the required specialisation only needs to occur at the point where separate workflows take over; for example, when an item is lent, not copied, and therefore has to be returned.

Topic-based searching

In Libraries Australia, users can search or browse authority files to find the preferred forms of headings and navigate to linked resources. However, the workflow to do this is not user friendly. It is unlikely that more than a handful of users would even know that this functionality is there. Browsing authority files is more integral to the discovery workflow in the Library's catalogue but users still need to know what search options to select and the navigation to linked resources is cumbersome. The default keyword search does not exploit the reference structures in authority files.

Earlier this year, the Library demonstrated the importance of relevance ranking to successful search outcomes and implemented a relevance ranked search result in Libraries Australia. A group is now investigating how to cluster search results in ways that will help users to refine their search. This work has raised a number of questions about the Library's trusted aggregations, how they would be presented to users in different business contexts and how the system could help users to find the right terms to search from a simple keyword search.
In the meantime, Music Australia has been implemented with a function that exploits the Australian Name Authority File to enable the discovery of people and organisations as well as resources. A separate parties database has been developed that contains records from the Australian Name Authority File and biographical entries contributed by partner agencies. Searches are conducted across both the resource and parties databases and presented in the form of a single results page, from which users can elect to go to detailed information about a party or a resource. This contextual approach to information is now being explored in a more comprehensive way through the People Australia Project.

A real danger now exists that the Library will provide four different ways of exploiting authority files in its services, each implementing a different paradigm, some less successful than others and none really solving the problem of enabling successful search outcomes regardless of where the user has started their search. The Library is currently in a very good position to change this outcome, with opportunities to leverage off scheduled projects such as People Australia and RAAM and to extend the thinking already done through Music Australia and the Catalogue Access Review Working Group. By getting library staff across all programs to think about discovery as a single business extraordinary benefits can be realised. As an early priority the Library needs to look at how the new search paradigms piloted in Music Australia and planned for Libraries Australia and People Australia can be extended to all search contexts, including the new NLA Catalogue.

A promising approach seems to be looking at search as a two-step process. The first step retrieves results by searching for both topics and resources. If a wanted resource is ranked high on this page the user can step through to full details about the resource and how to get access to it. Else the user can refine or extend their search by selecting a wanted topic.

The diagram below gives a very early idea of what the results page might look like and how it would differ from the topics page:

In this model, the intermediate results page is divided into seven zones:

- Zone 1 displays the user's search terms.
- Zone 2 provides a spell checking facility.
- Zone 3 ranks topics that meet the search criteria.
- Zone 4 ranks resources from the default collection that meet the search criteria.
- Zone 5 reports hits against all available collections.
- Zone 6 provides options for refining the search based on clusters of information in the retrieved resource descriptions.
• Zone 7 lists guides that might be relevant to the user's need if they had conducted a broad search such as family history.

The topics page has a similar structure but in the model zones 2 and 3 are no longer needed so this space can now be used for a scope statement with links to known entries on the topic and a picture illustrating the topic if one has been assigned. There are opportunities for the topics page to be further refined by what the system knows about the topic. For instance, if it is a person, users could have options to limit the results to resources by or about the person.

In this model topics are not limited to Australian parties as in Music Australia or People Australia. The full set of authority files are searched to provide the ranked list of topics. This search is also not limited just to the Library's authority files. It searches the full text of biographical entries harvested for Music Australia and People Australia and could also search other sources such as gazetteers and the Wikipedia. The existence of a heading in the authority file may be sufficient for a search to be successful. The page may meet the user's need solely through the resources retrieved by the search. The model also incorporates the idea of allowing users to say that none of the listed topics meet their needs and to create a new topic and add a scope note and picture as part of the process.

With careful design, this model could render irrelevant the concept of local authority files, or authority files limited to a specific logical view with implications for how authority control is performed, both within the Library and nationally.

User participation

The idea of allowing users to say that none of the listed topics in a results page meet their needs and to create a new topic is just one of the ways in which users might collaborate with the Library in the development of content and its interpretation. A user might also want to resolve duplicate topics on result pages, merge resource descriptions, move a topic or resource higher in the result set ranking, take a resource out of an FRBR cluster, correct metadata or rate, annotate or tag a topic or resource. These are the kinds of things that users are expecting to do on the Internet. A page that does not allow some kind of interaction is now starting to look inert. New technologies such as Ajax are making it easy to change data displayed in a browser without having to reload the whole page.

The interesting thing about these scenarios is that they are not all instances of annotation. Some involve changes to topics and resource descriptions. This is an area where libraries have traditionally maintained strong control but there is an army of users who could become passionate advocates for improving the quality of content if this was facilitated through the interface. Cataloguers, reference librarians, project partners and subject experts all have skills that could be brought to bear.

There is a number of things that could be done in the architecture to position the Library to experiment with different layers of user collaboration. These include the implementation of authentication and authorisation services that support a range of different trust models, the capability to view previous versions of a record and to roll back to a previous state if a mistake has been made and the capability to treat some kinds of changes as suggestions.

Because of the federated nature of the Library's services, enhancements to metadata made through the Library's interfaces may need to be shared with contributors and vice versa. There are also other ways in which users might collaborate to enhance content. For instance, cataloguers or subject experts might work in their own online spaces, using standard protocols to update the federated data corpus. A general user creating a new topic might do so through the Wikipedia.
**Matching and merging**

The Library's ability to take risks with user participation and to roll back changes might be enhanced by an alternative "soft" approach to matching and merging records. Instead of doing matching and merging on ingest, contributed records could be retained and combined for searching and display purposes. This would have to be done not only for searching and display but also for any type of product the Library exchanges with other partners or services.

The need to exercise caution with the current approach both to ensure a quality product and because it is not trivial to roll back changes means that high thresholds are set for matching and merging and considerable staff time is needed for review of near matches. The extent to which “crowd sourcing” might assist in ongoing quality improvement of the data corpus is something that the Library needs to explore and the soft approach might enable this. Another benefit of the soft approach is that the provenance of the data would not be lost and this could make the NBD more amenable to functioning as an OPAC.

Regardless of where matching and merging is undertaken it incurs a relatively similar load on resources and for some events such as global corrections on the database there could be some adverse implications for the capacity and rate of these changes. The successful outcomes of any matching or merging process is contingent on the robustness of the programs used for determining duplication, the consistency and quality of the data provided by contributors, and the interfaces that are provided to support human intervention in matching and merging.

