Thursday 2 November 2006,
10.00 am – 4.00pm
University House
University of Melbourne
AGENDA

10:00 am
1. Welcome and introduction, apologies
2. Draft Minutes of the previous meeting and business arising LAAC/2006/3/1
3. Director-General’s remarks (oral)

10:45 am Morning Tea

FOR DISCUSSION

12.30 pm Lunch
8. Libraries Australia Forum – Meeting with Chair – Anne Marie Schwirtlich CEO State Library of Victoria LAAC/2006/3/6

FOR INFORMATION
11. NLA paper on the future of the catalogue LAAC/2006/3/9
12. NLA report on relevance ranking and the ANBD (CONFIDENTIAL) LAAC/2006/3/10
14. Conclusion & Review of resolutions (if any)

4.00 pm Close of Meeting
Draft Minutes of the Libraries Australia Advisory Committee
Teleconference

Thursday 10 August 2006

The teleconference commenced at 11.00 a.m. (AEST)

Present:

Chair    Mr John Arfield
         University Librarian
         University of Western Australia

Members    Ms Linda Luther
            University Librarian
            University of Tasmania

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

            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

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

            Mr Lindsay Harris
            Library Manager
            Queen Elizabeth Hospital, South Australia

            Ms Monika Szunejko
            Manager, Access
            State Library of Western Australia

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 Fran Wilson
Director, Collaborative Resource Sharing Services
National Library of Australia

Ms Bemal Rajapatirana
Acting Director, Libraries Australia Database Services
National Library of Australia

Minutes

Ms Margaret Kennedy
Manager, Libraries Australia Customer Services
National Library of Australia

Agenda item 1  Welcome, Introductions and Apologies

Mr Arfield welcomed members to the teleconference, particularly Ms Szunejko, who replaces Ms Patricia Scott.

Apologies were received from Mr Chris Taylor and Ms Sherrey Quinn.

Agenda item 2  Minutes of the Previous Meeting and Business Arising

Mr Boston reported on recommendations and actions arising from the previous meeting.

Ms Luther reported on discussion at the CAUL meeting in February re pricing models for Libraries Australia. There was lively discussion on this issue, including the relationship between Libraries Australia and university libraries. There was some concern voiced about the Libraries Australia service, in particular, the issues re the Record Import Service at the time.

Ms Fullerton said that she had received a letter from Evelyn Woodberry, and had responded. She expressed disappointment in the tenor of the letter from Ms Woodberry.

Ms Fullerton noted that the next meeting of the CAUL Executive would be on 15 August, but due to short notice of the meeting, no one from the National Library would be able to attend. It was suggested that Dr Cathro and Mr Boston meet with a subset of CAUL members in Perth in September, to discuss the subscription issue and broader issues of the relationship between NLA and CAUL. Ms Luther commented that Libraries Australia had changed considerably over time; however some recognition of the old model needed to be retained.
Ms Luther undertook to let Ms Woodberry know of the discussion in the teleconference today, and follow up with her in Perth.

Mr Boston reported that Anne-Marie Schwirtlich had been invited to chair the 2006 Libraries Australia Forum, and had accepted.

Mr Boston noted that all action items in the minutes of the last Advisory Committee meeting had been completed with the exception of a diary of launches of the Free Libraries Australia Service on the Libraries Australia website. Libraries Australia launches had been conducted in Western Australia, Northern Territory and Queensland. Approximately 200 guests had attended the launches, which had received favourable media coverage. The service had been launched in Western Australia by Ms Kay Poustie following a joint meeting with the State Library Board of Western Australia. In the Northern Territory, Ms Fran Kilgariff, the Mayor of Alice Springs, had launched the service in front of a diverse audience including town councillors and university staff. In Queensland, the State Librarian, Ms Lea Giles-Peters had launched the service.

**RESOLUTION**: That the minutes of meeting of 27 February 2006 be accepted

**ACTION**: Dr Cathro and Mr Boston to meet with members of the CAUL executive in September in Perth to discuss issues raised in correspondence between CAUL and NLA.

**ACTION**: Ms Luther to communicate with Ms Woodberry on the discussion from the Committee’s teleconference.

**Agenda Item 3 Libraries Australia Status Report and Post Project Tasks**

Mr Boston spoke to the Status Report. He indicated that search activity had been well above the target, although the addition of holdings had been lower than the target, mainly due to issues with the Record Import Service. Document Delivery requests had been on target and the Search and Cataloguing services had met agreed service levels during the period. A Service Level Agreement had been signed with the Library’s IT division for support of the service and to date service levels of 99.5% uptime were being met.

Annual subscription invoices had been sent to member libraries during July. A fixed price licence had been negotiated with RLG for one year for unlimited search access to the RLG Union Catalogue. This database had been accessible to all Libraries Australia subscribers since July 2006.

Mr Boston reported that 12 million records from the ANBD had been supplied to Google in February. These records had been re-supplied in July in an effort to improve the quality of matching in Google Scholar. Google had indicated that these records will be available in the main Google search index by the end of 2006.
Mr Boston reported that work continued to be carried out on subscription models. Several alternative models using different parameters had been provided to QPLA for discussion. A population model would negatively impact on two large libraries (Brisbane City and Gold Coast). Ms Tattersall commended the Libraries Australia staff for the work undertaken to develop these models. Ms Tattersall reported that lively discussion had taken place during the QPLA conference. She reported that there had seemed to be confusion as to what libraries would get for their subscription money, and why they should pay if there was a free service. At the conference there had also been discussion on the Aurora Pilot Project developed by the State Library of Queensland for its Country Lending Service libraries. Aurora provides a union catalogue and federated searching. Ms Tattersall said that there was a need for a better understanding of Libraries Australia services, and suggested that it may be appropriate for Libraries Australia staff to visit each of the states and territories and conduct workshops.

There was a query as to whether the holdings of libraries using the Aurora service were also in the ANBD. Ms Kennedy responded that she had received an email concerning the addition of the holdings to the ANBD. Ms Tattersall pointed out that the speed with which these records could be loaded was important.

Mr Arfield stressed the importance of maintaining a broad view of the nature and purpose of Libraries Australia. Ms Tattersall agreed, saying that there was real interest in both operational and strategic issues.

Ms Fullerton stated that CASL did not seem to share the same set of concerns as other library sectors. CASL libraries had a close relationship with the National Library, and had made radical decisions on how to work together, in part due to Libraries Australia. Ms Ellis agreed, saying that state libraries were major contributors and users of Libraries Australia.

Ms Fullerton expressed her appreciation to the group for their understanding of and interest in Libraries Australia subscriptions.

Mr Boston drew the Committee’s attention to recent enhancements to the Libraries Australia search service. Searching of Libraries Australia had increased and it was estimated that 11 million searches would be carried out in 2006. The Free service accounted for 12% of Libraries Australia searches in March-June 2006.

Mr Boston spoke about recent discussions with the Australian Booksellers Association concerning the listing of Amazon.com in Libraries Australia and the action taken in response to their concerns. Mr Boston stressed that Amazon.com would not be removed from the list of booksellers. Libraries Australia was now a global free service. In addition users overseas may follow links from Google to Libraries Australia, and many may prefer to order from Amazon.com. Another issue with the booksellers list in Libraries Australia was the potential for the list to grow, which posed issues for management of the list as well as its use by searchers.
An Expert Advisory Group had been established to review the Libraries Australia guidelines for cataloguing of e-resources, and was expected to complete its work in a three month timeframe.

The Record Import Service was now fully operational, with files from 44 contributors being regularly loaded, including the loading of Unicode encoded data from the University of Melbourne, CSIRO and the State Library of Victoria, which were the first libraries to take up the Unicode option. There were 11 remaining contributor sources to be tested prior to commencement of loading. A problem with record loading in the last week had resulted in the suspension of new loads until affected loads could be resolved. Loading would recommence next week, and a message would be sent to the list about this issue.

Mr Boston said that with the bedding down of the Record Import service, the attention of Libraries Australia staff would turn to data quality over the next six months.

Enhanced requesting was being used by 161 organisations for either their patrons or staff. The Library wished to encourage libraries to offer personalisation and end user access. It was noted that several of the State libraries had voiced concerns regarding the wording of the interlibrary loan request form. This would be followed up with the state libraries.

Planning for the Libraries Australia Forum was progressing well. The Forum would be held at the University of Melbourne Law School on 3 November, and would be opened by Professor Peter McPhee, Deputy Vice-Chancellor. The next Libraries Australia Advisory Committee meeting would be held on 2 November at the University of Melbourne Staff Club.

The draft agenda for the Forum was discussed. It was noted that the Innovation Award had been removed. Ms Szunejko commented that she hoped the cataloguing session would not just focus on the Cataloguing Client but also include both the Record Export Service and the Record Import Service. Ms Rajapatirana responded that the parallel session would be aimed at optimising use of Libraries Australia, and selecting the most appropriate options for contributing to the ANBD. Ms Luther commented that the Record Import Service, and other methods of contribution, were the basis of the entire service, and that we needed to be sure that we can keep that focus, making it easy to input records. Ms Fullerton commented that delays in the implementation of the Record Import Service had coloured people’s perceptions of the service overall.

Ms Luther was in favour of the parallel sessions. Mr Boston commented that the morning would be a good mix of strategic and practical sessions, with case studies in the afternoon.

A celebration would be held to mark the 25th anniversary of the ANBD, which had gone online on 2 November 1981. This would be in conjunction with the Libraries Australia reception on 2 November at the University Staff Club.
People involved in ABN, such as Network Committee members, would be invited to attend. Ms Ellis suggested that the ANBD’s 25th anniversary should be publicised. Ms Wilson would discuss this suggestion with the Library’s Public Programs Division.

Mr Boston outlined some of the future directions for Libraries Australia, including data quality and duplicate removal activities, the addition of more Z39.50 target databases, adding holdings of public libraries, more non-roman script records and creation of logical views of the ANBD for specific library sectors. Of the future development tasks outlined in Attachment B, Mr Boston stated that several had already been completed.

There had been a number of new releases of the Libraries Australia search software in 2006, and a new release of the cataloguing software had been received and was awaiting testing. There was an issue with common authentication between Libraries Australia Document Delivery with the Administration system, which required a change to the VDX software. A solution for relevance ranking had been developed and should be released in October, pending a successful outcome of performance testing. Mr Boston reported that a new Business Plan was being drafted and the future direction activities outlined in Attachment B would be included. Mr Arfield suggested that the Business Plan would be a useful tool for developing perceptions of Libraries Australia. Ms Luther commented that there was a perception that Libraries Australia was moving into the public library sphere, with the launch of the free Libraries Australia service.

Mr Arfield suggested that the Committee could provide input to the draft document via email before the next Committee meeting. Mr Boston undertook to send out a draft list of strategic directions for Libraries Australia and a reading list to start the discussion. Members of the Committee could also meet in Perth during Click06 to discuss.

Both Ms Ellis and Ms Luther stressed the importance of talking to Libraries Australia user groups. User groups make a valuable contribution to discussion at the operational level and should be encouraged to contribute. It was suggested that Libraries Australia staff visit user groups regularly (they currently visit state user groups once per year). Ms Luther commented on the changes to the user group in Tasmania, where greater representation from different library groups was being encouraged.

**ACTION:** Libraries Australia staff to follow up with the state libraries their concern about the wording of the interlibrary loan form available through Libraries Australia.

**ACTION:** Ms Wilson to discuss with the National Library’s Public Programs area the 25th anniversary celebrations of the ANBD.

**ACTION:** Mr Boston to distribute a list of strategic directions to committee members for comment and input into the Libraries Australia business plan.
Agenda Item 4: Libraries Australia Post Implementation Review (LAAC/2006/2/3)

Dr Cathro spoke to the report of the review. The review was the final deliverable of the Kinetica Redevelopment Project. It was carried out by Ernst & Young, with the assistance of a National Library IT Branch head. 17 users and 14 national library project staff were interviewed. There were no real surprises in the report, which had eight recommendations. These recommendations covered data integrity, communication with users, communication within the project, and future planning and priority setting. The report highlighted some surprising perceptions from our users. For example one respondent commented that the cataloguing client was unavailable until March, when in fact it had been available on 30 November 2005. Some issues highlighted in the survey reflected the pressure under which staff worked over the last three months of the project, with an immovable December deadline. As a result it had been necessary to carry out some tasks after the implementation of the service.

Mr Boston stated that some help desk issues had been highlighted. These had been resolved by training, by the implementation of new helpdesk software, and by improved documentation.

Mr Arfield asked how the users had been selected. Users had been nominated by the Resource Sharing Division. An effort had been made to cover a range of users, the services used and the types of libraries. However in the end the number had been restricted by the cost of the review.

It was commented that the small survey size was limiting, however responses in the review could be compared to the Customer and Stakeholder Satisfaction Survey about to be undertaken by Libraries Australia.

Agenda item 5: Customer and Stakeholder Satisfaction Survey

Ms Wilson provided a progress report on the Customers and Stakeholder satisfaction survey. The customer and stakeholder satisfaction survey would be conducted by Nielsen NetRatings on behalf of the National Library. Nielsen had already conducted interviews with 16 CEOs or library managers, across all sectors. Nielsen had reported that the interviews have gone well, with open and responsive comments. In addition two focus groups would be conducted, with 8 participants in each group. The first focus group had already been conducted in Melbourne, and had looked at search and interlibrary loan / document delivery issues. The second focus group would be conducted in Sydney and would look at cataloguing issues. Following the interviews and focus groups, an online survey of all Libraries Australia customers (both practitioners and CEOs) would be conducted. Nielsen aimed to get a response of 40% for both practitioners and CEOs.

The teleconference finished at 12.30 pm.
## Attachment A – Summary Table of Actions

Libraries Australia Advisory Committee meeting  
10 August 2006

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| **Agenda item 2**  
Minutes of the previous meeting and business arising | Dr Cathro and Mr Boston to meet with some CAUL members to discuss the issue of subscription fees for universities to Libraries Australia  
Ms Luther to communicate with Ms Woodberry on the discussion from the Committee’s teleconference |
| **Agenda item 3**  
Libraries Australia Status Report and Post Project Tasks | Libraries Australia staff to follow up with the state libraries their concern about the wording of the Interlibrary loan form available through Libraries Australia.  
Ms Wilson to discuss with the National Library’s Public Programs area the 25th anniversary celebrations of the ANBD  
Mr Boston to distribute a list of strategic directions to committee members for comment and input into the Libraries Australia business plan |
Libraries Australia

ANNUAL REPORT
2005/2006
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OVERVIEW

The completion of the Kinetica Redevelopment Project in November 2005 and the subsequent bedding down of the new Libraries Australia service provided the major focus for the 2005-2006 financial year. The year also focussed on the ongoing enhancement of Libraries Australia Search which was released in December 2004.

In 2005-2006 the major achievements for Libraries Australia were:

- Completion of the Kinetica Redevelopment Project on time and on budget in November 2005 which made available the following four modules in an integrated service: Libraries Australia Cataloguing, Search, Administration and Document Delivery;
- Re-branding of the service from Kinetica to Libraries Australia including updates to the website, user manuals, brochures and other documentation;
- Incorporation of the CJK database in to the Australian National Bibliographic Database (ANBD);
- Introduction of a new subscription model from 1 July 2005 for Libraries Australia customers providing unlimited access to the ANBD and several international databases as well as the option to participate in the Libraries Australia Document Delivery Service as part of the subscription;
- Launch of a free Libraries Australia Search service on 27 February 2006 accessible to anyone, anywhere with access to the Internet;
- Launch of the TransTasman Interlending Service on 1 March 2006 facilitating interlibrary loan activity between libraries in Australia and New Zealand;
- Extensive consultation with Australian libraries through presentations in all states and visits to many libraries including state, university, special and public libraries;
- Regular improvements to Libraries Australia Search through five new releases of the system; and
- Increased membership of Libraries Australia.

The Amicus and LibriVision software were decommissioned on 23 December 2005. The Innovative interfaces CJK system was decommissioned on 19 December 2005. The new software provider for the Libraries Australia Cataloguing service is OCLC PICA.

Australian library use of the national service has been made easier with the introduction of a new charging model based on an annual subscription. This model was introduced to encourage libraries to take advantage of all Libraries Australia services without additional costs, to increase usage and to promote and enable end user access.

A major focus was communication with Australian libraries – attendance of National Library staff at state user group meetings, annual users’ meeting, teleconferences with the state user group convenors.
and secretaries, training service providers and the Libraries Australia Advisory Committee provided key channels for advice and opportunities to discuss current and future directions.

Key statistics for 2005/06:

**Australian National Bibliographic Database**

*About 42 million holdings*

*Over 16 million bibliographic records*

*Over 600,000 online resources*

*Over 10 million searches*

*Almost 230,000 items requested through the document delivery service*
MEMBERSHIP

Australian libraries depend upon the Libraries Australia service to support a wide range of their activities and, increasingly, to enable their users to access the nation’s collections. The participation in the service continues to increase with a total membership of 1107 at 30 June 2006. Those libraries which cancelled their membership did so predominantly due to the closure of their library. A total of 84 new customers joined Libraries Australia including 8 individuals and 22 public libraries from Western Australia.

We welcomed the following organisations as members during the year:

- Agence Bibliographique De L’enseignement Superieur (ABES)
- Alice Springs Public Library
- Australian Wool Testing Authority
- BankWest
- Barry Collins Resource Centre (ILANET)
- Baudin Legacy Project
- Bourke Public Library
- Bridgetown Public Library
- Bunbury Public Library
- Carers NSW
- Central Murray Regional Library Service
- City of Armadale
- City of Joondalup
- City of Norwood, Payneham and St Petes Library Service
- Copyright Agency Limited
- Cranbrook Public Library
- Cridlands Pty Ltd
- Dalby Wambo Public Library
- Dandenong High School
- Denmark Public Library
- Department of Environment (EA)
- Department of Health and Human Services - Wingfield Library (ILANET)
- Department of Treasury and Finance (Tas)
- Dept of Consumer and Employment Protection
- Digital Education Services
- Dunsborough Public Library
- Epworth
- Esperance Public Library
- Family Planning Queensland
- Financial Services Institute of Australasia
- Fire & Emergency Services Authority of Western Australia
- Fremantle City Library
- Gawler Public Library
- Geraldton Regional Library
- Girrawheen Public Library
- Greenmount Public Library
- Holdfast Bay Library Service
- Hunter-New England Health Service Library
- Institute of Chartered Accountants in Australia - Information & Research Service
- Jackson McDonald
- Law and Justice Foundation
- Melbourne Grammar School
- Merredin Regional Library
- Murchison Public Library
- Northam Region Library
- NSW Dept of Community Services
- NSW Ombudsman's Office Library
- NSW Teacher Federation
- Old Parliament House
- Queen's College Library
- Reserve Bank of Australia (ILANET)
- SA Dept for Families and Communities Library and Information Service
- SAE Institute – Byron Bay
- Safety Bay Library
- Shire of Meekatharra
- Shire of Northampton
- Sir John Ramsay Memorial Library
SirsiDynix Pty Ltd
Sparke Helmore
Subiaco Museum
Tabcorp Holdings
Taxation Institute of Australia
The Age Research Library
The Department of Emergency Services, Queensland
The Geelong College
The Heraldry & Genealogical Society of Canberra

The Melbourne Athenaeum Inc Library
Town of Vincent Library
Uniting Care Burnside
URS Australia Pty Ltd
Victoria Park Library
Warnbro Community Library
Water Corporation
West Books
Wingfield Library
Withers Public Library
The four modules which constitute Libraries Australia are:

- Libraries Australia Search, available as a subscription and free version, which enables users to find and get about 42 million items from around 800 Australian libraries and obtain records via the Record Export Service (RES) and the Products service. This module is based on the TeraText software from SAIC.

- Libraries Australia Cataloguing, a data creation and maintenance service, which enables customer libraries to create and edit bibliographic and holdings data, obtain copy cataloguing, and also enables Libraries Australia managers to harvest, convert and maintain the ANBD; and the Record Input Service (RIS) which enables the batch uploading of records and holdings. A Cataloguing client and Web Input form enables the contribution of original cataloguing. This module is based on the Centraal Bibliotek System (CBS) from OCLC PICA.

- Libraries Australia Document Delivery, an interlending and payment service, which enables customer libraries to manage the process of requesting, shipping and paying for loans and copies. This module is based on the VDX software from OCLC PICA.

- Libraries Australia Administration which enables customers to manage their user account information and register for the RES and the Products service. This module is based on open source LDAP directory software.

Following the completion of the Kinetica Redevelopment Project, the National Library undertook a post-implementation review of the new system. The review was conducted by Ernst and Young and the report delivered in June 2006. The primary objectives were to ascertain whether the Kinetica Redevelopment Project (KRP) had achieved its objectives and addressed the original business requirements and to gain an understanding of the project process in order to identify any shortcomings with a view to improving the process for future project activity. There were 31 participants in the review which involved interviews with both Libraries Australia customers as well as National Library staff involved in the Project.

The review confirmed that, in general, the Library had met its objectives in delivering the Libraries Australia Service. Both Project staff and users felt that Libraries Australia is a more supportive and reliable system than Kinetica. Users commented that the system is easy to use and provides improved functionality. Project staff were positive about the project plan, commenting that regular meetings and revision of the project plan contributed to the overall success of the project. Some areas for improvement were identified including data integrity, communication with users and between project staff and helpdesk operations. The full report is available online as part of the Libraries Australia Advisory Committee papers (August 2006).

Through Libraries Australia, users – library staff and clients of libraries – can find resources held in Australia and around the world. Information discovered through searching can be used for library processes such as cataloguing, interlibrary loan and document delivery, or to enable access to the nation’s collections in a range of formats.
Search usage of Libraries Australia is higher than the previous Kinetica service. The total number of searches for 05/06 was 10.0 million, up from 6.6 million in 04/05. Since the implementation of Libraries Australia stage 2 at the end of November 2005, search activity has markedly exceeded the target.

The introduction of the new subscription model offering unlimited searching, the development of web cataloguing via Libraries Australia as well as the release on 27 February 2006 of a free Libraries Australia Search service have all contributed to the increase in searching. From February until end of June there were 0.5 million searches undertaken on the free Search service or about 10% of total searches. With active promotion of Libraries Australia, the number of searches is expected to grow over the next year as more libraries open up access to their end users.
The Australian National Bibliographic Database remains the most heavily used database with about 9 million searches up by almost 50% from 6.4 million searches in 2004-2005. Searches of RLG and SILAS doubled, while searches of Te Puna increased four-fold possibly due to the inclusion of these databases in subscriptions and/or publicity about availability of the databases.

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The Australian National Bibliographic Database records material held by national, state, university, TAFE, public and special library collections including books, journals, theses, newspapers and many other materials. Immediate access is provided to over 600,000 online resources including pictures, manuscripts and government reports.

The total number of bibliographic records and holdings on the ANBD increased significantly during the year. During the implementation of the new Libraries Australia Cataloguing service the CJK Database was merged with the ANBD resulting in the addition of approximately 900,000 CJK bibliographic records and 650,000 holdings. The underlying growth in holdings and bibliographic records for the ANBD is in line with historical trends.

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibliographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>records *</td>
<td>16,227,592</td>
<td>13,937,355</td>
<td>12,822,324</td>
<td>14,015,188</td>
<td>13,015,628</td>
<td>12,149,739</td>
<td>11,082,765</td>
</tr>
<tr>
<td>Authority records</td>
<td>1,761,438</td>
<td>1,592,046</td>
<td>1,593,973</td>
<td>1,594,097</td>
<td>1,593,228</td>
<td>1,591,630</td>
<td>1,589,682</td>
</tr>
<tr>
<td>Holdings</td>
<td>41,534,327</td>
<td>39,099,834</td>
<td>37,481,655</td>
<td>36,364,256</td>
<td>35,015,248</td>
<td>33,213,340</td>
<td>31,447,220</td>
</tr>
</tbody>
</table>

*deletions occurred as part of routine maintenance
Authority work increased considerably this year:

![Graph showing the increase in authority work from 2002/2003 to 2005/2006. The graph shows the number of added, modified, and deleted records over the years.]
CONTRIBUTORS

By contributing holdings and bibliographic records to the ANBD, Australian libraries can benefit by sharing resources and cataloguing. A number of libraries have commenced adding records and holdings this year and more have provided update holdings files to ensure that their holdings on the databases reflect their actual holdings. The major contributors for 2005/06 were:

**HOLDINGS CONTRIBUTION: TOP TEN CONTRIBUTORS**

<table>
<thead>
<tr>
<th>Library/Institution</th>
<th>Holdings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victorian Public Libraries</td>
<td>287,618</td>
</tr>
<tr>
<td>NSW Public Libraries</td>
<td>225,892</td>
</tr>
<tr>
<td>UNILINC Ltd</td>
<td>113,206</td>
</tr>
<tr>
<td>State Library of Queensland</td>
<td>109,858</td>
</tr>
<tr>
<td>Queensland Public Libraries</td>
<td>94,632</td>
</tr>
<tr>
<td>National Library of Australia</td>
<td>79,196</td>
</tr>
<tr>
<td>Monash University</td>
<td>57,520</td>
</tr>
<tr>
<td>CSIRO</td>
<td>43,953</td>
</tr>
<tr>
<td>Curtin University of Technology</td>
<td>41,998</td>
</tr>
<tr>
<td>State Library of New South Wales</td>
<td>37,278</td>
</tr>
</tbody>
</table>

**BIBLIOGRAPHIC RECORDS: TOP TEN CONTRIBUTORS**

<table>
<thead>
<tr>
<th>Library/Institution</th>
<th>Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Library of Queensland</td>
<td>62,676</td>
</tr>
<tr>
<td>National Library of Australia</td>
<td>42,739</td>
</tr>
<tr>
<td>Victorian Public Libraries</td>
<td>23,528</td>
</tr>
<tr>
<td>University of Wollongong</td>
<td>17,935</td>
</tr>
<tr>
<td>CSIRO</td>
<td>14,836</td>
</tr>
<tr>
<td>Australian Music Centre: Library &amp; Information Services</td>
<td>13,624</td>
</tr>
<tr>
<td>University of Queensland</td>
<td>11,971</td>
</tr>
<tr>
<td>Zenith Management Services</td>
<td>11,364</td>
</tr>
<tr>
<td>UNILINC Ltd</td>
<td>10,787</td>
</tr>
<tr>
<td>State Library of New South Wales</td>
<td>10,609</td>
</tr>
</tbody>
</table>

**AUTHORITY RECORDS: TOP TEN CONTRIBUTORS**

<table>
<thead>
<tr>
<th>Library/Institution</th>
<th>Authority Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zenith Management Services</td>
<td>8,667</td>
</tr>
<tr>
<td>National Library of Australia</td>
<td>1,754</td>
</tr>
<tr>
<td>University of the Sunshine Coast Library</td>
<td>738</td>
</tr>
<tr>
<td>Royal Australasian College of Physicians</td>
<td>644</td>
</tr>
<tr>
<td>State Library of New South Wales</td>
<td>635</td>
</tr>
<tr>
<td>Flinders University: Central Library</td>
<td>446</td>
</tr>
<tr>
<td>Australia Council Library</td>
<td>325</td>
</tr>
<tr>
<td>University of Adelaide : Barr Smith Library</td>
<td>297</td>
</tr>
<tr>
<td>State Library of Tasmania</td>
<td>168</td>
</tr>
<tr>
<td>State Library of Victoria</td>
<td>146</td>
</tr>
</tbody>
</table>
Interlending in Australia continues to decline, primarily due to access from the desktop in many libraries to a wide range of electronic resources, particularly electronic journals. There were 229,799 requests through the Libraries Australia Document Delivery service in 2005/06. The projected figure for 2006/2007 is 260,000 requests as a result of the new members.

As of 30 June 2006, 665 libraries were members of the Document Delivery service.

During the year 79 libraries joined the service, including many state government departmental libraries and hospital libraries and public libraries, including 47 NSW public libraries that were formerly members of ILANET. The ILANET service, run by the State Library of NSW, ceased operations at the end of June 2006. Most of the new public libraries were already members of Libraries Australia and consequently are now utilizing the full functionality included in the subscription fees by becoming customers of the Libraries Australia Document Delivery service.

Major achievements included the launch of the Trans Tasman Interlending service on 1 March 2006 and the further addition of 7 libraries interoperating with LADD via the ISO ILL protocol, including Monash University, the first library to interoperate using the Endeavor software, and the State Library of Western Australia, which requests on behalf of some 200 public libraries in Western Australia. At 30 June 2006 there were a total of 32 libraries using their own ILL systems to exchange messages with LADD.

**MARKETING AND SPONSORSHIP**

The regional launches of the free service: Libraries Australia a World of Information, in Western Australia, Northern Territory and Queensland were highly successful and gained significant media attention.

New brochures were designed to promote the services available from Libraries Australia including:

- Libraries Australia free search service
Libraries Australia continued to have a presence in ALIA’s InCite magazine with a full colour, half page advertisement each month.

Promotional materials with the Libraries Australia branding and website address have been designed, produced and distributed to state and special interest user groups and Libraries Australia trainers. Prior to the launch of the Libraries Australia free service, promotional flyers were distributed to all public libraries across Australia.

Libraries Australia staff attended many conferences and sent promotional material for inclusion in delegates’ satchels as well as provided materials for trade stands. The major conferences attended and sponsorship of events included:

- CPLA (Country Public Libraries Association) Conference
- ALIA (Australian Libraries and Information Association) National Library Technicians Conference
- VALA Libraries, Technology and the Future Inc Conference
- QPLA (Queensland Public Libraries Association) Conference
- 4th International Lifelong Learning Conference
- ALIES (Australian Libraries in Emergency Services) Conference
- MPLA (Metropolitan Public Libraries Association) Document Delivery Meeting
- ILL Conference
- Queensland User group Workshop on Libraries Australia
- Ausweb Conference
- CODA (Customers of Dynix Australasia) Conference
- Public Libraries Australia Conference
- Innovative Ideas Forum
- Australian Booksellers and Publishers Association Conference

Libraries Australia staff continued to maintain communication with customers regarding services and news via the Libraries Australia and Libraries Australia Document Delivery mailing lists.

CONSULTATION

The Libraries Australia Advisory Committee (LAAC) provided key advice to the National Library on issues of importance to Australian libraries during the year. The membership of the Advisory Committee includes elected and appointed representatives. The LAAC members are listed in Appendix 1.

The Committee met three times during the year including one teleconference. Issues on which the LAAC provided advice included:

- Kinetica Redevelopment Project
- Libraries Australia subscription model
- Libraries Australia Annual forum
- Communication plan and launches for the Free Libraries Australia service
- ANBD Content Strategy
- Quality improvement
- Relationships with other bibliographic services
State User Groups met several times throughout Australia over the year. Libraries Australia staff attended and presented at State User Group meetings in each capital city in July/August 2005 and again in early 2006 providing progress reports on the Kinetica Redevelopment Project (2005) and information on the new Libraries Australia service (2006) seeking feedback and comments. Issues and questions raised at these meetings were incorporated into a table with answers and made available on the web site.

Issues discussed at the State User Group meetings included the free Libraries Australia search service, batch and online contributing to the ANBD, database quality and coverage, Unicode and cataloguing standards, Libraries Australia Administration, personalisation, alerts and end user access and enhanced requesting through Libraries Australia Search.

The final Kinetica Annual Users’ Meeting was held at the University Club of Western Australia in September 2005. One hundred and ninety delegates from all Australian states and territories and from New Zealand attended. The major focus of the meeting was the Kinetica Redevelopment Project, especially the functionality to be delivered as part of the final stage.

Presentations and consultative meetings throughout the year included:

- All Libraries Australia State User groups
- ALIES (Australian Libraries in Emergency Services) Conference
- SA Public libraries
- Library Technicians Conference
- VALA Conference (2006)
- MPLA Document Delivery Meeting
- Electronic Collections and e-resources Guidelines
- E-Resources (Australian Tax Office)
- ACT Public Library Service
- Australian Libraries Online
- ILL Conference (Melbourne)
- Queensland User group Workshop on Libraries Australia
- Victorian Health Libraries
- Ausweb Conference
- CODA Conference (Tasmania)
- EDT Conference
- Law Librarians (ACS)
- Public Libraries Australia Conference
- Student groups (Charles Sturt University, Illawarra TAFE)
- Free Libraries Australia Spotlight Presentations at the National Library
- Free Libraries Australia launches (ACT, WA, Qld, NT, Tasmania)
- VICLINK (Victorian Public Libraries)
- Innovative Ideas Forum
- Australian Booksellers and Publishers Association Conference
- CAUL Executive

STRATEGIC ISSUES

LIBRARIES AUSTRALIA FREE SERVICE

On February 27 a free version of Libraries Australia Search was launched by the Hon. Senator Helen Coonan at Parliament House. The decision to release a free Libraries Australia service was made in response to the Senate Enquiry into Libraries in the Online Environment. The first recommendation of this report was that the National Library should receive additional funding to provide improved access to the Australian National Bibliographic Database (then known as Kinetica) for all Australian libraries and end users.