The Library plans to move to an FRBR view of bibliographic resources to provide searchers with a more useful search result set and to display bibliographic resources in context. The same matching rules used to combine records at the FRBR manifestation level can be applied to create a synthetic MARC record for close copy cataloguing purposes if required. Under current conditions Australian cataloguers would still want accurate and discrete manifestation level records for copy cataloguing.

Any move to implement a soft matching process would have to take into consideration the storage and performance implications, how the quality of cataloguing products could be maintained, how global change would work and how legacy data would be handled.

**Branding and marketing**

The single business approach supports the development of separate business contexts that can have their own home page and behaviours tailored to the kind of material being searched. Stylesheets can also be used to provide a different look if required. There will be constraints on the extent to which each of these "services" can use different paradigms for discovery and access but this will contribute to a consistent user experience.

As a general principle, each business context should enable users to extend their search in a seamless way to other kinds of material if required. Topic-based searching and reporting of search results in other collections will be a primary strategy for achieving this.

Below is an example of how the newspapers context might look using a single business approach:
The Library’s current applications are branded and marketed separately. Although it will be possible to do this for each business context, the Library will need to think hard about whether this is really meeting user needs. Branding and marketing the Library’s discovery service as a single business will simplify business planning for the Library and choices for users, while still allowing the different business contexts to be promoted separately as products of the service.

The infrastructure will still support all three approaches - the development of separate applications, the deployment of a business context with separate branding and the deployment of a singly-branded business in different business contexts. The Library will need to look closely at the configurations needed to meet its directions, taking care that the applications and contexts it promotes are meaningful to users. In doing so, it will need to think of logical views of the data corpus and access to them through machine interfaces as being significant products in their own right and promote them accordingly.

If it is decided to retain an existing service as a separate application, it will still be important to migrate it to the service-oriented architecture to minimise support costs and reap the benefits of sharing technical services.

Partnerships and other issues

Traditionally, the Library’s business partners have been other libraries, booksellers and publishers and metadata aggregators and document providers. In recent years the Library has increasingly engaged with other collecting agencies and also with search engines, as a means of making items in the national collection discoverable, and with online bookshops as a means of making them accessible. In an increasingly digital world the Library may find new partners in unexpected places. Certainly, its data may be used in ways it had not anticipated. The Wikipedia and Google Scholar may emerge as two important new partners with whom the Library may need to establish a formal business relationship: the Wikipedia because of its...
importance as a source of information in topic-based searching, and Google Scholar because of the need to find an alternative to metasearching for discovering journal articles.

The Wikipedia is constantly growing and developing its business and content model. In a recent development it is enabling Wikipedians to input biographical details in a structured form in entries about people. The Deutsche Bibliothek has exploited this feature to provide links to records in its catalogue from German Wikipedia entries. This is just one of the ways in which the Library might take responsibility for an Australian subset of the Wikipedia in order to deploy it effectively in its own topic-based searching and to enable access to items in Australian collections from Google and Wikipedia searches.

The Journals Australia project will help the Library to enhance its data corpus with metadata and full text indexes for Australian journals but it will not address the issue of enabling access to the content of overseas journals held in Australian collections either physically or by being made accessible through subscription services. The higher education sector has been trying to address this issue through metasearch portals that allow users to search across large numbers of databases but it is becoming increasingly clear that this model is not really working. The Library's current strategy for providing access to journal articles has been to describe aggregations at collection level through its E-Resources service. Even here there are issues with enabling access to collections the Library's users are authorised to access from other points of need such as the catalogue, Libraries Australia or Google Scholar.

At the moment Google Scholar's coverage is not exhaustive and a search of a general subscription database like Academic Search Premier and Google scholar for the same topic will find very different results. On the other hand, Google Scholar provides free access to the content it does index and it has a service enabling users to link through to library holdings. It may be that collection-level access through an E-Resources business context together with the use of Google Scholar as an extension to the Library's data corpus for journal articles may do enough to meet this need, particularly if the Library works actively to help make Google Scholar more comprehensive in its coverage.

In the Library’s own discovery service, it would probably be sufficient to know the user's affiliated library through cookies to pass the URL of a licensed resource to the affiliated library's OpenURL Resolver Service. The user would then either get direct access to the resource or be prompted for local authentication if a higher level of authorisation was required. This would require the Library to encourage libraries to set up a resolver service. Another service the Library might offer libraries is to package up their subscription holdings in the format required by Google Scholar on their behalf. This would be a good way of ensuring that there was current volume and issue data in NBD holdings statements. A task to derive E-Resources from the catalogue has been on the Library's books for a number of years. One could imagine providing library-specific views of E-Resources as one of the products enabled by encouraging libraries to record their subscription holdings on the NBD.

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LIBRARIES AUSTRALIA FORUM 2007 &
REPORT ON THE LIBRARIES AUSTRALIA FORUM 2006

The Libraries Australia Forum provides an opportunity for participants to network about library practice and issues relating to Libraries Australia services, as well as be informed about new developments.

The Forum in 2007 will be held on 6th September in Brisbane at the State Library of Queensland. A local committee of Queensland libraries is assisting Libraries Australia staff with the organisation. The programme is still to be finalised, and a draft is available at <http://www.nla.gov.au/librariesaustralia/aum/lafo7/agenda.html>.

Meetings of the Libraries Australia Advisory Committee, Libraries Australia Training Agents, and the Australian Committee on Cataloguing will be held in conjunction with the Forum.


Recommendation

That the Libraries Australia Advisory Committee notes the Forum 2006 summary.

Collaborative Services Branch
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4 April 2007
ATTACHMENT 1

REPORT ON THE 2006 LIBRARIES AUSTRALIA FORUM

The first Libraries Australia Forum was held at the University of Melbourne Law Faculty on 3rd November 2006. The Forum replaced the former Kinetica Annual User Meeting, the last of which was held in Perth, Western Australia in 2005.

There were 300 registrations for the Forum, a record number. The Melbourne Organising Committee was instrumental in raising awareness of the Forum. The University of Melbourne provided the venue at no cost, which resulted in lower registration fees. This may have encouraged attendees from other states and territories to attend.

The key presentations at the Forum focussed on the successful completion of Stage 2 of the Kinetica Redevelopment Project; introductions to new projects undertaken; relevant case studies and the future directions of Libraries Australia.

Attendees were requested to fill out an evaluation form prior to departing from the Forum and more than two thirds of attendees did so. It should be noted that the number of respondents to the evaluation in 2006 was more than twice that of 2005.