Although no additional government funding was forthcoming, the National Library decided to make available a free version of the Libraries Australia Search service. The free Libraries Australia Search service allows users to find and then get information about 42 million items held in over 800 Australian libraries through a very easy to use “google-like” simple keyword search. There is no access to MARC.
records or Z39.50 services through the free service and features of the subscription service such as advanced fielded searching, personalisation, alerts and enhanced requesting are not available. Although the National Library subsidises the cost of providing Libraries Australia, the service would not be possible without the financial support of and contribution of data by Australian libraries.

Both the free service and the enhanced service share the same web address - http://librariesaustralia.nla.gov.au/. Authenticated users are directed to the subscription service, while unauthenticated users are taken automatically to the free service.

Regional launches of the free Libraries Australia Search service were held in Geraldton (25 May 2006 by Kay Poustie, Chairman of the Library Board of Western Australia), Alice Springs (6 June 2006 by the Major of Alice Springs Fran Kilgariff) and Cairns (8 June 2006 by Lea Giles-Peters, Queensland State Librarian). Launches were well received with an appreciation expressed for National Library staff investing their time in visiting regional areas. Libraries Australia achieved strong media interest with around 80 mentions for the Libraries Australia service, including the national and regional launches, most being press or Internet articles but also including radio interviews especially on the ABC.

In a “post-google” world, user expectations of the ease of use and accessibility of information services and resources are markedly increased. Services like Libraries Australia are adapting to this new information landscape. The free Libraries Australia Search service represents a first step in this direction, towards improved accessibility and ease of use, better finding and getting, and the development of new discovery pathways through exposure of content to Internet search engines.

In February 2006, 12 million records (all records with holdings or Australian content) from the Australian National Bibliographic Database were extracted, converted to a simple XML format, supplied to Google and matched with items in Google Scholar. Since April Libraries Australia records have been listed in Google Scholar, although the quality of record matching has not always been as good as expected and unique Australian material is currently not listed. Google have obtained data from twelve national union catalogues around the world: Australia, China, Czech Republic, Denmark, Ireland, Israel, Hungary, Lithuania, Netherlands, Taiwan, United Kingdom and the United States (WorldCat). Links to each union catalogue have been added to Google Scholar, with appropriate links automatically displayed based on the IP address/country of the user. It is expected that this data will also be loaded in to the main google.com index by the end of 2006. A project to add ANBD records to yahoo.com has also commenced.

**IMPROVING THE QUALITY OF THE AUSTRALIAN NATIONAL BIBLIOGRAPHIC DATABASE**

A Quality Improvement Plan was developed in 2004 to provide a basis for a major campaign to address data quality issues for the ANBD and the Kinetica CJK database. The plan is available on the web site (http://www.nla.gov.au/kinetica/manuals/ANBDqual.html) and highlights activities to remove duplicates, clean up new records as they are added to the ANBD, fix incorrect codes and run programs and reviews which will improve the success of searching for all users. The commitment to quality improvement is a highlight of the National Library’s commitment to supporting access to Australian collections effectively, and recognises that work in this area is of benefit to the whole library network.

The regular programs of data quality improvement activities continued at a slower pace in the final quarter of 2005 in an effort to minimize the changes that would need to be captured during data migration to the new Libraries Australia system. Some highlights were:

- Approximately 800 records without titles were fixed;
- 240,000 records for 18th Century Online, Early English Books and Early American Imprints sets had coding in the MARC 007 field corrected, and coding errors in another 21,000 records were corrected;
- The Australian content flag was added to 1,188 Australian thesis records;
- 6,366 new PROMPT (Australian performing arts collection in NLA) records were loaded;
The record type in 2,500 CJK authority records with geographic headings was corrected;

- Enhancement of several hundred Australian name authority records as part of the Libraries
  Australia regular contribution to NACO was carried out. Records were enhanced with source
  notes and the ANBD code “anuc”;
- Global holdings updates were performed for a number of organisations;
- During this period major achievements of the Subject Heading Review Panel included many
  changes to terms for names of Aboriginal and Torres Strait Islander peoples and their
  languages. A list of the Aboriginal languages/groups can be found on the Libraries Australia

In November/December 2005 the migration of data to the new Libraries Australia system included a
number of data quality improvements. Some highlights were:

- Integration of Roman and non-Roman script data in a single database
- The correction of incorrect indicator values in title and name fields (MARC21 245, 100, 110,
  111, 600 and 700 tags)
- Conversion of obsolete MARC21 tags to their current correct tag numbers, for example:
  - Series headings in tags 400, 410 and 411 converted to the 800, 810 and 811 tags
  - Variant access titles in tag 212 converted to the 246 tag
  - Source of Acquisition in tag 265 converted to the 037 tag
  - Frequency in tag 315 converted to the 310 tag
  - LC Classification numbers in tag 090 (in CJK data) converted to the 050 tag
- Duplicate headings generated in previous Amicus system due to minor variations in heading
  attributes were integrated on migration to the new system.

The configuration and implementation of the new Record Import Service was more complex than
expected and caused significant disruption to data loading during the first half of the 2006. This was in
part due to the fact that data is loaded from a wide variety of sources and many of these have
peculiarities which required changes to data conversion and matching programs. By mid-year regular
automated loading of data from 50 different library contributor sources was underway. These include
national agency sources such as Library of Congress, British Library and National Library of Australia
as well as bibliographic and holdings files from Australian libraries. A small number of contributor
sources were still to move to fully automated record loading. Many of these files have been tested and
contain export problems from the supplying library’s ILMS.

The first global holding change in the new Libraries Australia Cataloguing service was completed in
May 2006 and has been followed by holdings updates for a number of other libraries.

The new Libraries Australia Cataloguing system includes data matching, merging and validation that is
superior to that of the previous ABN and Kinetica systems. It is expected that using the new system,
it will be possible to markedly improve the quality of data in the ANBD especially through automation of
and improved algorithms for duplicate detection and removal. A new Quality Improvement Plan will
be developed in the second half of 2006. The plan will focus on exploiting the functionality of the new
system to embed data quality in the Libraries Australia system and processes.

**IMPROVING THE COVERAGE OF THE AUSTRALIAN NATIONAL BIBLIOGRAPHIC DATABASE**

To effectively support the Australian library network, it is essential that the coverage of the ANBD be
as comprehensive as possible. During the year Libraries Australia staff met and worked with state,
public, university and special libraries to improve the coverage and currency of data from various
libraries.

We welcomed the following libraries as new contributors to the ANBD via the Record Import Service:
• Federal Court Principal Registry Library
• Queensland Supreme Court Library
• Tasmania Department of Primary Industries, Water and Environment
• ALS Library Services Pty Ltd
• Queensland Department of Primary Industries and Fisheries.

Four libraries are now regularly contributing comma delimited files from their DB Textworks systems, with test files received from several other libraries.

Libraries Australia worked with staff in NLA Asian Collections to test the input, indexing, searching and output of Thai script in Libraries Australia systems. The testing went well and Libraries Australia users were advised that they can now use Thai script in ANBD records. Thai script will only be supported in Unicode bibliographic products. Two new Z39.50 target databases that provide Thai copy cataloguing will be added to Libraries Australia in late 2006. Testing of support for other new non-Roman scripts will take place later in 2006.

The first of what will be a regular monthly file of data from Serial Solutions was loaded to the ANBD in June. The files are provided under an agreement whereby Australian Serial Solutions customers can opt to have a copy of their data supplied to the ANBD. The files currently contain bibliographic and holdings data for electronic resources licenced by the National Library and the state libraries of New South Wales, Western Australia and Tasmania. It is hoped that other libraries will also join the program. Libraries accessing Serials Solutions products via the Libraries Australia agreement receive favourable pricing. Serials Solutions have a separate agreement with CAUL libraries and discussions are taken place regarding the provision of records purchased by CAUL to also be loaded to the ANBD with holdings.

IMPROVING OUR SERVICES

In 2005-2006 there were five releases of Libraries Australia Search. Improvements to the functionality included the introduction of personalisation, deep linking to over 200 library catalogues, book cover art, mapping of Z39.50 output for former TPS/DLL customers, additional online bookshops, refinements to title and date of publication indexing, new search limiting options, supply of ANBD records to Google Scholar, new loan and copy forms for staff, and integration of CJK data into the ANBD.

In response to requests from some libraries an additional port was made available on the libraries Australia Cataloguing server. A number of government departments have restrictive firewalls configurations that will not allow cataloguing traffic through port 1521. Port 11521 is now available and is in use by these libraries.

With the implementation of Libraries Australia Stage 2 and the incorporation of the CJK database with the ANBD, five more CJK targets were added to the “Select databases” screen in Libraries Australia Search and accessible via the Zgateway. Three of these are available to all users - these are: Chinese University of Hong Kong, Hong Kong University of Science and Technology, University of Hong Kong. Academia Sinica (Taiwan) and Waseda University (Tokyo) have been made available to only a small group of users.

The implementation of the new Libraries Australia Cataloguing service provided significant improvements including:
• Ability to save whole records (i.e. not field-by-field);
• Improved user configurability using standard window functions (e.g. fonts and screen colours, toolbars);
• Choice of command, button, or keyboard shortcut to invoke most functions;
• Support for import of records for copy cataloguing from external databases;
• Context sensitive help for each MARC 21 field;
• Templates for easy input of coded data (i.e. fields 006, 007, 008);
• A Pick list / menu driven data creation form for users who aren't familiar with MARC 21;
• A range of MARC 21 cataloguing templates for experienced cataloguers;
• Support for Unicode and input/editing of non-roman script (CJK) data using Windows Input
  Method Editors (IME's) and keyboard maps; and
• Many changes to the Cataloguing Client (e.g. MARC21 changes) can now be implemented
  without redistributing and reinstalling the software.

Extensive configuration and testing of a software upgrade to LADD (VDX version 2.7.4) commenced
in March and continued through the later part of the year. The upgrade which is scheduled for
production implementation in September 2006 will provide web document delivery and a number of
other enhancements.

EXPANDING SUPPORT SERVICES: RECORD SETS

In 2005/06 a major focus for E-collections staff was on managing the transition to service provision
via the redeveloped Libraries Australia. This resulted in some disruption of service. Customers were
contacted in February to offer a six month extension on current subscriptions in recompense.

Twelve E-collection sets are now available through the Libraries Australia service, including three new
Informit sets: A+Education, Family and Society Plus and Informit e-Library. Several order
cancellations were balanced out by new orders received, keeping overall customer numbers steady with
the previous year at 23 in total. Reasons given for cancellations included library closure, and sourcing
of alternative supply (chiefly via Serials Solutions). The ABS Statistics set (formerly AusStats) continues
to be the most popular set with 16 customers.

Supply of the non-Australian E-collection sets (Academic Search Premier, Blackwell Synergy, Emerald,

Implementation of records following the Aggregator Neutral (single record) format for titles belonging
to the Informit suite (APAFT, AGIS, Meditext, Family & Society Plus, Informit e-Library,
A+Education) was achieved in July/August 2005, with good feedback received from customers.

Work began on the development of a new set for online Parliamentary Papers. The planned launch of
this set in December 2005 was delayed due to the focus on service transition. It is now planned to be
released in 2006/07.

INTERNATIONAL COLLABORATION

Trans Tasman Interlending

The National Libraries of Australia and New Zealand have been working for some time on a
collaborative project to link Libraries Australia Document Delivery and Te Puna Interloan, enabling
libraries on both sides of the Tasman to seamlessly request from and supply to one another. The new
service went live in Australia and New Zealand on 1 March 2006 further strengthening the relationship
between the two national libraries.

Known as Trans Tasman Interlending the service improves the efficiency of document delivery
services to libraries in Australia and New Zealand, facilitating resource sharing between libraries in both
countries. Benefits include:
• access to the resources of almost 900 libraries in Australia and New Zealand;
• a single search interface to the National Bibliographic databases in both countries;
• one system that supports document delivery for Australia and New Zealand; and
• a centralised billing and reconciliation system.

From March to June 2006, there were 1,622 items supplied to New Zealand libraries from Australian material and 258 items supplied to Australian libraries from New Zealand collections.

RLG site licence

A one year site licence agreement for searching of the RLG Union Catalogue was signed in May 2006. This allowed access to the RLG Union catalogue to be extended to all Libraries Australia customers as part of their annual subscription fee from 1 July 2006.

Blackwells – Table of Contents data

In November the original agreement between Blackwells and the National Libraries of Australia and New Zealand was renewed for a further three years. This service delivers enhanced MARC records in to the ANBD benefiting Australian libraries and the communities they serve.

National Library of Papua New Guinea

Libraries Australia produced a file of just over 25,000 MARC records for materials published in, or about, Papua New Guinea. The file was produced to assist the National Library of Papua New Guinea to undertake a retrospective conversion of their card catalogue when they procure an ILMS as part of an AusAID project which is underway.
USER SUPPORT

Training: Libraries Australia Training Service Providers conducted a number of courses in all states and territories.

<table>
<thead>
<tr>
<th>Course</th>
<th>Number</th>
<th>Trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libraries Australia Search</td>
<td>47</td>
<td>357</td>
</tr>
<tr>
<td>KineticaWeb</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cataloguing Client</td>
<td>36</td>
<td>259</td>
</tr>
<tr>
<td>Libraries Australia Document</td>
<td>35</td>
<td>240</td>
</tr>
<tr>
<td>Delivery</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The implementation of the new Libraries Australia Cataloguing service included an extensive schedule of user training courses provided around Australia by Libraries Australia Training Service Providers.

Helpdesk: 11,014 requests were received this year. The target is to respond to 96% within the service level - 4 weeks, and 85% within one day. The Helpdesk responded to 96% within 4 weeks and 86% within one day. The most frequently asked questions related to:

- Libraries Australia Document Delivery – 1,285 (11.8%)
- Libraries Australia General - 806 (7.4%)
- ALG - 768 (7.1%)

On 30 November 2005 Stage 2 of the Kinetica Redevelopment Project was completed and the new Libraries Australia Service launched. This generated a high number of calls to the Helpdesk during November and December as users became accustomed to the changes.

In April 2006, Libraries Australia implemented a new Helpdesk system using the SupportWizard software. This has streamlined processes, improving efficiency. The software has the capacity to generate standard responses and FAQs. These features together with an online form for customer questions will be explored over the next 12 months.

Transition from Kinetica to Libraries Australia: The implementation plan for the Kinetica Redevelopment Project, Stage 2 involved extensive communication through the mailing lists and the web site to assist Australian libraries in the transition from Kinetica to Libraries Australia. The web site included a range of fact sheets for all the new Libraries Australia services to assist in the transition from Kinetica to Libraries Australia. Opportunities were provided for customers to preview the new services including the Cataloguing Client and the Administration module. Libraries that used the cataloguing client were provided with documentation about the new client including information about installation and a summary of the IT security report.
MEMBERSHIP OF THE KINETICA ADVISORY COMMITTEE

Chair

Mr John Arfield, University of Western Australia

Members

Dr Warwick Cathro, National Library of Australia

Ms Elizabeth Ellis, State Library of New South Wales

Ms Judy Engall, NSW Department of Education and Training (until December 2005)

Ms Joan Moncrieff, Deakin University (from January 2006)

Ms Pam Gatenby, National Library of Australia

Ms Linda Luther, University of Tasmania

Ms Sherrey Quinn, Libraries Alive! Pty Ltd

Ms Patricia Scott, University of Adelaide

Dr Naida Tattersall, Gold Coast City Council

Mr Chris Taylor, University of Queensland

Ms Karen Vitullo, Australian Bureau of Statistics (until August 2005)

Mr Lindsay Harris, Queen Elizabeth Hospital South Australia (from September 2005)

Secretariat:

Mr Tony Boston, National Library of Australia (from December 2005)

MS Roxanne Missingham, National Library of Australia (until December 2005)

Ms Fran Wilson, National Library of Australia

Mr Rob Walls, National Library of Australia

Ms Margaret Kennedy, National Library of Australia
APPENDIX

STATE USER GROUP CONVENORS AND SECRETARIES

ACT
2006
Convenor: Ms Julie Philips, National Museum of Australia
Email: j.philips@nma.gov.au

Secretary: Ms Marisa Vearing, Australian Competition and Consumer Commission
Email: Marisa.Vearing@accc.gov.au

2005
Convenor: Ms Sherrey Quinn, Libraries Alive! Pty Ltd
Email: sherrey.quinn@alianet.alia.org.au

Secretary: Libby Williams, Agriculture, Fisheries and Forestry, Australia – Library
Email: libby.williams@abare.gov.au

New South Wales
2006 and 2005
Convenor: Ms Susanne Moir, State Library of New South Wales
Email: smoir@sl.nsw.gov.au

Secretary: Ms Cheryl Grant, State Library of New South Wales
Email: cgrant@sl.nsw.gov.au

Northern Territory
2006
Convenor: Ms Marilyn Hawthorne, Northern Territory Library
Email: marilyn.hawthorne@nt.gov.au

2005
Convenor: Ms Brenda Lindon, Charles Darwin University
Email: brenda.lindon@cdu.edu.au

Secretary: Mr Chris Capel, Charles Darwin University
Email: chris.capel@cdu.edu.au

Queensland
2006 and 2005
Convenor: Ms Karen Feehely, Brisbane City Council Library Service
Email: cen18@brisbane.qld.gov.au

2006
Secretary: Ms Trish D’Arcy, Australian Catholic University, McAuley Campus
Email: p.darcy@mcauley.acu.edu.au

2005
Secretary: Ms Jacqueline Norfolk, State Library of Queensland
Email: jacqueline.norfolk@slq.qld.gov.au
South Australia
2006 and 2005
Convenor: Ms Jay Douglas, University of South Australia
Email: jay.douglas@unisa.edu.au

Secretary: Ms Eleanor Thomas, University of South Australia
Email: Eleanor.thomas@unisa.edu.au

Tasmania
2006
Convenor: Ms Di Worth, University of Tasmania
Email: Di.Worth@utas.edu.au

Secretary: Ms Mary Laird, State Library of Tasmania
Email: mary.laird@education.tas.gov.au

2005
Convenor: Mr Michael Baker, State Library of Tasmania
Email: michael.baker@education.tas.gov.au

Secretary: Chris Halloran, University of Tasmania Library
Email: Chris.Halloran@utas.edu.au

Victoria
2006 and 2005
Convenor: Ms. Gehan Aboud, Victoria University
Email: Gehan.Aboud@vu.edu.au

Secretary: Ms Lamis Sukkar, CAVAL Ltd
Email: lamiss@caval.edu.au

Western Australia
2006 and 2005
Convenor: Jane Jones, State Library of Western Australia
Email: jones@liswa.wa.gov.au

Secretary: Robyn Hull, Psychiatric Services Library, Graylands Hospital
Email: robyn.hull@health.wa.gov.au
LIBRARIES AUSTRALIA BUSINESS PLAN DEVELOPMENT

Introduction

A Kinetica Business Plan (July 2004 – June 2007) was developed in 2004 and considered by the Advisory Committee at its meeting of 12 August 2004. There have been many changes to the service since that date, including completion of the Kinetica Redevelopment Project, the re-branding of the service as Libraries Australia and the release of the free Libraries Australia Search service.

With the bedding down of the new service in 2006, it is now opportune to consider its future directions through the development of a three year Libraries Australia Business Plan for the period July 2007 – June 2010. This document lists possible areas for development of Libraries Australia as input into creation of a Libraries Australia Business Plan. Feedback is sought from the Libraries Australia Advisory Committee and other interested parties.

There has been much discussion recently in Australia and overseas about the future of the Library Catalogue in a “post-Google” or “Web 2.0” world. Some references concerning this debate, as well as some other useful reading, are provided at the end of this document.

Potential areas for development of Libraries Australia are listed below grouped in a number of categories. Note that marketing issues will be only briefly considered in this document and in the main body of the Business Plan as the Libraries Australia Marketing Plan will be an attachment to the Plan.

Business issues

1. International business relationships

The National Library has had ongoing discussions with OCLC over many years about its business relationship. In 2002 the National Library negotiated a “small libraries” agreement with OCLC for access to WorldCat through Kinetica.

There are a number of Australian libraries that subscribe independently to OCLC services and a few that create catalogue records using WorldCat. There is currently synchronisation of data between WorldCat and the Australian National Bibliographic Database (ANBD) to ensure the ANBD remains up to date, but there is no synchronisation in the opposite direction. This means that WorldCat, although claiming to represent Australian library holdings, currently has very limited Australian content.

In July 2006 RLG merged with OCLC. In mid 2007, the RLG Union Catalogue will be merged with WorldCat. Customers of Libraries Australia who currently use the RLG Union Catalogue will need access to WorldCat. OCLC has recently negotiated arrangements for data with several European National Union Catalogues as part of a federated WorldCat model. These changes in the environment suggest that a new business model with OCLC should be priority for the National Library of Australia.

The following issues will frame discussions with OCLC:

- Expand access to WorldCat via Libraries Australia beyond the existing “small libraries” agreement. Ideally unlimited search access to WorldCat would be extended to all
subscribers of Libraries Australia via a national site licence. Alternately WorldCat could be a "premium" service option that we could offer to Libraries Australia customers;
- Data would be shared between the databases at no cost. Libraries Australia would provide our bibliographic and holdings data to WorldCat. WorldCat would provide bibliographic and holdings data to Libraries Australia (for Australian records);
- In return for providing this data, NLA would be entitled to ensure that Libraries Australia is used as a “first port of call” ahead of WorldCat access, and to ensure that the access to WorldCat was an exclusive benefit of subscribing to Libraries Australia;
- All web links from WorldCat would go to Libraries Australia rather than to individual Australian libraries; and
- There would be no cost disadvantage to Australian libraries.

The National Library of Australia has a reciprocal arrangement with the National Library of New Zealand for access to our national union catalogues and for document supply via the Trans Tasman Interlending service. Also, the two national libraries have a joint three year agreement (2005-2008) with Blackwells for the supply of Table of Contents data for their national union catalogues.

The National Library of New Zealand is currently reviewing how it supplies bibliographic services to New Zealand libraries. These new arrangements may have an impact on our existing agreements with NLNZ.

The National Library is working with Serial Solutions to improve the mechanism for provision of MARC records for Australian serials to Australian libraries. Discussions have taken place regarding access to Australian serial records by Serial Solutions for inclusion in e-sets for both Australian and international libraries. Serial Solutions will become a commercial member of Libraries Australia and may receive quarterly updates of records through the Products service. 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. These records, together with holdings, were provided as a base set to the ANBD as part of the Agreement. It is expected that all state and territory libraries will become party to this Agreement, and also that the base set will be extended to include, in the first instance, MARC records and holdings of the CAUL libraries purchasing records from Serial Solutions.

The National Library has been working with Google to expose bibliographic records from the ANBD to various Google services. To date 1.4 million ANBD records have been matched to records in Google Scholar and ANBD records have also 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. Areas for future work include addition of our records to the main Google.com search index, improving the quality of record matching and addition of records for unique Australian material to Google services. Exposing content from the ANBD to other search engines, such as Yahoo!, is also a priority.

Negotiations will continue with die Deutsche Bibliothek Database as a new target through Libraries Australia on a pay per search basis.

2. Australian business relationships
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. We would like to extend this feature to other booksellers. The possibility of non-exclusive business relationships with some of these booksellers may be explored in order to gain revenue for Libraries Australia through the sale of books linked to through the service.

The management of such a large number of booksellers within the Search user interface has become an issue. Guidelines for inclusion of links to booksellers in Libraries Australia Search
will be developed and the service enhanced to categorise these booksellers to improve the ease of use of getting processes. The Australian Booksellers’ Association has agreed to provide this categorisation for consideration.

There is a need for ongoing evaluation of potential new Australian targets to be added to the Libraries Australia Search service. Examples under consideration at present are from RMIT: AGIS, MediText and e-library (pay per search and pay per view fulltext). 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 for all Libraries Australia customers.

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

The Library has made substantial improvements in recent years to the national information infrastructure. However, the Library has done little to improve access to Australian journal literature. In this area, the information infrastructure is complicated by the involvement of many parties.

Users now have new ways of accessing article level information. For example, Google Scholar provides free search access to scholarly literature, and some traditionally commercial services now provide free search access to articles. The old business model of charging for access to metadata is under significant challenge, and there is an increasing expectation that discovery services will be free.

In 2005 the Library convened a working group to do a Review of Indexing and Related Services. This group has identified a model for national access to Australian journal literature. A feature of the model is 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.

The link between journal article metadata and Libraries Australia could be strengthened to make it easier for users to follow the pathway: article -> journal -> holding -> request in an automatic way where the article search starts outside of Libraries Australia.

3. Subscriptions
In 2005-2006, discussions were held with both the university and public library sectors regarding development of subscription models for Libraries Australia based on criteria such as library budget (for universities) and population (for public libraries). It does not appear to be possible to find a model which satisfies all subscribers within either sector based on these criteria. Subscriptions for Libraries Australia will be determined taking account of the following factors:

- Develop subscription models for each library sector that can be applied to new customers of Libraries Australia to ensure fairness and transparency;
- Future subscriptions for existing customers will be based on the status quo (which will avoid any large increases or decreases in subscriptions) with any increases being small (up to 5%); and
- For existing customers where their subscription is anomalously high based on their sectoral subscription model, the National Library will not apply annual increases.

Adopting the above criteria will, over time, move subscriptions for all sectors to a logical (ie non usage) basis but will remove any need for large increases or decreases in subscriptions within sectors.
The National Library will establish clear guidelines on charging, user agreements and business relationships for commercial customers which are distinct from those for library subscribers to the Libraries Australia service.

The National Library will also investigate the possibility of Australia wide access to Libraries Australia for all schools (both government and non government) – through the Department of Education and Training.

There are currently 11 public libraries that subscribe to PictureAustralia directly as well as 44 that contribute via PictureVictoria and three that contribute via PictureQueensland. There may be advantages to rolling the PictureAustralia fee into the annual subscription of public libraries to Libraries Australia. This may be a way of opening up access to valuable local history collections from public libraries. We could start with the current 11 public libraries who subscribe as they are also members of Libraries Australia through public library consortia.

4. 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 Informit records supplied from the ANBD on an updated basis.

5. 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.
Australian National Bibliographic Database (ANBD) and Libraries Australia Cataloguing issues

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 within the period covered by the Business Plan:

1. Continue to refine the CBS matching and merging algorithms.
2. 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.
3. Guidelines have recently been released for the cataloguing of Thai data. Test creation of non-roman, non-CJK records in the database and provide guidelines to Libraries Australia users, eg Arabic, Cyrillic, Greek, Hebrew, Tamil. (NB. Thai has already been done).
4. Improve data quality, especially by implementing duplicate detection and removal processes, with a focus on Australian materials.
5. Remove unused records: remove records without holdings, Australian content indicator or Table of Contents that have not been changed for more than five years.
6. Improve the data coverage of the ANBD:
   - Target contributions from Parliamentary libraries (Commonwealth and State)
   - Improve coverage of government publications
   - Increase coverage of theses
   - Improve coverage of public library holdings which are especially important now that there is a free Libraries Australia Search service
   - Investigate addition of holdings from SCIS (Schools Cataloguing Information Service)
7. Develop a policy for creation of article/track/component level records in the ANBD
   - Should these records be part of the ANBD or another database?
   - How is cross linking between parent and child records to be implemented?
8. Consider the enablers and inhibitors to moving the PictureAustralia data into the ANBD.
9. Develop the Record Import Service (RIS) to support import, matching and evaluation of authority records.
10. Implement SRU Update and offer it as a service for Libraries Australia customers which would provide a new way to supply data to the ANBD. OCLC PICA have reported that this feature is included in CBS v3.2. SRU Update would also be the best way to do cross-updating with WorldCat.
11. 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. Investigate establishing similar arrangements with other e-resource management services such as Ebsco, Swets and TDNet.
12. Develop a link checking service to advise the publisher or record contributor when a broken links are found in ANBD records.
Libraries Australia Search issues

The National Library has recently undertaken a study of relevance ranking and its application to ANBD search services (see LAAC paper 2006/3/10). This study also considered new ways to present data from and access Library catalogues including clustering by works and expressions, faceted browsing by format, genre, language, author etc. The NCSU Catalog (see Towards a Twenty-First Century Library Catalog attached to the LAAC papers) provides one recent exemplar of what is possible.

This study also compared the functionality and potential of TeraText (currently used for the Libraries Australia Search service) and Lucene (a Java based open source search engine) to provide the desired functionality. Lucene appears to provide more potential to meet the Library’s requirements for search services and the Library will be pursuing it as a medium term option, pending development of some required functionality such as support for Z39.50 and text normalisation and word parsing issues in Lucene.

Future directions for Libraries Australia Search include:

1. Deep link from Libraries Australia to more local library catalogues especially for special and public libraries
2. Implement new targets for searching including, but not limited to, Deutsche Bibliothek, RMIT Informit’s AGIS, Meditext and e-library databases
3. Implement relevance ranking
4. Implement results clustering and faceted browse
5. Implement FRBR work and expression clustering
6. Expand coded data values and simplify search indexes
7. Implement links to value added information, eg
   a. Links to full text (eg Google Book Search)
   b. Links to book reviews (eg Amazon reviews)
   c. Links to search inside the book services (eg Amazon)
8. Allow Libraries Australia subscription users to annotate bibliographic records using generic guidelines and technologies developed or identified by the National Library’s Annotation Working Group.
9. Create new search services based on logical views of the ANBD (eg RAAM MusicAustralia)
10. Investigate mechanisms for improved “getting” services including extension of end user requesting and home delivery
11. Investigate applying personalisation to the free Libraries Australia Search service

Libraries Australia Administration issues

1. 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.
2. Re-develop ALG and brand it as part of Libraries Australia.

Libraries Australia Document Delivery issues

1. Complete the X500/standards based directory support project.
2. Implement ISO interoperability with other Australian and overseas libraries.
References

1. The Changing Nature of the Catalog and its Integration with Other Discovery Tools

2. The Changing Nature of the Catalog and its Integration with Other Discovery Tools: A Critical Review
   http://guild2910.org/AFSCMECalhounReviewREV.pdf

3. Do Libraries Matter? The rise of Library 2.0


6. Improving User Access to Library and Portal Information
   http://www.loc.gov/catdir/bibcontrol/2.3BatesReport6-03.doc.pdf


8. The Long Tail, Wired Magazine 12 (10)
   http://www.wired.com/wired/archive/12.10/tail.html

9. The Melvyl Recommender Project
   http://www.cdlib.org/inside/projects/melvyl_recommend/original


11. Perceptions of Libraries and Information Resources Among College Students
    http://www.oclc.org/reports/perceptionscollege.htm

12. Rethinking How We Provide Bibliographic Services for the University of California
    http://libraries.universityofcalifornia.edu/sopag/BSTF/Final.pdf


Recommendation

That the Libraries Australia Advisory Committee note the report.

Contact: Tony Boston
          (02) 6262 1143

20 October 2006
Libraries Australia Forum 2006

AGENDA
Friday 3 November 2006

Chair: Anne-Marie Schwirtlich, CEO and State Librarian, State Library of Victoria

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
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| 9.00  | Opening                                                                  | Peter McPhee  
Deputy Vice Chancellor  
University of Melbourne |
| 9.15  | Introduction                                                             | Jan Fullerton  
Director-General  
National Library of Australia |
| 9.25  | Libraries Australia Report and Strategic Directions                      | Tony Boston  
Assistant Director-General,  
Resource Sharing  
National Library of Australia |
| 9.50  | A new paradigm for “getting”                                            | Kent Fitch  
Information Technology  
National Library of Australia |
| 10.10 | The future of the catalogue                                            | Warwick Cathro  
Assistant Director-General,  
Innovation  
National Library of Australia |
| 10.30 | Morning Tea                                                              |                                                                          |
| 11:00 |平行 sessions                                                             |                                                                          |

平行工作坊

**Cataloguing Workshop**
- **Facilitators:** Rob Walls/ Bemal Rajapatiiran
- Maximising the potential of Libraries Australia Cataloguing

**Reference & End User Access Workshop**
- **Facilitators:** Fran Wilson/ Jane Jones (SLWA)
  - End user access to Libraries Australia – including the use of Personalisation and Alerts. Use of LA Administration to set up end user access and options including IP and scripted access. Case Studies – WA publics

**Interlibrary Lending Workshop**
- **Facilitators:** Margaret Kennedy/ David Ong
  - What of the future?
  - New models for delivery to patrons
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<tr>
<td>12.30</td>
<td>Lunch</td>
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<tr>
<td>1.30</td>
<td>Opening up access to Libraries Australia for end users – Case study</td>
<td>Lynnette Lewis (Yarra Plenty Library, Victoria)</td>
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<tr>
<td>1.50</td>
<td>User Survey of Libraries Australia</td>
<td>Fran Wilson Director, Resource Sharing National Library of Australia</td>
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<tr>
<td>2.10</td>
<td>People Australia project</td>
<td>Basil Dewhurst Manager, People Australia Project National Library of Australia</td>
</tr>
<tr>
<td>2.25</td>
<td>Engaging with new audiences for library services</td>
<td>Tony Boston Assistant Director-General, Resource Sharing National Library of Australia</td>
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<tr>
<td>2.45</td>
<td>Afternoon tea</td>
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<tr>
<td>3.15</td>
<td>Newspaper Digitisation Project</td>
<td>Warwick Cathro Assistant Director-General, Innovation National Library of Australia</td>
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<td>3.35</td>
<td>Questions, Review</td>
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<td>4.00</td>
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AUSTRALIAN NATIONAL BIBLIOGRAPHIC DATABASE:
QUALITY ISSUES

This paper reports on current initiatives aimed at improving the quality of the Australian National Bibliographic Database (ANBD) and introduces a new Quality Improvement Plan.