The evaluation form gave attendees the opportunity to comment and offer suggestions on the following aspects:

- Overall meeting
- Parallel sessions
- Quality of presentations
- Meeting content
- Opportunities for discussion
- Meeting venue
- Meals and refreshments
- Helpfulness of Libraries Australia staff
- Any further comments.

Overall meeting

Ninety six per cent of respondents to the evaluation rated the Forum overall as above average or excellent, with the remainder rating it as average. This compares with ninety five percent rating the Kinetica Annual Users meeting as above average or excellent in 2005.

Parallel sessions

The parallel sessions resulted in a variety of comments. The session on end user access was well received. Some comments were that sessions could have been more specific – eg the future of cataloguing, and that the time was not long enough (also cataloguing). The time of the parallel sessions was 30 minutes longer this year after similar comments last year. Some smaller libraries felt disadvantaged in only being able to attend one parallel session, as their duties covered multiple roles. Each of the sessions drew appreciative comments. There was a call for feedback from the parallel sessions to be included in the Forum.

Only three percent of respondents rated the parallel session as below average. Eighty two percent rated the sessions as above average or excellent, and twenty one percent as average.
Quality of presentations

Many respondents described the sessions as informative. Some found them stimulating, thought provoking or inspiring. They appreciated the focus on the future, and singled out Tony Boston’s presentation on Engaging New Audiences, and Kent Fitch’s presentation on A New paradigm for Getting. There were many comments on the excellent quality of presentations; however one responder suggested the use of “improved” presentation techniques, not just bullet points.

Meeting content

Ninety four percent of respondents rated the content of the Forum as above average or excellent. Comments were made about the breadth of topic. One respondent saw the presentations as a “good mix of big picture/innovative/strategic material with technical/detailed [material]”.

Opportunities for discussion

Seventy six percent of respondents rated the opportunities for discussion as above average or excellent, compared with seventy eight percent in 2005. Twenty one percent rated these opportunities as average, and only 3 percent below average. Some respondents would have liked more sessions for discussion, although others appreciated the opportunities for interaction and feedback, and for meeting with colleagues.

Meeting venue

Ninety two percent of respondents found the venue excellent or above average and 7 percent found it average. Only one respondent rated the venue less than average (poor). Most found the venue comfortable, spacious and convenient. There were some comments about the inadequacy of signage to the theatre and toilets and the crowding of the Document Delivery parallel session. Several people commented about the difficulty in finding the venue; however the map on the Libraries Australia web page clearly indicated the location of the venue and the helpfulness of the map was commented on by a number of respondents.

There were comments regarding lack of seating for lunch; however there were a great many more seats than in 2005 and a number of people enjoyed the opportunity to take their lunch out to the park opposite.

Meals and refreshments

Given the number of attendees at the forum, lunch boxes were introduced. Responses and comments regarding the catering were very pleasing considering a departure from the normal buffet meal. All attendees were promptly provided with lunch, whereas queues for a buffet lunch would have been lengthy. The percentage of people that rated catering as above average or excellent in 2006 (eighty five percent) was comparable with the result in 2005 (eighty eight percent). The three percent that rated the catering as below average can be attributed to the queues for tea and coffee, and the dislike of the lunch boxes (1 person). One person commented that it was the first time (s)he had seen “biodegradable disposable cutlery from a renewable source”.


Helpfulness of Libraries Australia Staff

Ninety seven percent of responses rated the helpfulness of Libraries Australia staff above average or excellent, compared to ninety eight percent last year. Three percent found staff helpfulness average, and none found it less than average. A number of people also commented that it was good to meet the staff and put faces to names of people they have dealt with.

Any further comments:

There were several bouquets for the Chairperson, Anne-Marie Schwirtlich, and positive comments on the library tours, although one person found the tours “gruelling”, and wanted more time between libraries.

Other comments included the need for printed notes or copies of slides and appreciation for placing presentations on the Libraries Australia Website. Several respondents liked the idea of having reports printed in the delegate packs, instead of taking up time with verbal reporting during the day; one person, however, felt that the reports should have been presented.

Overall the evaluation forms rate the Libraries Australia Forum of 2006 a resounding success. There was enthusiastic praise for the overall program and content, and for the presenters.

Suggestions for improvement next year were constructive. The recommendations to be taken into account for the Libraries Australia Forum 2007 include:

- More tea and coffee stations to facilitate serving large numbers of people;
- Better facilities for parallel sessions to facilitate a workshop approach, and provide adequate seating for attendees;
- More prominent links to the map displaying the venue on the Libraries Australia Website, and letting people know via the Libraries Australia List the full details of the venue; and
- Improved signage.
FINAL REPORT OF THE EXPERT ADVISORY GROUP TO REVIEW THE GUIDELINES FOR THE CATALOGUING OF ELECTRONIC RESOURCES

Introduction

The Libraries Australia Advisory Committee at its meeting in February 2006 recommended that an Expert Advisory Group (EAG) be established to review and update the Libraries Australia guidelines for the cataloguing of electronic resources and to provide advice on actions that Libraries Australia could take to encourage improved library workflows for managing access to e-resources.

Terms of Reference

The EAG’s terms of reference are:
- Review the issues relating to the cataloguing of electronic resources on the National Bibliographic Database;
- Facilitate discussion with Libraries Australia users on this issue;
- Review and, if necessary, update the Libraries Australia guidelines for the cataloguing of electronic resources;
- Provide recommendations to Libraries Australia on actions it could take to encourage improved library workflows for managing access to e-resources.

Membership

In July 2006 expressions of interest for membership of the EAG were sought via Libraries Australia-L. All expressions were accepted and the EAG members are:
- Anatta Abrahams (State Library of NSW)
- Carmel Denholm (State Library of Tasmania)
- Lisa McIntosh (University of Western Sydney)
- Dorota Pudlowski (La Trobe University)
- Julie Whiting (National Library of Australia)
- Bemal Rajapatirana (Libraries Australia) (Secretary)
- Rob Walls (Libraries Australia) (Convenor)

Report on Progress

As reported previously, this EAG met for the first time on 30 August 2006 and draft Guidelines for cataloguing remote access electronic resources were made available for comment via the EAG web page on 28 September. The EAG considered the comments received from Libraries Australia users and many were incorporated into the guidelines. Following further EAG teleconferences, the final version of the guidelines was completed in January.