Quality Improvement Plan 2006

A Quality Improvement Plan was developed in 2004 to provide a basis for a major campaign to address data quality issues for the ANBD and the Kinetica CJK database. Many of the tasks in this plan were one-off projects which have been completed, e.g. removal of record terminators that were incorrectly included in the some records. Other tasks related to specific problems in the Kinetica Amicus cataloguing system and are no longer relevant, e.g. removal of near duplicate headings. In addition many other data quality issues were resolved during the data migration to the new Libraries Australia Cataloguing system (CBS).

The new Libraries Australia Cataloguing system includes data matching, merging and validation that is superior to that of the previous ABN and Kinetica systems. The new Quality Improvement Plan is therefore focused on the maintenance and enhancement of quality data and on embedding data quality in the Libraries Australia systems and processes.

The new Quality Improvement Plan is included as Attachment A to this paper.

Record Import Service

The configuration and implementation of the new Record Import Service was more complex than expected and caused significant disruption to data loading during the first half of the year. This was in part due to the fact that data is loaded from a wide variety of sources and many of these have peculiarities which required changes to data conversion and matching programs.

By mid-year regular automated loading of data from 50 different library contributor sources was underway. These include national agency sources such as Library of Congress, British Library and National Library of Australia as well as bibliographic and holdings files from Australian libraries. A small number of contributor sources are still to move to fully automated record loading. Many of these files have been tested and contain export problems from the supplying library’s ILMS.

Reviewing

The number of records awaiting review by NBD staff is approximately 60,000. This sizeable backlog reflects the high levels of data loading during the past several months as we have been catching-up following the disruptions that occurred during the implementation of the new Libraries Australia Update service. It also reflects reviewing generated by several libraries that have reloaded large bibliographic and holdings files. A number of NBD staff are working overtime to help clear the backlog and staff from NLA Interlending Services have also provided assistance to reduce the backlog.
Bibliographic record and holdings refreshes

During the past six months several libraries have reloaded large files of bibliographic and holdings data to the ANBD. This has required Libraries Australia to process many hundreds of thousands of bibliographic records and support the manual reviewing of many tens of thousands of records. These refreshes result in the double handling of data which has already been added to the ANBD. If the quality of the bibliographic records is low, it is possible that matching algorithms won’t identify a match and the poor quality record may be added to the database; in some cases these will be records that have previously been removed from the database as part of earlier data improvement projects. Large data refreshes also place a significant strain on our systems and reviewing capability and compete for resources with other data quality tasks. We therefore plan to discontinue offering as part of our normal service, data refreshes that rely on the matching of bibliographic records. In the future such refreshes will only be considered where no other option is viable. Contributing libraries must ensure that they can identify new and changed records in their library management systems and then only supply these records to the ANBD. They should also retain ANBD system control numbers in records that have been sourced from Libraries Australia. This process will be made easier, and the quality of the ANBD enhanced, if libraries ensure that they contribute regularly.

Global Data Updates

The first global holding change in the new Libraries Australia cataloguing service was completed in May. This involved the splitting of holdings previously on one NUC for the SA Health Library. Since then 50 holdings delete tasks have been completed for 34 different libraries with a total of 592,653 holdings statements deleted. This included a major global holdings deletion of 440,000 holdings which were removed from the database in preparation for a major file load to refresh holdings. Thirty-two holdings transfer tasks were completed for 32 libraries with 134,475 holdings statements being transferred to another NUC.

Bibliographic global changes during the period included:
- Correction of a number of data migration problems including re-insertion of subfield $v in 8XX fields (40,345 records) and addition of a second indicator for field 245 (2,321 records)
- 1,450 records had their Institution specific URLs (in field 856) upgraded by the addition of availability information in subfields $3 and $z;
- 1,166 ABS Statistics records had their series statement (in field 830) upgraded to reflect the new series title "ABS Statistics electronic collection"
- 3,004 records had obsolete relator codes corrected in fields 100 and 700.

Subject Headings

Database maintenance activities focused on implementing LCSH changes and maintaining Australian extensions to LCSH, and included:
- Changing the subject heading “Biological diversity” to “Biodiversity” (2,000 headings);
- Changing the subject heading “Vietnamese Conflict” to “Vietnam War” (5,000 headings);
- Changing the subject heading qualifier “Papua New Guinea” to “Papua New Guinean” (e.g. Motu (Papua New Guinean people)) (5,000 headings);
- Deleting "--Australia" from LC subject headings that are geographically subdivided through Australian states (13,000 records).
Database maintenance

Other database maintenance activities during the period include:

- The reviewing of approximately 6,900 Chinese Name Authority records and the conversion of all Wade-Giles headings to Pinyin. In the next 12 months the remaining Wade-Giles headings in the subject authority file will be changed to Pinyin;
- Thai dates in field 008 were changed to Julian dates (950 records);
- Jewish dates in field 008 were changed to Julian dates (300 records).

Non-roman scripts

In August, Libraries Australia users were informed (via the list) that Thai script can now be included in NBD records. Thai script can only be supported in Unicode bibliographic products. Two new Z39.50 target databases that provide Thai copy cataloguing will be added to Libraries Australia as soon as resources are available. Libraries Australia web pages were upgraded to include documentation and information on script input in general and specific hints and tips for the Thai language.

Preliminary testing of support for Arabic, Cyrillic, Greek and Tamil script in the Libraries Australia Update system is underway. The testing has indicated that while Arabic script is stored correctly, directional marker codes held in the script tags create presentation problems in the MARC21 format and some configuration changes will be required to support the correct display of Arabic script. The testing of Greek indicates that there is adequate support for the script, including common diacritics which are available in the standard tool bars of the Cataloguing Client. Further testing will be undertaken by language experts prior to releasing the service to cataloguers.

Automated de-duplication

Testing commenced on a CBS program that can detect and resolve existing duplicate bibliographic record in the National Bibliographic Database. This program is part of the suite of match and merge algorithms used in offline data loading that can be run across the existing database to detect duplicates and either remove them or send them for human review. A bug in the software has been reported to OCLC PICA and has been rectified in the latest CBS 3.1 offline release.

Serial Solutions records

The first, of what will be a regular monthly, file of data from Serial Solutions was loaded to the NBD in June. The files are provided under an agreement whereby Australian Serial Solutions customers can opt to have a copy of their data supplied to the ANBD. The files currently contain bibliographic and holdings data for electronic resources licenced by the National Library and the state libraries of New South Wales, Western Australia and Tasmania. It is hoped that other libraries will also join the program.
Recommendation

That the Libraries Australia Advisory Committee note the report.

Libraries Australia Database Services
Contact: Bemal Rajapatirana / Rob Walls
(02) 6262 1215 / (02) 6262 1657

18 October 2006
### Quality Improvement Plan for the National Bibliographic Database

**Revised October 2006**

An ongoing program of database maintenance and quality tasks is carried out by Libraries Australia Database Services staff. To assist in prioritising and managing these tasks, a Quality Improvement Plan is maintained and revised annually. The following table lists a variety of tasks, including their priority, which will improve the quality of records and indexes in the Australian National Bibliographic Database.

<table>
<thead>
<tr>
<th>Task</th>
<th>Strategy</th>
<th>Task Priority</th>
<th>Start</th>
<th>Finish</th>
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</thead>
<tbody>
<tr>
<td>Remove duplicate records reported by Libraries Australia users via the web reporting form</td>
<td>About 400 duplicate records are manually removed each month including those reported by Libraries Australia users and those discovered during ANBD maintenance activities.</td>
<td>1</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Automated de-duplication of ANBD</td>
<td>Configure, test and implement the Libraries Australia (CBS) offline duplicate removal software to identify and remove existing duplicate records from the ANBD. Database Services staff to review tentative matches.</td>
<td>1</td>
<td>March 2007</td>
<td>Ongoing</td>
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<tr>
<td>Identify and resolve duplicates from a generated list of most popular Australian works.</td>
<td>Investigate whether it is possible to generate a list of most popular (based on holdings) Australian works and resolve duplicates</td>
<td>2</td>
<td>May 2007</td>
<td>July 2007</td>
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<tr>
<td>Task Description</td>
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<tr>
<td>Identify and remove redundant data in duplicate or multiple fields (eg MARC 300 504)</td>
<td>The Libraries Australia Merge algorithm is designed to minimise the addition of multiple fields. Strategy may involve changes to Merge algorithm to fine tune this process. The small numbers of these fields are being fixed as found.</td>
<td>3</td>
<td>Ongoing</td>
<td>Ongoing</td>
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<tr>
<td>Maintenance of Matching, Evaluation and Merging algorithms to minimise the incidence of duplicate records</td>
<td>The new CBS matching, evaluation and merging algorithms are superior to any previously used to support the ANBD. Fine tuning of these algorithms will be undertaken when specific issues are identified or when necessary to support new data sources.</td>
<td>1</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Identify and fix incorrect indicators in Title field which cause record display problems</td>
<td>A global change script has been developed to support this and will be run regularly.</td>
<td>2</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Some records contributed to the ANBD contain incorrect coding for Musical or Non Musical sound recordings</td>
<td>A report generated from the database can identify a high percentage and these will be corrected by regularly running a global change script.</td>
<td>2</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Maintain Subject headings where Library of Congress and Australian forms conflict (includes headings referred to the Subject Headings)</td>
<td>Strategy comprises: 1. Aligning Australian headings with Library of Congress authority file 2. Perpetual maintenance strategy for terms that can't</td>
<td>2</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Advisory Panel)</td>
<td>3. Implement CBS functionality to support the mapping of incoming headings to the preferred form.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
| Ongoing authority file maintenance | 1. Identify and resolve incorrect headings reported by Libraries Australia users  
2. Identify and resolve incorrectly coded Australian Name Authorities | NBD staff resolve incorrect headings reported by Libraries Australia users  
Identify through subject categories such as music, science, history, and resolve using automated process to attach Australian codes. Use automated means where possible. | 3 | Ongoing | Ongoing |
<p>| Change Wade-Giles headings in subject authority records to Pinyin | NBD staff manually change Wade-Giles headings in subject authority records to correct Pinyin form | 2 | November 2006 | July 2007 |
| Remove records that have not been modified in more than five years, and which do not contain Australian content codes, Table of Contents data or non-Roman script, and have no holdings attached | Records which are older than 5 years, which do not contain the Australian Content Indicator and which have not been edited, and which have no holdings attached and which are not TOC records are identified and deleted as surplus to requirements. | 2 | Annual | Ongoing |
| Maintain validation configuration | The new CBS system supports stronger data validation than ever previously possible in the ANBD. It aims to ensure that records meet MARC 21 encoding and also ANBD minimum | 1 | Ongoing | Ongoing |</p>
<table>
<thead>
<tr>
<th>Record Standard</th>
<th>Modifications to validation tables will be made to reflect changes in the above standards and also if specific problems are identified.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain RIS and online incoming data conversion tables</td>
<td>The new Libraries Australia Cataloguing system supports conversions of records imported though the RIS, web and cataloguing client interfaces. These data conversion scripts will be maintained to reflect any MARC 21 changes.</td>
</tr>
<tr>
<td>Correct record faults that prevent MARC 21 presentation and therefore pushing to the LA search service.</td>
<td>Undertake period reconciliation of records in the LA Search and update databases and analyse the tags in those records that have not been pushed to LA Search. Use global change scripts to correct these problems.</td>
</tr>
<tr>
<td>Support effective clustering of records based on MARC 21 data elements</td>
<td>Use data mining and scripting to identify records and insert MARC 21 coding to better expose records for clustering. Remove erroneous MARC 21 codes where these can be identified.</td>
</tr>
</tbody>
</table>
REPORT OF THE EXPERT ADVISORY GROUP TO REVIEW THE GUIDELINES FOR THE CATALOGUING OF ELECTRONIC RESOURCES

Introduction

In 2005, Libraries Australia conducted a survey on cataloguing and access issues relating to electronic collections in Australian libraries. The survey results suggested a number of potential areas where Libraries Australia could work with libraries to improve the management and access of electronic resources. In particular, there is scope to encourage improved workflows by providing guidance on options for obtaining and managing bibliographic records. There is also opportunity to encourage consistency of cataloguing approaches and improved levels of contribution to the Australian National Bibliographic Database.

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 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

During August the EAG drafted a revised guidelines document. The group met on 30 August to discuss issues arising from the draft and also discuss the scope of the groups’ activities and a
timetable for the completion of the new guidelines. During the meeting the group also identified a number of areas in which Libraries Australia could support improved library workflows for managing access to e-resources. These will be discussed further and included in the final report of the EAG.

Following the meeting, and further email discussion, the draft Guidelines for Cataloguing Remote Access Electronic Resources were made available for comment via the EAG web page on 28 September and were publicised via LibrariesAustralia-L. The period for comment on the draft ended on 20 October. A teleconference of EAG members will be held in early November to consider any comments received and complete the final version of the new guidelines.

The new guidelines have been developed to provide guidance when cataloguers are creating or editing bibliographic records and holdings statements for remote access electronic resources. When finalised they will replace the existing electronic resource cataloguing guidelines (http://www.nla.gov.au/librariesaustralia/dg_cer.html).

Key changes are proposed in the following areas:
- adoption of an aggregator neutral record policy
- recommended and preferred use of persistent identifiers in the Electronic location field (865)
- 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

The draft guidelines are included as Attachment A.

**Recommendation**

That the Libraries Australia Advisory Committee note the report.

Libraries Australia Database Services
Contact: Rob Walls
(02) 6262 1657

20 October 2006
Guidelines for cataloguing remote access electronic resources (Draft Version)

This document provides guidelines for the creation and editing of bibliographic records and holdings statements for remote access electronic resources on the National Bibliographic Database (NBD). The Libraries Australia Expert Advisory Group to Review the Guidelines for the Cataloguing of Electronic Resources has developed the guidelines in consultation with Libraries Australia users.

They have been tailored to provide specific help with cataloguing remote access electronic resources which are accessed via computer networks. They apply to a range of electronic resources including e-journals, titles supplied by aggregator services, databases, web sites, images, sound files. They are not intended for use in the cataloguing of locally accessed electronic resources such as CD-ROMs or electronic resources that do not require a computer for access such as videodiscs.

Reasons to record electronic resources on the NBD

Libraries Australia encourages libraries to record their electronic resources on the NBD even if the resource is not available for interlibrary loan as listing has many benefits for resource sharing:

- End users who search Libraries Australia may have access to the material
- Onsite access may still be available
- Supports the sharing of metadata for electronic materials between libraries
- Contributed records support re-use in services such as subject gateways
- Provides library managers and planners with a better picture of the materials that are owned or licenced by Australian libraries, and trends in the library sector.

Libraries are encouraged to contribute all electronic resource records that meet the Libraries Australia minimum record standards.

Cataloguing standards

These guidelines are intended to be a guide to applying existing Libraries Australia cataloguing standards to electronic resources and are not intended as a replacement for the existing standards. They are primarily intended for the creation of MARC21 records by cataloguers. Libraries that create or harvest metadata for their electronic resources through semi or fully automated processes should adopt the recommendations as required, particularly where they support the generation of records that meet the Libraries Australia minimum record standards.

The standards for bibliographic and holdings data for electronic resources are evolving and the interpretation of standards may vary between organisations. It is to be expected that there may be some differences in the application of standards in records that are added to the NBD for the foreseeable future. Any changes in the international standards will be considered as part of any further development of the Libraries Australia guidelines.
**Separate or single records**

Libraries Australia recommends the creation of separate records when a resource exists in both electronic and non-electronic form. However it is recognised that libraries may not wish to create a separate record for all of their electronic resources, for example the digitised form of an original or rare item or a government publication.

In such cases cataloguers may add an 'Additional physical form available' linking note (MARC field 530) which includes electronic location and access information to the record for the print form. Optionally electronic location and access information in a linking field (MARC field 856) can also be added for the available online version. Cataloguers should not create merged records by the addition of the full details of the electronic form to the record for the print form.

**If separate records are created for** both electronic and non-electronic form, Libraries Australia recommends that an 'Additional physical form available' linking note (MARC field 530) be included in the bibliographic records for both physical forms to indicate the existence of the alternative form.

Libraries Australia also recommends the creation of a single aggregator neutral record when a title is included in multiple aggregator services. This is a record that represents all versions of the same online serial on one record where the same serial title is available from multiple aggregators. Aggregator neutral records eliminate the need for extensive record editing and maintenance to reflect a titles inclusion or exclusion from an aggregation. They also simplify the presentation of records, minimising inadvertent duplication and confusion to users.

**Recommended Data Elements**

This section describes the data elements that would usually be included in bibliographic records for electronic resources. It is not intended to be a complete list of the data elements that may be required as instructions and examples on the creation of the more commonly used bibliographic descriptions and access points are well covered in existing cataloguing standards documentation.

Libraries that use machine-generated bibliographic records, for example through the use of PERL scripts or automatic metadata harvesting, should refer to the Libraries Australia [minimum record standards](#). Automated metadata generation may not deliver a full level record but consistent adherence to the minimum level will enable libraries to successfully report and maintain these records on the NBD.

For more details about these and other data elements please consult the [MARC 21 concise format for bibliographic data](#). For examples on the application of these fields and their content please refer to the Examples provided and to the Resource Documents.
**Leader/06 (Type of record)**

The Type of record code (Leader/06) in records for electronic resources should be coded to convey the most significant aspect of the work and in terms of the **content** of the resource.

<table>
<thead>
<tr>
<th>Type of resource</th>
<th>Examples</th>
<th>Leader/06 code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textual data</td>
<td>Electronic journals, documents, books, bibliographic databases; theses</td>
<td>a, t</td>
</tr>
<tr>
<td>Image data</td>
<td>Pictures, moving images</td>
<td>g or k</td>
</tr>
<tr>
<td>Maps data</td>
<td>Maps, atlases, cartographic items</td>
<td>e or f</td>
</tr>
<tr>
<td>Music data</td>
<td>Notation or scanned images of scores</td>
<td>c or d</td>
</tr>
<tr>
<td>Sound data</td>
<td>MIDI files, streaming audio</td>
<td>i or j</td>
</tr>
<tr>
<td>Electronic programs, systems or services</td>
<td>Software, online systems and services, numeric data</td>
<td>m</td>
</tr>
</tbody>
</table>

**Leader/07 (Bibliographic level)**

The bibliographic level code (Leader/07) in records for electronic resources should be coded to convey either the serial, monographic or integrating nature of the item described.

To determine whether the resource is integrating consider whether it is added to or changed by means of updates that do not remain discrete and are integrated into the whole, noting that integrating resources can be finite or continuing.

<table>
<thead>
<tr>
<th>Type of resources</th>
<th>Examples</th>
<th>Leader/07 code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td>American Mathematical Society website [electronic resource]</td>
<td>i</td>
</tr>
<tr>
<td>Online newsletter</td>
<td>Notices of the American Mathematical Society [electronic resource]</td>
<td>s</td>
</tr>
<tr>
<td>Web document</td>
<td>Australia's thylacine [electronic resource] : to clone or not to clone?</td>
<td>m</td>
</tr>
</tbody>
</table>

**006**

Unless Leader/06 is coded ‘m’ it is necessary to include field 006 to describe the electronic aspects of the resource. For textual electronic resources the Computer file type subfield (006/09) will usually be coded "d" (Document). Code "m" should be used when the item is a combination of two or more types of files, eg text with a significant amount of multimedia files.

**007**

The electronic resource 007 should be used in any record representing an item whose carrier is a computer file. For an online electronic resource the Specific Material Designation subfield (007/01) should be coded "r" (Remote) and Dimension (007/04) should be coded “n” (Not applicable).
008
Use the 008 fixed fields that are appropriate to the type of record indicated in Leader/06.

For continuing integrating resources the Type of Date / Publication Status subfield (008/06) should be coded as either “c” (currently published) or “d” (ceased). For finite integrating resources use the code "m" (Multiple dates).

Records for serial publications often lack a definable frequency, with information being constantly updated and changed. If this is the case, the Frequency subfield (008/18) should be coded "blank" (No determinable frequency) and the Regularity subfield (008/19) should be coded "x" (Completely irregular).

008/23 or 008/29 (Form of Item)
The form of item code for electronic resources is code "s" (Electronic).

020 (International Standard Book Number)
Record the ISBN of the electronic resource. If the electronic and other versions share the same ISBN enter it in both the 020 and 776 Additional Physical Form Entry fields.

022 (International Standard Serial Number)
Record the ISSN of the electronic resource. If the electronic and other versions share the same ISSN enter it in both the 022 and 776 Additional Physical Form Entry fields.

042 Authentication Code
If the item is produced at an Australian institution, by an Australian author or the content relates to Australia indicate this by adding the code "anuc" (Australian National Union Catalogue).

130 (Main Entry - Uniform Title)
Add a uniform title if the electronic resource is also available with the same title in other formats or in other versions. Use the qualification term “online” where appropriate.

| 130 | # # | a Aboriginal history (Online) |

300 (Physical description)
Records for remote access electronic resources may include a 300 field which records the extent of the resource.
500 (General notes)
A number of general notes may be required, including recognition of the source of title proper or other general notes and explanation of updating procedures.

1. Source of title proper
This note should always be included in a record for an electronic resource even when the title is taken from the chief source of information. Always indicate the date on which the title was viewed for cataloguing.

| 500 | # # | aTitle from title screen (viewed on Sept. 1, 2006) |

506 (Restrictions on access note)
Give a note to record any restrictions on access to the resource.

| 506 | 4 1 | aSubscription and registration required for access. |

Currently there is no single data element that can be reliably used to identify free web resources. Users can infer that data is freely available through the absence of restriction statements in field 506 or field 856. Libraries Australia also recommends flagging items as ‘Freely available’ in field 856 (z subfield). This collocates location and access provisions in a single tag, making it easier for the user to see.

| 856 | 4 # | uhttp://www.aera.net/pubs/er|zCurrent issue and archive freely available online here |

516 (Type of computer file or data note)
This field may be used to describe the file or document formats, or other file characteristics, of the resource. NB. Do not use field 256 for file characteristics as it replicates information already held elsewhere in the record.

520 (Summary or abstract note)
A note to explain the type of information contained in the resource is recommended.

530 (Additional physical form available note)
If the cataloguer is aware that a resource exists in both electronic and non-electronic form, Libraries Australia recommends that an 'Additional physical form available' linking note (MARC field 530) be included in the bibliographic records for both versions to indicate the existence of the alternative form.

538 (System details note)
This note records system information. It should be provided to explain any special access requirements such as browser plug-ins. It is not required for standard browser access to online material.

| 538 | # # | aSystem requirements: Real Player for video and sound files. |

776 (Additional Physical Form Entry)
This field may be used to provide a link between physical formats and to provide the ISBN/ISSN of the alternate version.

| 130 | 0 # | aEmerging infectious diseases (Online) |
| 245 | 1 0 | aEmerging infectious diseases|h[electronic resource] ;|bEID |
| 530 | # # | aAlso issued in print. |
| 776 | 1 # | tEmerging infectious diseases|x1080-6040 |

Alternatively, in addition to the 530 provide the note as subfield |i in the 776 field

| 130 | 0 # | aEmerging infectious diseases (Online) |
| 245 | 1 0 | aEmerging infectious diseases|h[electronic resource] ;|bEID |
| 530 | # # | aAlso issued in print. |
| 776 | 1 #| iPrint version|tEmerging infectious diseases|x1080-6040 |

850 (Holdings)
The Libraries Australia policy is to list holdings even when materials are not available for interlibrary loan. Even if document delivery is not permitted, holdings on NBD records still provide many benefits for resource sharing and resource management, including:

- Support seamless access to print and electronic resources
- Enable end users to determine if electronic resources are available through their own library
- Alert end users to potential access restrictions at other libraries
- Enable libraries to manage and monitor electronic coverage levels in their collections
- Support networked access to information using standard metadata
- Enable the export of MARC records for electronic collection sets from the NBD to local systems

Holdings statements should only indicate when the resource is not available for document delivery or where restrictions apply. The following generic statements are recommended:

- [Generic holdings statement]

---

LAAC/2006/3/8
Page 8
• Available for document delivery – restrictions apply
• Not available for document delivery

| 850 | ## | aANL|cInternet|h See Internet for available issues |
| 850 | ## | aQGU|cOnline access. Not available for document delivery |

It is recommended that libraries apply their Local System Numbers to their electronic holdings on the NBD.

| 850 | ## | aWU|bS123456|cOnline access. Available for document delivery – restrictions apply. |

As an alternative to a generic holdings statement, each library may nominate its preferred customised holdings statement to be applied to any record or collection of records on the NBD. It is still strongly recommended that customised statements include details of any access or document delivery restrictions.

For records corresponding to electronic aggregations or datasets, each library may also apply their holdings statements to either the complete set of records or a defined subset of records.

Libraries Australia recommends that details of the actual serial issues not be included in the holdings statement as issue availability may vary significantly over time, for example back issues may be added, a publisher may decide to only make available the current and selected previous issues, or a publisher may lose interest and cease adding issues to the Internet. If possible add a note (subfield h) to direct users to the source of current coverage of the resource.

**856 (Electronic location and access)**
This field contains the URL (Uniform Resource Locator) and other details required to locate and access the resource. Most records require an 856 for the URL address and some may require extra 856 fields to indicate other access options such as ftp, table of contents, etc.

It is recommended that persistent identifiers be used in NBD records where these are available. A persistent identifier is a name for a resource which remains the same regardless of where the resource is located thus ensuring that links to the resource will continue to work and remain actionable even if it is moved, or its ownership changes. For further information refer to the papers listed under Resource documents. Examples of the preferred persistent identifier systems such as DOI, Handles, URNs are listed below:

| 856 | 4 0 | uhttp://dx.doi.org/10.1002/3527602100|zAuthentication may be required |
| 856 | ## | uhttp://doi.anu.edu.au/cdsrv/remotelaunch.asp?Title=Drummer|zView digital archive via DOI remote launch [ANU STAFF AND STUDENTS ONLY] |
| 856 | 4 1 | uhttp://nrs.harvard.edu/urn-3:RAD.SCHL:413393 |
| 856 | 4 1 | uhttp://nla.gov.au/nla.pic-vn3409969 |
| 856 | 4 0 | 3Jefferson's copy|uhttp://hdl.loc.gov/loc.rbc/jeff.16823 |
If the electronic location is generally accessible supply appropriate terminology in subfield |z to indicate that the resource is immediately or freely accessible:

| 856 | 4 1 | [uhttp://www.wssinfo.org/en/40%5Fwfl%5F2005.html]zFreely available online |
| 856 | 4 1 | [zRequires free registration uhttp://mitpress.mit.edu/catalog/item/default.asp?tid=10611&ttype=2 |

If the electronic location is only available to your institution indicate this by including a subfield 'x' with the text beginning 'ISD5:_' to record the NUC symbol of your library. Any access restrictions should also be recorded in subfield |z|

| 856 | # # | [xISD5:XNTU]zOnline access for CDU staff & students only. Not available for document delivery |

When the title is available from a number of locations, add a note (z subfield) to each 856 so that each version can easily be distinguished. Use appropriate text for each note, for example: Publisher site, Archived at ANL, Archived at VSL. Give preference to the publisher's URL as this is usually more up-to-date than the archived version.

| 856 | 4 0 | [zFor North America uhttp://www.rlg.org/preserv/diginews/ |
| 856 | 4 1 | [zUK mirror siteu http://www.rlg.ac.uk/preserv/diginews/ |

**Maintenance**

As with all bibliographic and holdings records added to the NBD, users are strongly encouraged to update records for electronic resources when there are changes to the publication or to a library’s holdings.

1. **Amending records when Internet resources disappear**

If an electronic resource ceases to exist the bibliographic record for the resource should be retained on Libraries Australia and a note should be added to indicate that it has disappeared. The 856 field should be removed as its primary purpose is to provide a direct link to the resource. The URL should be retained within a note only.
Resource documents

Anglo-American Cataloguing Rules, 2nd edition, 2002 Revision (AACR2)

Cataloging Electronic Resources: OCLC-MARC Coding Guidelines / OCLC

Guidelines for Coding Electronic Resources in Leader/06 / Library of Congress, Network Development and MARC Standards Office.

Integrating Resources: A Cataloging Manual / Program for Cooperative Cataloging.

MARC 21 concise format for bibliographic data

Managing web resources for persistent access

PADI - Persistent identifiers
Sample Records

**Record 1: Electronic journal**

<p>| 000 | 01322cas a2200349 a 4500 |
| 001 | 000024720570 |
| 003 | AuCNIKLIN |
| 005 | 20030616190345.0 |
| 006 | m e d |
| 007 | cr cn|---uuuuu |
| 008 | 021213c20019999acaqr p s 0 a0eng d |
| 040 | aSUA |beng |
| 042 | aauuc |
| 043 | au-at--- |
| 082 | 0 |a020.5 |
| 130 | 0 |aAustralian library journal (Online) |
| 245 | 04 |aThe Australian library journal |h[electronic resource]. |
| 246 | 3 |iAt head of webpage title: |aALJ |h[electronic resource] |
| 260 | 0 |a[Canberra ] |bALIA. |
| 362 | 1 |aCoverage as of Dec. 13 2002: v. 50, no. 1 (Feb. 2001)- |
| 500 | aTitle from home page (viewed Dec. 13 2002) |
| 516 | aElectronic journal; full-text of articles and editorials only available, |&lt;Feb. 2001&gt;-; |
| | table of contents available, |&lt;May 1996&gt;- |
| 530 | aAvailable also in print form. |
| 580 | aAbsorbed: NB (Sydney, N.S.W.), 1976. |
| 580 | aHas supplement: Happenings (Sydney, N.S.W.), 1976-1979. |
| 650 | 0 |aLibrary science |xPeriodicals. |
| 650 | 0 |aLibraries |zAustralia. |
| 710 | 2 |aAustralian Library and Information Association. |
| 776 | 1 |x0004-9670 |
| 850 | aSUA |b1054190 |e- |
| 856 | 4 |uhttp://www.alia.org.au/alj |zFull text available: Feb. 2001- |</p>
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>04570cas a2200577 a 4500</td>
</tr>
<tr>
<td>001</td>
<td>000023715717</td>
</tr>
<tr>
<td>003</td>
<td>AuCNLKI</td>
</tr>
<tr>
<td>005</td>
<td>20060707160822.0</td>
</tr>
<tr>
<td>006</td>
<td>m d</td>
</tr>
<tr>
<td>007</td>
<td>cr bn ---</td>
</tr>
<tr>
<td>008</td>
<td>020604c19959999at sr p s 0 0eng d</td>
</tr>
<tr>
<td>022</td>
<td>a1322-9400</td>
</tr>
<tr>
<td>030</td>
<td>JFSTFG</td>
</tr>
<tr>
<td>040</td>
<td>AAIN:NBD</td>
</tr>
<tr>
<td>042</td>
<td>anuc</td>
</tr>
<tr>
<td>091</td>
<td>APAFT</td>
</tr>
<tr>
<td>091</td>
<td>MTEXT</td>
</tr>
<tr>
<td>091</td>
<td>FAMSOC</td>
</tr>
<tr>
<td>091</td>
<td>ELIB</td>
</tr>
<tr>
<td>130</td>
<td>0_ Journal of family studies (Online)</td>
</tr>
<tr>
<td>245</td>
<td>00</td>
</tr>
<tr>
<td>260</td>
<td>_ aBundoora, Vic., Australia : b La Trobe University Press.</td>
</tr>
<tr>
<td>516</td>
<td>_ aText (electronic journal)</td>
</tr>
<tr>
<td>650</td>
<td>_ aFamily</td>
</tr>
<tr>
<td>650</td>
<td>_ aFamily</td>
</tr>
<tr>
<td>710</td>
<td>_ aLa Trobe University. b School of Behavioural Health Sciences.</td>
</tr>
<tr>
<td>730</td>
<td>_ aCounselling across Australia.</td>
</tr>
<tr>
<td>776</td>
<td>_ Journal of family studies</td>
</tr>
<tr>
<td>850</td>
<td>_ aVDVC</td>
</tr>
<tr>
<td>850</td>
<td>_ aXNLS</td>
</tr>
</tbody>
</table>
Record 4: Online database

| 000 | 00989cms a2200265 a 4500 |
| 001 | 000024553794 |
| 003 | AuCNLKin |
| 005 | 20051110202622.0 |
| 006 | m d |
| 007 | crucnu|||||||
| 008 | 030110c19969999xna | eng d |
| 040 | __ | aQu |
| 042 | __ | anuc |
| 245 | 00 | aMIMS online | h[electronic resource]. |
| 246 | 30 | aMIMS |
| 246 | 3 | aMonthly index of medical specialties | online |
| 246 | 3 | iTitle bar title: | a MIMS | Australia |
| 260 | __ | aSydney, N.S.W. : | bHCN. |
| 300 | __ | aOnline resource. |
| 362 | l_ | aBegan in 1996? |
| 500 | __ | aDatabase coverage: (1996)- |
| 506 | aAccess restricted to users at subscribing institutions. |
| 516 | aPharmaceutical product information and images. |
| 520 | __ | aAccess to the full MIMS database of abbreviated and full information (including OTC) on prescription and non-prescription drugs. Full colour product identification pictures are available. |
| 650 | _0 | aDrugs | zAustralia | vPeriodicals. |
| 650 | _0 | aDrugs | z Australia | v Catalogs | v Databases |
| 650 | _0 | aPatent medicines | zAustralia | vPeriodicals. |
| 650 | _0 | aPharmaceutical industry | z Australia | v Directories. |
| 710 | 2 | aHealth Communications Network. |
Record 5: Integrating database