The new guidelines were made available on the Libraries Australia web site (http://www.nla.gov.au/librariesaustralia/dg_raer.html) and publicised via email lists during February. They provide guidance and advice when cataloguers are creating or editing bibliographic and holdings statements for remote access electronic resources.
The guidelines consolidate, extend and replace the previously and separately issued electronic resource guidelines:

- Guidelines for cataloguing of electronic resources
- Guidelines for the Cataloguing of E-Book resources
- Guidelines for electronic resource holdings statements on the NBD

The main changes compared with the previous guidelines are:

- adoption of an aggregator neutral record policy
- recommended and preferred use of persistent identifiers in the Electronic location field (856)
- the requirement for availability notes in holdings statements only when items are not available for document delivery or have other access restrictions
- the option to include an extent statement for remote access materials
- optional inclusion of the Electronic location field (856) when using the Additional physical form note (530) when describing both the original and alternate form in a single record
- systems requirements notes only for detailing special access requirements and not for standard browser access
- inclusive examples for a range of material types (e.g. monographs, journals, thesis)
- the practice of using a series added entry field (830) to aggregate records within datasets will be discontinued.

The discontinuation of the use of series added entry fields (830 tags) will require a transition period for some electronic collection sets established and maintained by Libraries Australia. Staff need to determine the impact of this change on the ability to produce the current dataset products and on the co-contributors who supply data, for example, the Australian Bureau of Statistics who supply data for their AusStats collection. It will be possible to use field 091 to flag some datasets however further investigation is needed to determine if this solution will work for all datasets.

Libraries Australia are in the process of reviewing the specific policy changes in these guidelines and where required will apply any relevant changes to the general Cataloguing Standards pages on the Libraries Australia web site and also to the Cataloguing Client manual. As an example, the Libraries Australia Cataloguing Standards documentation will be updated to reflect that physical description is now permitted for remote access resources in tag 300.

During its meetings the EAG also recommended a number of actions which Libraries Australia could take to support improved library workflows for managing access to e-resources:

1. Currently Libraries Australia has an agreement with Serials Solutions whereby Australian Serial Solutions customers can opt to have a copy of their data supplied to the ANBD. The EAG recommended that Libraries Australia investigate establishing similar arrangements with other e-resource management services such as Ebsco, Swets and TDNet.
2. Improve access to e-resources by including e-resource management services in national consortium licencing proposals, and include provision for Australian library holdings from these services to be copied to the ANBD.
3. Establish a wiki to facilitate discussion of e-resource workflow issues.
4. Consult with Libraries Australia users as to whether it would be desirable to produce guidelines for the cataloguing of physical format e-resources or whether these are adequately covered in existing cataloguing standards and guidelines.
5. If needed, add a new encoding level to flag machine generated records and those converted to MARC 21 from other schema such as Dublin Core.
6. Request a change to MARC 21 bibliographic and holdings formats to support a flag for “freely available” online resources. Currently these are flagged using free text in subfield 856$z.
7. Develop a link checking service to advise the publisher or record contributor when broken links are found in ANBD records.
8. Encourage libraries to contribute updated URLs to the ANBD.

Recommendation

That the Libraries Australia Advisory Committee note the report and record its thanks to the members of this Expert Advisory Group.

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28 March 2007
AUSTRALIAN NATIONAL BIBLIOGRAPHIC DATABASE:
DATA QUALITY REPORT

This paper reports on current initiatives aimed at improving the quality of the Australian National Bibliographic Database (ANBD).

Quality Improvement Plan 2006-2007

The ANBD Quality Improvement Plan was revised in October 2006. It provides a basis for the ongoing data quality maintenance and enhancement activities in 2006 and 2007. The plan highlights activities including: duplicate record removal, maintenance of subject headings, and maintenance and enhancement of data validation and matching. The plan is available on the Libraries Australia website at: http://www.nla.gov.au/librariesaustralia/nbdqual.html

Record Import Service

80 libraries are now contributing to the NBD using the RIS. During the period the following libraries began using the RIS:

- Australian Competition and Consumer Commission
- Australian Film and Sound Archives (testing completed)
- Australian Parliamentary Library (including a large retrospective data load)
- Gold Coast City Council Library Service (testing underway)
- Leichhardt Library (testing underway)
- Mackay City Library (testing underway)
- Marrickville Council Library Service (testing underway)
- Northern Regional Library (testing underway)
- Rockdale City Library
- Royal Victorian Eye and Ear Hospital (Ronald Lowe Library)
- St. Vincents Hospital (Sydney) (testing underway)
- Victorian College of the Arts Library

Other significant RIS activities:

- The University of Western Sydney, Ward Library deleted and re-supplied approximately 18,000 holdings.
- The University of South Australia resumed their holdings refresh project, with a further 42,000 records sent for holdings-only loads.
- Australian Defence Force Academy (ADFA) has begun sending holdings delete files.

Reviewing

The number of records awaiting review by NBD staff is approximately 28,000. This is a reduction of approximately 32,000 compared with November 2006. During the period additional temporary staff were engaged to help reduce the backlog.
NBD staff removed 346 duplicate records that were reported by Libraries Australia users.

**Global Data Updates**

During the period holdings deletions were performed for the following institutions:

- Australian Centre for International Agricultural Research Library (257 holdings)
- Brisbane City Council Library Service (322 holdings)
- Burleigh Baptist Theological Library (1283 holdings)
- Canning College (W.A.) (12,475 holdings)
- City of Sydney Library (316 holdings)
- CSIRO’s Australian Resources Research Centre (7600 holdings)
- Federal Court of Australia Library & Information Services (2481 holdings)
- Grains Research and Development Corporation (362 holdings)
- James Bennett Library Services Pty Ltd (1680 holdings)
- Leichhardt Library (32291 holdings)
- Mercy Hospital for Women (Melbourne) (763 holdings)
- NSW. Dept of Corrective Services (2086 holdings)
- Pandora collection set (11,316 holdings)
- Perth Campus Learning Resource Centre (947 holdings)
- Southern Cross University (5000 holdings)
- University of Canberra (2728 holdings)
- University of Melbourne (1618 holdings)
- University of NSW (27,974 holdings)
- Woollahra Library (1032 holdings)

During the period the following holdings transfers were performed:

- Hallstrom Collection holdings from the University of NSW to ANU (1560 holdings)
- Logan Institute of TAFE Library to Metropolitan South Institute of TAFE Mt Gravatt Campus (134,000 holdings)
- University of Newcastle Ourimbah Campus Library to their Auchmuty Campus Library (16,000 holdings)
- University of Sydney Health Sciences Library to University of Sydney Library (28,000 holdings)
- Victoria College of the Arts to University of Melbourne (33,452 holdings)

Bibliographic global changes during the period included:

- Deletion of incorrect 099 fields – 10 953 records updated;
- 3400 records had obsolete relator codes in name headings changed from “cst” to “act”
- 2130 records had codes changed from “fme” to “flm”
- 99,281 records had invalid country of publication codes changed from "us" to "xxu"
- 59,709 had invalid country of publication codes changed from "uk" to "xxk"

**Subject Headings**

Library of Congress approved six new LCSH headings for Aboriginal people and languages that were proposed by Libraries Australia:
Non-roman scripts

During the period a further 3,000 Chinese Name Authority records were reviewed and Wade-Giles headings were converted to Pinyin. This brings to over 10,000 the number of headings reviewed since this project commenced in 2006. In the next 12 months the remaining Wade-Giles headings in the subject authority file will be changed to Pinyin.