**Record 5: Integrating database**

<p>| 000 | 01918cai a2200409 a 4500 |
| 001 | 000027201442 |
| 003 | AuCNLKin |
| 005 | 20051110204045.0 |
| 006 | m d |
| 007 | cr cnu---uuuuu |
| 008 | 050601m18259999xna eng d |
| 040 | aNSL |eNSL |dNSL |
| 042 | aanuc |
| 043 | au-at--- |
| 245 | 00 | aFirstPoint |b[electronic resource]. |
| 246 | 30 | aFirst Point |
| 260 | aPyrmont, N.S.W. ;bThomson Legal &amp; Regulatory. |
| 300 | aOnline Database. |
| 500 | aTitle from title screen (viewed Apr. 1, 2005). |
| 500 | aDatabase coverage: 1825 to present. |
| 506 | aAccess restricted to institutions with a subscription. |
| 516 | aDatabase of case law and legal citations. |
| 520 | aFirstPoint provides access to case references, citation, history, and digest information for Australian cases since 1825. All case material is classified to a detailed classification scheme, which can be browsed or searched to locate cases on legal topics. Information is sourced from the Australian Case Citator, Australian Digest and Australian Legal Monthly Digest. |</p>
<table>
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<td>650</td>
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<td>zPublisher site [u]<a href="http://www.thomson.com.au">http://www.thomson.com.au</a></td>
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**Record 6: Web site**

| 000 | 01133cai a2200301 a 4500 |
| 001 | 000026128067 |
| 003 | AuCNLKIN |
| 005 | 20041225184600.0 |
| 006 | m d |
| 007 | cr cn|---uuuuu |
| 008 | 040817m20049999aca eng |
| 040 | __ | aANL |beng |dANL |
| 042 | __ | aanuc |
| 043 | __ | au-at--- |
| 082 | 04 | a526 |222 |
| 245 | 00 | aAustralia on the map [b][electronic resource]. |
| 260 | __ | aCanberra, A.C.T : [b]Australia on the Map, [c]2004- |
| 362 | 0_ | a2004- |
Record 7: Electronic map

Title from title screen (viewed on Aug, 17, 2004)

Text.

Organisation dedicated to helping communities plan events to celebrate 400 years of mapping Australian coast lines.

System requirements: Adobe Acrobat reader to access documents in PDF format

Cartography [z]Australia.

ANL |b3196610 |eInternet

Publisher site [u]http://www.australiaonthemap.org.au


Ordnance Survey (Ireland)

Historic map viewer : Ordnance Survey Ireland [h]electronic resource

Historic map viewer : Ordnance Survey of Ireland

osi [h]electronic resource

Scales vary.


Title from title screen (viewed 10/8/2006).

Subscription required for access.

Online searchable historic maps of Ireland for the period 1834-1842. Search software allows search by county, then townland or locality. Powerful zoom feature allows detailed results on selected sections.

Ireland |xHistorical geography |vMaps.
Record 8: Government report (Online)

000 0 01508nam 2200301 a 4500
001 000023616439
005 20020603160506.0
006 m d s
007 cr cn auuuu
008 020530s1999 xnaab s s000 0 eng d
040 aNSL |beng |cNSL
042 aauuc
043 au-at-ne
100 1 aThomas, Brendan.
245 10 aPolicing public order |h[electronic resource] : |boffensive language & conduct, the impact on Aboriginal people |c[Brendan Thomas].
520 3 aA report on the over representation of Aboriginal people in criminal proceedings for offensive language and offensive conduct charges.
583 aSelected for archiving |5NSL
610 10 aNew South Wales. |tSummary Offences Act 1988.
650 0 aLaw enforcement |x Social aspects |z New South Wales.
650 0 aAborigines, Australian |zNew South Wales |xCriminal justice system.
650 0 aAborigines, Australian |xLegal status, laws, etc. |zNew South Wales.
710 2 aAboriginal Justice Advisory Council (N.S.W.)
850 aNSL |cInternet
856 40 zPublisher site |uhttp://www.agd.nsw.gov.au/ajac.nsf/51bf77d7793e43184a2565e800280584/b0c7dead8b683957ca2568250003e7a5/FILE/ATTG8MN3/Policing+Public+Order+Report.pdf
856 41 zArchived version |uhttp://nla.gov.au/nla.arc-25203

Record 9: Government report (original linked to digitised version)
Universities in crisis: report into the capacity of public universities to meet Australia's higher education needs / Senate Employment, Workplace Relations, Small Business and Education References Committee.

Introduction -- Public universities at a time of change -- The funding of higher education -- Governance and regulation of universities -- Quality and diversity of teaching -- The funding and management of research -- The commercial operations of universities -- Participation in higher education -- Staffing of public universities -- Universities' contribution to regional development and exports -- Government senators' report -- Democrats' supplementary report.


Record 10: Electronic journal (automatically generated in local system)
Record 11: Electronic journal (automatically generated in local system)

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| 998 | a MONO |
| 999 | zState Library | zData sets | zelectronic resource (Incomplete) | zOnline |
| 996 | a0 | b0 | c1 | d0 | e1 | f0 |

000   01539cam a2200349 4500
001   000040661097
003   AuCNLKIN
005   20060915125749.0
006   m | d s
007   cr g|||||||
008   060824s1998 tma | s000 0 eng d
040   _ | aTSL | beng | cTSL
042   _ | aanuc
043   _ | au-at-tm
082   04 | a362.709946 | 222
130   0_ | aTasmania's rural and isolated young people (Online)
245   00 | aTasmania's rural and isolated young people | h[electronic resource] : | bissues, solutions and strategies : report of a community consultation with young people, government, youth and community organisations, in rural and isolated communities / | eprepared by the Office of Youth Affairs and Family for the Hon. Denise Swan, MHA Minister for Community Development.
300   _ | aelectronic text (87 p.) : | bPDF files.
500   _ | aTitle from PDF cover page (viewed 24 Aug 2006).
504   _ | aBibliography: p. 84-87.
530   _ | aAlso available in print.
650   _ | aYouth | xServices for | zTasmania.
650   _ | aRural youth | xServices for | zTasmania.
650   _ | aRural youth | xRecreation | zTasmania.
The impact of Chrysanthemoides monilifera spp. rotundata (bitou bush) on coastal ecosystem processes

by Elizabeth A. Lindsay.


Includes bibliographical references: leaf 142-167.
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New frameworks for resource discovery and delivery: the changing role of the catalogue

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

Abstract

There is currently a lively debate about the role of the library catalogue and its relationship to other resource discovery tools. An example of this debate is the recent publication of a report commissioned by the Library of Congress on “the changing nature of the catalogue”

As part of this debate, the role of union catalogues is also being re-examined. Some commentators have suggested that union catalogues, by virtue of their size, can aggregate both supply and demand, thus increasing the chance that a relatively little-used resource will be discovered by somebody for whom it is relevant.

During the past year, the National Library of Australia (NLA) has been considering the future of its catalogue and its role in the resource discovery and delivery process. The review was prompted, in part, by the redevelopment of the Australian union catalogue and its exposure on the web as a free public service, badged as Libraries Australia.

The NLA examined the enablers and inhibitors to proposition “that it replace its catalogue with Libraries Australia, as the primary database to be searched by users”. Flowing from this review, the NLA is aiming to undertake a number of tasks to move in the medium to long term towards a scenario in which it could deprecate its local catalogue.
Introduction

In March this year the Library of Congress released a report, prepared by Karen Calhoun, entitled *The changing nature of the catalog and its integration with other discovery tools*. The report made these pessimistic statements about the future of the catalogue:

> Today, a large and growing number of students and scholars routinely bypass library catalogs in favor of other discovery tools.... The catalog is in decline, its processes and structures are unsustainable, and change needs to be swift.

The Calhoun report identified four approaches to extending the life-cycle of the research library catalogue. The most radical of these approaches was labelled “Find new uses and new users”. One of its strategies was “building the necessary infrastructure to permit global discovery and delivery of information among open, loosely-coupled systems (e.g., find it on Google, get it from your library)”.

The report also commented on the role of union catalogues:

> Some influential library and information science professionals are beginning to suggest relying more on state-wide, national or global aggregations of catalog data for discovery, and using library ILSes [integrated library systems] as a middle “switching” layer to enable delivery.

A few weeks later Thomas Mann, on behalf of the Library of Congress Professional Guild, published a critical review of the Calhoun report. The Mann Review criticised its “business model” approach, its recommendation to eliminate Library of Congress Subject Headings, and its focus on fast turnaround in cataloguing.

During the past year, the National Library of Australia (NLA) has also been considering the future of its catalogue. NLA’s focus has not been on the issues identified in the Mann Review. Rather, it has been on the role of the catalogue and the local library system in the resource discovery and delivery process.

The NLA review took as its point of departure a paper by Judith Pearce entitled *New Frameworks for Resource Discovery and Delivery*. In her paper, Pearce notes that users may discover a book through a search engine (such as Google Scholar), through another web service (such as Amazon) or through a union catalogue service (such as WorldCat, RedLightGreen, or Libraries Australia) rather than through a library catalogue. The increasing tendency of users to prefer such discovery pathways to the library catalogue was stressed in the Calhoun report.

This trend towards alternative discovery pathways does not mean that the local library system (as opposed to the local catalogue) has lost its relevance in the resource delivery process. Rather, as Pearce asserts, a user who has discovered a resource through such alternative pathways may wish to interact with a local library system in order to complete the process of gaining access to that resource through a library. Pearce also asserts that the user may prefer to complete the workflow within the original discovery interface.
The role of the union catalogue

In her paper, Pearce makes the following comments on union catalogues as an initial discovery service:

A recent survey by the Research Libraries Group showed that institutions prefer to target their own catalogues, rather than union catalogues, in their metasearch services. This reflects an economic reality: the need to limit access to union catalogues in order to keep search costs down; and to restrict lending services to library patrons and interlending services to privileged groups within this class. But it also results in a paradox. Libraries enable unmediated access to the world’s journal literature through indexes and databases but give priority to their own collections when it comes to the discovery and delivery of books and other non-serial items.

Union catalogues are still a missing part of the service framework. In order to realise the benefits of the significant investment libraries have made in these tools over the years, they need to be promoted as a primary means of access to wanted resources in library collections.

The discussion about union catalogues has meshed with recent discussions about “the long tail”. This concept was described by Chris Anderson in Wired Magazine 4:

Unlimited selection is revealing truths about what consumers want and how they want to get it in service after service .... People are going deep into the catalog, down the long, long list of available titles, far past what's available at Blockbuster Video, Tower Records, and Barnes & Noble. And the more they find, the more they like. As they wander further from the beaten path, they discover their taste is not as mainstream as they thought ....

Commenting on this article, Lorcan Dempsey observed that the network environment has the capacity to aggregate both supply and demand, thus increasing the chance that a relatively little-used resource will be discovered by somebody for whom it is relevant. In such an environment, Dempsey said, “fewer but larger pools of metadata to support discovery would help” 5. The union catalogue is a good candidate for such a “larger pool”.

The NLA’s review

The NLA currently provides its online catalogue through its local library system which is based on the Endeavor Voyager software. The NLA also provides a national union catalogue known as Libraries Australia, which records the locations of more than 40 million resources held in more than 800 Australian libraries. A new free web search interface to this national union catalogue was released in February this year.

The NLA’s review defined a number of assumptions, among which were:

- The NLA will continue to use Voyager to underpin workflow operations in acquisitions, cataloguing and serial check-in
- Users should be able to find all relevant resources that can be made available to them whether or not the resources are in the NLA’s own collections
- Users need to know whether they are searching the NLA’s collections only or all Australian library collections, and users need to be able to limit or expand the scope of what they are searching
• There is a need to offer users a primary or “default” search target
• Most people prefer to use the Google-style search interface that *Libraries Australia* offers
• Users want an easy-to-use requesting interface. They should be able to request items, order copies and monitor their requests and orders through a simple, easy to use and effective process, similar to the “Where’s my stuff?” feature in Amazon.

**Enablers**

In its review, the NLA examined the proposition that it replace the NLA catalogue with the Australian union catalogue (*Libraries Australia*) as the primary database to be searched by users. The fact that it manages the national union catalogue, and has a large degree of control over its software, gives the NLA a rather unusual opportunity to consider such a proposition.

The NLA identified a number of “enablers”, or benefits, associated with this proposition. These included:

- Users would have access to a wider pool of library resources, including the national distributed collection of Australian resources
- The Australian union catalogue is now available as a free search target
- All the records in the local catalogue are in the union catalogue
- The union catalogue now has better functionality (including ease of search, personalisation, alerts and getting processes) than the library catalogue
- The NLA has the ability to further improve the union catalogue functionality; and
- The NLA has an opportunity to enhance the user’s experience through integration of the union catalogue interface with other discovery services.

**Inhibitors**

The NLA also identified a number of “inhibitors”, or barriers, to achieving the proposition.

The first inhibitor is the inadequate inter-operability between the union catalogue (or other web service used as the discovery pathway) and the information in the local library system. If users of the union catalogue discover a resource of interest to them, they may wish to borrow or consult that resource through a library that they are entitled to use. If the resource is held by such a library, what do they do? To begin with, they need to be able to access “detailed holdings” information. If the resource is a serial, does the library have the issue they need? If it is a book, is there a copy available for loan or consultation?

There are two ways of allowing the user to access such detailed holdings data. One is to “deep link” from the union catalogue to the local catalogue: that is, take the user from the record in the union catalogue to the same record in the local library system. The users may experience a rather ugly interface transition, but they will be able to access the data. Union catalogues such as WorldCat, RedLightGreen and *Libraries Australia* have been constructing such “deep links”.
Quite a lot of work is involved for union catalogues and other discovery services to build and maintain such “deep catalogue links” and even then, as we have observed, the user experiences a rather unsatisfactory interface transition. A better long term way to tackle this problem is to develop a standard web services protocol through which a discovery system will pass a request to a local library system for detailed holdings information, and receive this information in a standard format. There is already a protocol and schema (the Z39.50 Holdings Schema) developed for this purpose. And there is an alternative option, through the process which has commenced within ISO Technical Committee 46 to develop an XML Holdings Schema. To achieve the inter-operability we need, local systems will need to be enhanced to support either of these protocols and schemas.

Once users have ascertained the availability of a copy of the resource, they will need to request or reserve that item in their library, and to monitor the status of that request. Here, too, a standards based approach should be possible. There is already much discussion in the standards community about the need to develop a simple, stateless protocol that would carry a request between systems and also allow one system to query another system about the status of a request. Some agencies are already experimenting with OpenURL or a web service for this purpose.