Testing of the creation, indexing and output of Cyrillic, Greek and Tamil scripts has been completed successfully. User documentation was prepared and Libraries Australia users were advised that these scripts may be included in records created in Libraries Australia or supplied to the ANBD via the Record Import Service. Testing of Arabic and Hebrew scripts is underway.

Assistance was given to help the National Library and Monash University to upload their Unicode non-roman script records through RIS at the beginning of the year.

The University of Sydney sent their first batch load of CJK records through RIS in February. The file contained a number of non-MARC8 CJK characters which could not be converted correctly when loaded to Libraries Australia. These characters were corrected in Libraries Australia however further loading of CJK data from this source is dependent on a permanent solution to ensure that these characters are converted to the correct MARC8 values.

Non-roman script records in Libraries Australia as at the end of March 2007:

Bibliographical records
- Thai 2,200
- Cyrillic 500
- Hebrew 640
- Greek 7
- Tamil 12
- Thai 650
- Chinese 422,000
- Japanese 310,000
- Korean 98,000

Authority records
- Chinese 3,900
- Japanese 20
- Korean 10
Automated de-duplication

In 2006 testing of the CBS automated de-duplication program found a bug in the software. This problem was reported to OCLC PICA and has been rectified in the latest CBS 3.2 offline release. Unfortunately the implementation of CBS version 3.2 has been delayed due to the limited availability of IT staff and because the test environment was not available for CBS testing in March as it was fully utilised for investigation of the Libraries Australia Search index problems. It is expected that the testing of CBS 3.2 will commence in mid-April; this will include testing of the automated de-duplication functionality.

Serial Solutions records

The State Library of South Australia and Edith Cowan University Library have opted to have a copy of their Serials Solutions records supplied to the ANBD. They join the National Library and the state libraries of New South Wales, Western Australia and Tasmania.

Recommendation

That the Libraries Australia Advisory Committee note the report.

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2 April 2007
Purpose Statement

This think piece tells why the online library catalog fell from grace and why new directions pertaining to cataloging simplification and primary sources will not attract people back to the online catalog. It proposes an alternative direction that has greater likelihood of regaining the online catalog's lofty status and longtime users. Such a direction will require paradigm shifts in library cataloging and in the design and development of online library catalogs that heed catalog users' longtime demands for improvements to the searching experience. Our failure to respond accordingly may permanently exile scholarly and scientific information to a netherworld where no one searches while less reliable, accurate, and objective sources of information thrive in a paradise where people prefer to search for information.

The Impetus for this Essay

The impetus for this essay is the library community's uncertainty regarding the present and future direction of the library catalog in the era of Google and mass digitization projects. The uncertainty is evident at the highest levels. Deanna Marcum, Associate Librarian for Library Services at the Library of Congress (LC), is struck by undergraduate students who favor digital resources over the online library catalog because such resources are available at anytime and from anywhere (Marcum, 2006). She suggests that "the detailed attention that we have been paying to descriptive cataloging may no longer be justified ... retooled catalogers could give more time to authority control, subject analysis, [and] resource identification and evaluation" (Marcum, 2006, 8).

In an abrupt about-face, LC terminated series added entries in cataloging records, one of the few subject-rich fields in such records (Cataloging Policy and Support Office, 2006). Mann (2006b) and Schnideman (2006) cite evidence of LC's prevailing viewpoint in favor of simplifying cataloging at the expense of subject cataloging.
The Online Library Catalog: Paradise Lost and Paradise Regained?

LC commissioned Karen Calhoun (2006) to prepare a report on "revitalizing" the online library catalog. Calhoun's directive is clear: divert resources from cataloging mass-produced formats (e.g., books) to cataloging the unique primary sources (e.g., archives, special collections, teaching objects, research by-products). She sums up her rationale for such a directive, "The existing local catalog's market position has eroded to the point where there is real concern for its ability to weather the competition for information seekers' attention" (p. 10). At the University of California Libraries (2005), a task force's recommendations parallel those in Calhoun report especially regarding the elimination of subject headings in favor of automatically generated metadata.

Contemplating these events prompted me to revisit the glorious past of the online library catalog. For a decade and a half beginning in the early 1980s, the online library catalog was the jewel in the crown when people eagerly queued at its terminals to find information written by the world's experts. I despair how eagerly people now embrace Google because of the suspect provenance of the information Google retrieves. Long ago, we could have added more value to the online library catalog but the only thing we changed was the catalog's medium. Our failure to act back then cost the online catalog the crown. Now that the era of mass digitization has begun, we have a second chance at redesigning the online library catalog, getting it right, coaxing back old users, and attracting new ones. Let's revisit the past, reconsidering missed opportunities, reassessing their merits, combining them with new directions, making bold decisions and acting decisively on them.

**Why the Online Catalog Fell from Grace**

This brief account of end-user searching tells why the online catalog fell from grace.

*The Reign of the Online Catalog*

By the early 1980s, a critical mass of online catalog deployment had been achieved across the United States. A nationwide survey demonstrated that over 80% of library users held favorable views of this new form of the catalog (Markey, 1984, 2; Matthews, Lawrence, and Ferguson, 1983, 152). The decade and a half beginning in the early 1980s was the golden age of the online catalog, because library users depended on it almost exclusively for finding information on the topics that interested them (Farber, 1984). The online catalog was and still is an appropriate place for people to start their search for information because books synthesize human knowledge about particular phenomena in and across disciplines. They span large intellectual spaces, tackle mammoth problems, make more intensive cases than all other literary genres, and undergo rigorous editorial review.

*Paradise Lost*

From the start, users wanted subject searching improved in online catalogs (Besant, 1982), they told us subject searching was difficult (Markey, 1984, 81-84; Matthews, Lawrence, and Ferguson, 1983, 155-164), and they wanted tables of contents and journal articles added to the catalog's database (Markey, 1984, 84-87; Matthews, Lawrence, and Ferguson, 1983, 118-120). Through its Bibliographic Service Development Program (Haas, 1978), the Council on Library Resources sponsored a long list of researchers to demonstrate subject access improvements to online catalogs (see list specifics in Drabenstott, 1991). By the early 1990s, researchers recommended these solutions:

1. Make subject searching in online catalogs easier using post-Boolean probabilistic
searching with automatic spelling correction, term weighting, intelligent stemming, relevance feedback, and output ranking (Hildreth, 1989, 1995; Drabenstott, 1991; Walker, 1989)

2. Streamline users' book selection decisions at the catalog by adding tables of contents and back-of-the-book indexes to cataloging (i.e., metadata) records (Atherton, 1978; Wormell, 1981; Markey and Calhoun, 1987)

3. Reduce the many failed subject searches by expanding the online catalog with *full texts*—journal and newspaper articles, encyclopedias, dissertations, government documents, etc. (Drabenstott, 1991; Tiefel, 1991)

4. Increase finding strategies in online catalogs through the library classification (Markey and Demeyer, 1986; Larson, 1991)

The reasons why these solutions were not applied to online library catalogs to transform the user experience are subtle, nuanced, and varied: (1) the library profession's longtime obsession with descriptive cataloging, (2) the focus of the technical services department on other priorities, e.g., retrospective conversion, cataloging backlogs, authority control, etc., (3) the profession's conscious shift away from supporting technical services in favor of public services, (4) the ever increasing per-item cataloging cost, (5) the failure of the research community to arrive at a consensus about the most pressing needs for online catalog system improvement and to field cost-conscious solutions, (6) failure of the library staff issuing the Requests for Proposals (RFPs) to act in concert about needed system improvements, (7) lower-than-inflation funding allocations for libraries, (8) the costs of building collections and licensing resources pushing well beyond the rate of inflation giving rise to the open-access movement, (9) the high cost of integrated library system (ILS) technology generally, and (10) the failure of ILS vendors to monitor shifts in information-retrieval technology and respond accordingly with system improvements. In the end, widely disconnected organizations and market forces failed to converge in a direction that kept users queuing at the online catalog.

**The Reign of Google**

In the late 1990s, the World-Wide Web grew exponentially. For-profit software vendors deployed search engines such as Alta Vista, Excite, and Hotbot to showcase full-text searching to prospective software purchasers specifically and to Internet searchers generally. Ironically these systems embraced post-Boolean searching, the very technology that online catalog vendors eschewed (Calhoun, 2006, 26; University of California Libraries, 2005, 17; Yu and Young, 2004, 168). By the early 2000s, Google, a for-profit company with the objective of "organizing the world's knowledge" (Google, 2005), registered 700 times more searches on a daily basis than the online library catalog for the statewide campuses of the University of California served on a monthly basis (Cooper, 2001; Sherman, 2003).

Google now reigns. Given the company's tremendous investment in digitization projects (Google, 2004), Google has every intention of keeping its exalted position for some time to come. The company has deep pockets, innovative leadership, high-level technical talent, and a proven track record on delivering successful products to the marketplace.

**Why Do People Prefer Google as a Starting Point?**

To answer this question, this section summarizes a quarter-century of research findings about people's information-seeking behavior.

**Searching for Information in the Library Puts People on an Emotional
Roller Coaster

"I despise searching the library for books and other sources. It takes a long time and rarely can you find sources needed. This difficult process is the first thing I think of when I think of using the library" (De Rosa et al., 2005, 1-22).

The frustration that this 18-year-old expresses about searching for library resources fits the Information Search Process (ISP) model to a "T" (Kuhlthau, 1993). Not only does the ISP model tell us that people experience a wide range of negative and positive emotions during their search for information, it tells us exactly what they are doing when their emotions roller coaster up and down (Kracker, 2002; Kracker & Wang, 2002; Swain, 1996).

Putting One's Information Needs into Words Is Downright Difficult

Many researchers express surprise at the brevity (from one to three words) of the queries people submit to online systems (Markey, in press). Belkin (1980, 137) tells why so few words make up their queries, "Precisely because of the inquirer's lack of knowledge about a problem area, it is impossible to specify what would resolve it." For Belkin, the saving grace is the inquirer's ability to recognize what he or she wants or does not want during the course of the search. Therein lies an important solution to the problem—information systems that report results for easy eyeballing and instantaneous recognition of relevant possibilities.

Domain Expertise—It's All about Knowing What You Want and Where to Look

Domain experts—scholars, scientists, and experienced researchers who have expert knowledge of their discipline as a whole and in-depth knowledge about a couple of ideas that ranks them amongst the world's experts—know the unanswered research questions, sticky controversies, and active scholars in their discipline. Rarely, if ever, do they need to conduct the brute-force subject searches that characterize the searches of domain novices (Ellis, 1989; Land & Greene, 2000; Drabenstott, 2003). When they are stumped, their standing in the field gives them carte blanche to contact the world's experts to get answers to questions about who is doing research or has published on a topic. Primary sources are truly the intellectual playground of domain experts: they use primary sources to make new discoveries, and the by-products of their research are the creation of new primary sources.

Most people are domain novices about their topics of interest. Undergraduate students especially are just beginning to learn the summary knowledge of a discipline. They have no depth, do not know the discipline's influential authors, important questions, cutting-edge research, or research methodologies. Building a catalog of the future that is biased toward primary sources does not serve the interests of domain novices. Imagine a future University of Michigan co-ed whose professor assigns her a term paper on Kukulcan. Before cracking open her textbook to learn the absolute basics about Kukulcan, she searches Calhoun's online library catalog of the future and retrieves images of Kukulcan sculptures from the University's Kelsey Museum. Because she has no knowledge of Kukulcan nor the Mesoamerican culture from which Kukulcan derives, she would not understand what the sculptures mean, how to make sense of the minimal metadata usually associated with museum objects such as these, and how the images now figure into her ongoing search for information or the term paper her instructor has assigned her to write.
Diverting our existing online library catalogs away from books to primary sources will drive this co-ed and her peers back to the simplicity of Google as quickly as one can say "Kukulcan."

**Searching for Something One Does Not Know Is Frenetic, Aimless, and Random**

Because many people are searching online systems for something they do not know, their behavior is neither targeted nor direct. "Students often use very chaotic, what they themselves term 'random,' methods for finding materials for their papers. A characteristic comment is: 'I felt kind of aimless, kind of like shooting in the dark, you're going to get something eventually'" (Valentine, 2001, 112).

Debowski (2001, 378) makes similar observations, "It was evident that [people] spent more time inputting, rather than planning a suitable search process. There was little evidence of search quality assessment ... with most entering the next search statement very rapidly ... [People] who search without a solid foundation fail to gain a stronger understanding of the search process. Instead, they appear to develop further erroneous habits as they continue." Land & Greene (2000, 57) attribute such meandering to low levels of metacognitive knowledge, "the process of reflecting on or monitoring the effectiveness of the search process and then refining the process when necessary," and note its pervasiveness in the searches of domain novices.

**People's Starting Point Is Google and the Web**

People start their quest for knowledge and understanding with Google (De Rosa et al., 2005; Awre et al., 2005; Griffiths and Brophy, 2005; Fast and Campbell, 2004; Pew Research Center, 2003; OCLC, 2002; Outsell, 2000). It ranks the most basic, elementary, and easy-to-understand information at or near the top of the heap. If you are not convinced, do a search for something you know nothing about like "kukulcan." Right at the top of Google's list are web sites that tell who Kukulcan is, alternative names for this Aztec god, and, in the case of the Wikipedia entry, links to both online and print sources for learning more.

The World-Wide Web has become the people's *encyclopedia* of choice. Google and other web search engines give people a good start, and, in fact, with Wikipedia links in hand, it gives them a *running* start, for building on their bare-bones, basic knowledge of a topic. The web also satisfies people's voracious appetites for full texts (Bar-Ilan and Fink, 2005). Instead of strolling in the library stacks to find a book, people want to stay put in their homes and offices and retrieve full texts with a click of a button. Asked about the reliability, accuracy, and objectivity of the information they retrieve on the web, people express concern, but there is little evidence that they act on their concern (De Rosa et al., 2005; Griffiths and Brophy, 2005; Fast and Campbell, 2005; Marcum and George, 2003; Outsell, 2000). As such, searching the web specifically, and searching for information generally, conforms to the *principle of least effort*, "The design of any ... information system should be the system's ease of use ... If an organization desires to have a high quality of information used, it must make ease of use of primary importance" (Rosenberg, 1966, 19).

**A Second Chance to Redesign the Online Library Catalog**

To regain the online catalog's lofty status and win back its fair-weather fans, let's redesign an online library catalog that embraces: (1) post-Boolean probabilistic
searching, to ensure the precision of searches in online library catalogs bearing the *full texts* of digitized books, journal articles, encyclopedias, conference papers, etc., (2) subject cataloging, to take advantage of the user's ability to *recognize* what they want or do not want during the course of the search, and (3) qualification cataloging, to enable users to *customize* retrievals that are in keeping with their level of understanding and expertise in a domain.

**Embrace Post-Boolean Probabilistic Searching**

Long overdue is the replacement of our outdated Boolean-based catalogs with post-Boolean, probabilistic retrieval methods that characterize Google and other web search engines ([University of California Libraries](http://www.dlib.org/dlib/january07/markey/01markey.html), 2005, 17). Why does post-Boolean probabilistic searching do so well? Susan Feldman (1998, 40-41) sums it up best:

"These systems are doing what you as [expert] searchers have learned to do yourselves. They look for terms that can distinguish one document from another, they ask for the terms to appear close together in the document, they stem words, and they count words that appear in the title more heavily than those appearing in the rest of the text ... Some systems also try to match query concepts... They enlarge a search beyond the boundaries that the query originally defined."

In the post mass digitization era, every word and phrase from millions of digital texts of all literary genres will be at the fingertips of online library catalog users. Giving users a Boolean-based system to search digitized texts is comparable to giving Captain Kirk a Mercury-era space capsule to travel the galaxy.

**Embrace Subject Cataloging**

When people can search every word that has ever been written, one is hard pressed to find evidence in support of subject cataloging. Yet such evidence has been right under nose for several years, thanks to a report Marcia Bates prepared for the Library of Congress. The evidence pertains to the 30-to-1 ratios that characterize access to stores of information ([Dolby and Resnikoff](http://www.dlib.org/dlib/january07/markey/01markey.html), 1971). With respect to books, titles and subject headings are 1/30 the length of a table of contents, tables of contents are 1/30 the length of a back-of-the-book index, and the back-of-the-book index is 1/30 the length of a text. Similar 30 to 1 ratios are reported for the journal article, card catalog, and college class. "The persistence of these ratios suggests that they represent the end result of a shaking down process, in which, through experience, people became most comfortable when access to information is staged in 30-to-1 ratios" ([Bates](http://www.dlib.org/dlib/january07/markey/01markey.html), 2003, 27). Recognizing the implications of the 30-to-1 rule, Atherton (1978) demonstrated the usefulness of an online catalog that filled the two 30-to-1 gaps between subject headings and full-length texts with tables of contents and back-of-the-book indexes.

In the post mass digitization era, subject headings, class numbers, classification captions, and entries from tables of contents entries and back-of-the-book indexes should figure *prominently* in the post-Boolean probabilistic catalog's:

1. Ranking algorithms. Such algorithms should be profiled to give much higher weights to subject headings, classification captions, and entries from tables of contents and book indexes than to words buried deep in the text.
2. Brief-document displays. Everyone is familiar with Google's brief-document displays that list keywords, phrases, and sentence fragments from retrieved web pages. Users scan these displays to determine what the page is *about* and whether
to link it. Even better would be document titles, subject headings and classification captions to expedite scanning for relevant items in long lists of retrievals.

3. Relevance feedback ("find more like") mechanisms. Relevance feedback algorithms should weight titles and subject headings much higher than words buried deep inside texts. North Carolina State University's new Endeca online catalog gives us previews of relevance feedback for virtual classification browsing points and for faceted LC subject headings (Antelman, Lynema, and Pace, 2006). Mann (2005; 2006a) extols the benefits of maintaining LC subject headings in their current form; Anderson and Hofmann (2006) advocate faceting LC headings.

Expand with Qualification Metadata

Metadata that is essential for users in the post mass digitization age must facilitate their document-selection decisions. Here is a list of document attributes that would enable users to qualify retrievals with greater precision and customize them according to their level of understanding and knowledge of a domain:

- **In** a discipline: in biology, in computer science, in the history of art, in mathematics, in meteorology, in physics, in theology, etc.
- **With** knowledge of this subject at a particular academic level: with an elementary education, with a high school education, with a college education, etc.
- **To what extent** the author is an authority on the topic at hand.
- **For** a particular class of people: for teens, for seniors, for shut-ins, etc.
- **Is** a particular genre or of a particular literary nature: encyclopedias, law, newspapers, poetry, history, bibliography, research, diaries, statistics, state-of-the-art review, dissertation, first-person account, fiction, etc.
- **When** the particular subject took place: 16th century, Age of Enlightenment, Victorian Era, 1939-1945, etc.
- **What** can be done with the document: buy, read, solve, calculate, download, play games, chat, sell, gamble, search, listen, watch, etc.
- **How others** benefited from using the document, i.e., reviews and ratings.
- **What kind of experience** the user gets from the document: scary stories, sad pictures, funny jokes, break-your-heart lyrics, etc.

The above list is by no means comprehensive. Examine the major databases across the disciplines to expand on the above list and to gather the controlled vocabularies these databases use for each attribute. If I was starting my search for Kukulcan, I might be inclined to qualify retrievals by setting with at "a high school education" and is-of at "encyclopedias" attributes. If I was farther along in my exploration, I might up the ante by setting with to "a college education," and is-of to "history," "research," and "bibliography." If I was settling a bet, I might not be concerned about the to-what-extent setting but if I was integrating what I had found into my senior thesis, I would be tempted to set to-what-extent at a "high" level to limit retrievals to domain experts writing in their chosen field.

Again, North Carolina State University's Endeca online catalog gives us a preview—it shows how existing metadata elements can be used to qualify search results. Adding the qualification metadata listed above could make our future post-Boolean probabilistic catalogs even more versatile than what is possible with the metadata in today's cataloging records. Today, people voluntarily add metadata (they call them tags) to texts and multimedia, e.g., web sites (del.icio.us, Shadows, and MyWeb), blog posts (Technorati
and RawSugar), images (Flickr), and videos (YouTube) (Wash and Rader, 2006; Xu et al., 2006). Instead of eliminating metadata, our field should be studying user-added metadata and adding what users want to metadata in the future online catalog.

Ameliorating the Full-Text Retrieval Problem

The recommendations presented in this think piece about post-Boolean searching, subject cataloging, and qualification metadata are intended to ameliorate the full-text retrieval problems inherent with Google/Open Content Alliance digitized text (Tennant, 2005). In the online catalog of the post mass digitization era that searches millions and millions of full texts, imagine the results of your searches for the queries "kukulcan," "aztecs," or "spanish conquest." Each search will result in millions of hits with no guarantee that the top-ranked ones will address your desired topic in depth or at your level of understanding. Enlisting post-Boolean retrieval algorithms on rich, authority-driven metadata is imperative for ensuring the precision of search results in the online catalog of the future.

Building the Future Online Catalog Now

Before mass digitization projects make significant headway, the library community must act on building the future online catalog joining forces with researchers, practitioners, and system designers in related and allied fields to: (1) gather relevant information, (2) test prototype post-digitization-era catalogs, (3) evaluate results and make decisions, (4) assign tasks to willing parties, and (5) execute them.

The information-gathering phase must include definitions of the future online library catalog. Will books dominate or will future catalogs feature the full gamut of scholarly products and by-products? To get us started is Christine Borgman (2006, 2007) with her extensive research on the future of scholarly communication. With regard to subject access in the catalog of the future, we should consider all options, e.g., continuing the status quo, enlisting human indexers to apply faceting, restricting faceting to computer-based approaches, assessing automatic subject cataloging and classification, eliminating subject analysis altogether. Here are examples of subject-access functionality in future online catalog prototypes that should be assessed in the testing phase:

- Ranking algorithms that give the highest weights to the summary data in metadata records such as titles, subject headings, class numbers, and qualification metadata to ensure the precision of ranked output
- Relevance feedback (i.e., "find more like this") mechanisms that weight subject headings, titles, class numbers, and qualification metadata higher than words and phrases buried deep inside digitized texts
- Data elements that users want to see in the catalog's brief displays of retrieved items
- Document attributes that are most useful for qualifying retrievals so that retrievals are relevant and users are intellectually prepared to understand their contents
- Qualification attribute selection routines that are easy for searchers to understand and use
- The role of citation data for searching, ranking, retrieval, relevance feedback, and display
- Ability to display and manipulate full texts, e.g., searching, navigating, underlining, note-taking, writing in the margins, sharing with peers, etc.
- Metadata assignment (i.e., tagging) procedures that encourage users to participate,
perhaps by rewarding them for their assignment

Integration of online library catalog searching into the larger scenario of information seeking generally—Google and the Internet generally, journal searching, searching the invisible web, institutional repository searching, etc.

In the past, the library community has left decision-making to a few key individuals, advisory groups, organizations, or professional societies for reasons that deserve examination elsewhere. No longer should decisions be left to a few. First, we have the technology to be inclusive in the decision-making phase. Second, we are facing an uncertain future in which we may experience a shift in the balance from the primacy of a few large institutions, their collections, authority, and staff expertise to a federation that requires the participation of all in the creation of a new and different comprehensive whole. Third, successful deployment of shared, technology-based decision-making could set the standard for future decision-making within the discipline and inspire other disciplines to embrace the approach. Being inclusive during the decision-making process may be a necessity to secure everyone's participation during task-assignment and execution phases. Finding today's equivalent to yesterday's Bibliographic Services Development Program to support such an ambitious plan of action would certainly facilitate the building of the future online library catalog.

Conclusion

Whether the library community adopts this think piece's recommendations or goes in a different direction, the time is right to rethink library cataloging and online catalogs. Reading and synthesizing Marcum, Calhoun, Bates, Mann, Hildreth, Borgman, Anderson, etc., should be mandatory for everyone who cares about the future of the online library catalog. The next steps must be to engage all interested parties in serious dialogue, system prototyping, decision making, and action so the online library catalog of the future hits the ground running just as mass digitization projects end. Should we fail to act until all the books are digitized and the copyright problems are solved, the last person to leave the digitization workroom may be turning off the lights on the library.

Acknowledgment

The author is grateful to Pauline Cochrane, Martha O'Hara Conway, Paul Conway, C. Olivia Frost, Charles R. Hildreth, Thomas Mann, William H. Mischo, and Soo Young Rieh who provided thoughtful reviews of early drafts.

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