The NLA has approached Endeavor concerning the need for a standards based solution to this inter-operability problem. The NLA has also raised this matter in relevant standards forums.

A second inhibitor to the proposition (that the NLA replace its current catalogue with the Australian union catalogue as the primary database to be searched by users) is the potential for user confusion about what they are searching. Will users be sufficiently aware of when they are searching the NLA collection and when they are searching the nation’s collection? The union catalogue interfaces must present these choices clearly to the user, and must be capable of applying a “held in my local library” search limit in a straightforward way.

As a related issue, the user may be confused by the large number of hits and any multiple or duplicate records in the union catalogue. The best way of addressing this inhibitor is through quality control in the union catalogue (often a challenging task, especially when much of the content is batch loaded from local systems) and through good “clustering” of result sets, including clustering of variant editions and versions.

A third inhibitor is that the union catalogue may lack some important data which is held in local catalogues. This “institution specific data” may, for example, describe copy-specific information or local information about formed collections. Another example is represented by the links to record sets which are purchased by local libraries. Due to the licence conditions associated with particular record sets, linking URLs for these sets may be permitted in a local catalogue but not in a union catalogue. In such cases it may be necessary for the union catalogue service to limit the use of these links to users from authorised institutions.
The future

The NLA is aiming to undertake a number of tasks to move towards a scenario in which it could deprecate its local catalogue in favour of the Australian union catalogue. The NLA will:

- encourage standards bodies and local system vendors to develop and implement standard protocols to support (a) the exchange of detailed holdings information and (b) exchange of requests and request status information;
- examine and if possible implement mechanisms for storing and managing institution-specific data on the Australian union catalogue;
- as part of the above, examine the feasibility of including linking URLs for licensed collection sets in the union catalogue, but with access controls that would limit its use to users from authorised institutions;
- change the interface under the “Catalogue” area of its web site, so that the user is presented with a clear choice of searching the nation’s libraries, or searching the NLA collection only;
- make improvements to the presentation of results sets in the union catalogue to support relevance ranking and result clustering; and
- continue to improve the quality of data in the union catalogue.

Conclusions

During the past year, the National Library of Australia has been considering the future of its catalogue. The NLA’s focus has been on the role of the catalogue and the local library system in the resource discovery and delivery process.

The NLA has identified a case for a medium term project to change the way that users search the NLA collection and the nation’s collections. One motivation for such a change is the increasing trend for users to discover library resources through services other than the catalogue. Another motivation has been the recent redevelopment of the Australian union catalogue, with its easy-to-use interface and its linkages between the finding and getting functions. The NLA wishes to make the union catalogue an important part of the resource discovery process for the Australian public.

The NLA has examined the enablers and inhibitors to “replacing the NLA catalogue with the Australian union catalogue as the primary database to be searched by users”. As a result of this analysis, the NLA has defined a possible project which would allow it to deprecate its local catalogue in favour of the Australian union catalogue.

References


   http://www.wired.com/wired/archive/12.10/tail_pr.html

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   http://www.unt.edu/xmlholdings/Resources/N529_Holdings_Schema_NWI.pdf
Toward a Twenty-First Century Library Catalog

Library catalogs have represented stagnant technology for close to twenty years. Moving toward a next-generation catalog, North Carolina State University (NCSU) Libraries purchased Endeca’s Information Access Platform to give its users relevance-ranked keyword search results and to leverage the rich metadata trapped in the MARC record to enhance collection browsing. This paper discusses the new functionality that has been enabled, the implementation process and system architecture, assessment of the new catalog’s performance, and future directions.

Editor’s Note: This article was submitted in honor of the fortieth anniversaries of LITA and ITAL.

The promise of online catalogs has never been realized. For more than a decade, the profession either turned a blind eye to problems with the catalog or accepted that it is powerless to fix them. Online catalogs were, once upon a time, “the most widely-available retrieval system and the first that many people encounter.”1 Needless to say, that is no longer the case. Libraries cannot force users into those “closed,” “rigid,” and “intricate” online catalogs.2 As a result, the catalog has become for many students a call-number lookup system, with resource discovery happening elsewhere. Yet, while the catalog is only one of many discovery tools, covering a proportionately narrower spectrum of information resources than a decade ago, it is still a core library service and the only tool for accessing and using library book collections.

In recognition of the severity of the catalog problem, particularly in the area of keyword searching, and seeing that Integrated Library System (ILS) vendors were not addressing it, the North Carolina State University (NCSU) Libraries elected to replace its keyword search engine with software developed for major commercial Web sites. The software, Endeca’s Information Access Platform (IAP), offers state-of-the-art retrieval technologies.

Early online catalogs

Larson and Large and Beheshti summarize an extensive body of literature on online public access catalogs (OPACs) and related information-retrieval topics through 1997.3 The literature has tapered off since then; however, as promising innovations failed to be realized in commercial systems, mainstream OPAC technology stabilized, and the library community’s collective attention was turned to the Web.

First generation online catalogs (1960s and 1970s) provided the same access points as the card catalog, dropping the user into a pre-coordinate index.4 The first online catalogs, byproducts of automating circulation functions, were “intended to bring a generation of library users familiar with card catalogs into the online world.”5 The expectation was that most users were interested in known-item searching.6

With the second generation of online catalogs came keyword or post-coordinate (Boolean) searching. While systems based on Boolean algebra represented an advance over those that preceded them, Boolean is still a retrieval technique designed for trained and experienced searchers. (Twenty years ago, Salton wrote, “[T]he conventional Boolean retrieval methodology is not well adapted to the information retrieval task.”7) Boolean systems were, however, simple to implement and economical in their storage and processing requirements, important at that time.8

Soon after the euphoria of combining free-text terms across records wore off, the library community recognized that the major problem with first- and second-generation catalogs was the difficulty of searching by subject.9

The “next-generation” catalog

By the early 1980s, thinking turned to next-generation catalog features.10 Out of this surge of interest in improving online catalogs emerged a number of experimental catalogs that incorporated advanced search and matching techniques developed by researchers in information retrieval. They typically did not rely on exact match (Boolean) but used partial-match techniques (probabilistic and vector-based). Since probabilistic and vector-based models were first worked out on document collections, not collections of MARC records, adaptations were made to the models.11 These prototype systems included Okapi, which implemented search trees, and Cheshire II, which refined probabilistic retrieval algorithms for online catalogs.12 It is particularly sobering to revisit one system that was developed between 1979 and 1983. The CITE catalog, developed at the National Library of Medicine, incorporated many of the features of the Endeca-powered catalog, including suggesting (MeSH) subject headings, correcting spelling errors, stemming, as well as even more advanced features, such as term weighting, keyword suggestion, and “find similar.”13

Kristin Antelman, Emily Lynema, and Andrew K. Pace

Kristin Antelman (kristen_antelman@ncsu.edu), Emily Lynema (emily_lynema@ncsu.edu), and Andrew K. Pace (andrew_pace@ncsu.edu) are respectively Associate Director for the Digital Library, Systems Librarian for Digital Projects, and Head, Information Technology, at the North Carolina State University Libraries, Raleigh.
Where are we now?

As Belkin and Croft noted in 1987, “there is a disquieting disparity between the results of research on IR techniques . . . and the status of operational IR systems.”

Two decades later, libraries are no better off: all major ILS vendors are still marketing catalogs that represent second-generation functionality. Despite between-record linking made possible by migrating catalogs to Web interfaces, the underlying indexes and exact-match Boolean search remain unchanged. It can no longer be said that more sophisticated approaches to searching are too expensive computationally; they may, however, be too expensive to introduce into legacy systems from a business perspective.

The Endeca-powered catalog

Coupled with the relative paucity of current literature on next-generation online catalogs is a scarcity of library industry interfaces from which to draw inspiration, RLG’s Red Light Green and OCLC’s FictionFinder being notable exceptions.

In June 2004, library automation vendor TLC announced a partnership with Endeca Technologies for joint sales, marketing, technology, and product development of the company’s IAP software. This search software underlies the Web sites of companies such as Wal-Mart, Barnes and Noble, IBM, and Home Depot.

NCSU Libraries acquired Endeca’s IAP software in May 2005, started implementation in August, and deployed the new catalog in January 2006.

Several organizational and cultural factors contributed to making this project possible. Of significance was an ongoing administrative commitment to fund digital-library innovation, including projects that involve some risk. Library staff share this feeling that calculated risks are opportunities to improve the library as well as to open up new challenges in their own jobs. Critically, they also believe that not all issues, particularly “edge cases,” (i.e., rarely occurring scenarios) must be resolved before releasing a new service. Finally, it was important that the managers who controlled access to programming and other resources were also the project leaders and drivers of the collective urgency to solve the underlying problem. All these factors also contributed to making possible a five-month implementation timeline.

Functionality

The principle functionality gained by implementing an advanced search-and-navigation technology such as the Endeca IAP falls in three main areas: relevance-ranked results, new browse capabilities, and improved subject access. Most ILSs, including NCSU’s former catalog, presented keyword results to users in one order: last-in, first-out (i.e., system sort), while browsing within keyword result sets was limited to the links within individual records.

Searching and relevance ranking of results

Inhabiting the catalog search landscape now, somewhere between a second- and third-generation catalog, is Endeca’s MDEX Engine, which is capable of both Boolean and limited partial-match retrieval. Queries submitted to Endeca can use one of several matching techniques (e.g., matchall, matchany, matchboolean, matchallpartial). The current NCSU implementation primarily uses the “matchall” technique for keyword searching, an implied AND technique that requires that all search terms (or their spell-corrected, truncated form) entered by the user occur in the result. The user is not required to enter Boolean operators for this type of search; in fact, these terms are discarded as stopwords. The “matchboolean” technique continues to support true Boolean queries with standard operators; access to this functionality is provided through advanced search options.

Although classic information retrieval research tends to associate relevance ranking with probabilistic or vector-based retrieval techniques, Endeca includes a suite of relevance ranking options that can be applied to Boolean-type searches (i.e., implied AND/OR). These individual modules are combined and prioritized according to customer specifications to form an overall relevance ranking strategy, or algorithm.

Each search index created in the Endeca software can be assigned a different relevance ranking strategy. This capability becomes significant when considering the differences in the data being indexed for ISBN/ISSN as compared to a general keyword search. Since the Keyword Anywhere index contains the majority of the fields in a MARC record and is the default search operator, its relevance ranking strategy received the most attention. This strategy currently consists of seven modules. The first five modules rank results in a dynamic fashion, while the final two modules provide static ordering based on publication date and total circulation.

The NCSU Libraries, algorithm prioritizes results with the query terms exactly as entered (no spell-correction, truncation, or thesaurus matching) as most relevant. For multiterm searches, results containing the exact phrase are considered more relevant than those that do not. In addition, NCSU has created a field priority ranking, which...
provides the capability to define matches that occur in the title as more relevant than matches that occur in the notes fields. The relevance algorithm also considers factors such as the number of times the query appears in each result and the term frequency/inverse document frequency (tf/idf) of query terms.

The unprecedented nature of using this particular set of tools to define relevance algorithms in library catalogs meant that the initial configuration required a best guess approach. The ability to quickly change the settings and re-index provided the opportunity both to learn by doing and test assumptions. Much work remains, however, including systematic testing of the “matchallpartial” retrieval technique. While not a true probabilistic or vector-based matching approach, the “matchallpartial” retrieval technique will broaden a search by dropping individual query terms if no results are returned. However, this type of retrieval technique creates the challenge of developing an intuitive interface that helps users understand partial matching (although many users must be aware that this is how Google works).

Spell correction, “Did you mean . . . ,” and sort

Several other features are included in the basic Endeca IAP application. These include auto-correction of misspelled words, which uses an index-based approach based on frequency of terms in the local database rather than a dictionary. Due to the presence of unique terminology in the database (particularly author names), the relevance ranking has been configured to display any matches on the user’s original term before spell-corrected matches. A “Did you mean…” feature also checks queries against terms indexed within the local database to determine if another possible term has more hits than the original term in order to provide the user the option to resubmit the search with a different spelling. Various sort options are supported, including date, title, author, and “most popular.”

Browse

Whatever the shortcomings of the card catalog, a library user could approach it with no query in mind; any drawer could be browsed. With the advent of online catalogs, this is no longer possible: an initial search is required to enter the system.

Marchionini characterizes “browsing strategies” as “informal and opportunistic.” A good catalog browse should simulate the experience of browsing the stacks, even potentially improving upon it since the virtual browser can jump around. Many patrons cite the serendipity of browsing the stacks and “recognizing” relevant resources as a key part of their discovery process. With more books moving to online formats and off-site storage (and therefore, unable to be browsed), enhancing virtual browsing in the catalog becomes increasingly important.

As Borgman points out, “Few systems allow searchers . . . to pursue non-linear links in the database.” Key browsing features provided by the Endeca software are faceted navigation and the ability to browse the entire collection without entering a search term.

Although most modern search engines support both fast response times and relevance ranking, the opportunity to apply Endeca’s Guided Navigation feature to the highly structured MARC record data was particularly intriguing. Guided, or faceted, navigation exposes the relationships between records in the result set. For example, a broad topical search might return thousands of results. Classification codes, subject headings, and item-level details can be used to define logical clusters for browsing—post-coordinate refinement—within the result set. Since these refinements are based on the actual metadata of the records in the result set, users can never refine to less than one record, (i.e., there are no “dead ends”). These clusters, or facets, are known as dimensions. Users are able to select and remove values from all available dimensions in any order to assist them as they browse through the result set.

Endeca’s dimensions, while able to be browsed, are not available only as post-coordinate search refinements, however. Using the Endeca application, library catalogs can once again give users the ability to browse the entire set of records without first entering a search term. Any of the dimensions can be used to browse the collection in this fashion, and the ability to assign item-level information (e.g., format, availability, new book), as well as bibliographic-record elements, to the dimensions further enhances the browsing functionality.

Improving subject access

Given the unsuitability of Library of Congress Subject Headings (LCSH) as an entry vocabulary, improving topical (subject) access in catalogs centers around keyword searching. While keyword searches query the subject headings as they do the rest of the record, most systems do not take advantage of the fact that subject headings are controlled and structured access points or use the subject information embedded in the classification number.

The Endeca-powered catalog, in addition to addressing classic keyword-search problems by introducing relevance ranking, implied phrase, spell correction, and stemming, also leverages the “ignored” controlled vocabulary present in the bibliographic records—subject headings and classification numbers—to aid in improving topical searching. This is a system design concept that has been discussed in the literature on improving subject
access but has not until now been manifest in a major
catalog implementation.

As Chan noted, “subject headings and classification
systems have more or less operated in isolation from
each other.”17 The Endeca-powered catalog interface is an
experiment in presenting users with these two different,
but complementary, approaches to categorizing library
materials by subject.

Classification

Several catalog experiments created retrieval clusters
based on Dewey- and DDC-classification schemes and
captions in order to improve subject access by expanding
the entry vocabulary and as a way to improve precision
and recall.18 Using the LC Classification is more challeng-
ing, however, as it is not hierarchical. Still, the potential
of its use has been noted by Bates and Coyle; and Larson
experimented with creating clusters (“classification clus-
ters”) based on subject headings associated with a given
LC class.19 In Larson’s system, the interface suggested
possible subject headings of interest, an approach similar
to that of displaying the subject facets alongside the result
set in the Endeca catalog.

There is some evidence from early usability studies
that exposing the classification, much as it was physically
exposed in the card catalog, is useful and desired by catalog
users. Markey summarizes findings of a 1981 Council on
Library Resources study in which many institutions con-
ducted usability testing. Positive aspects of card-catalog
use that people wanted to see in the OPAC included, a
“visual overview of what is available in the library,” and
“serendipity.”20 But there is a difference between using
the classification scheme to identify subject headings and
displaying the classification itself in the user interface. The
latter can be problematic from a usability perspective, as
Larson pointed out, because the classification scheme and
terminology are not transparent.21 Imagine the would-be
browser of a library’s computer-science collection hav-
ing to know to select first Q Science, then QA1–QA939
Mathematics, and then QA71–QA90 Instruments and
Machines before possibly recognizing that QA75–QA76.95
Calculating Machines included computer science?

Despite these potential problems, because the Endeca
software supported display of the LC Classification as a
dimension, NCSU decided to experiment with its utility
by making it available on the results screen.

Entry vocabularies

Entry vocabularies or mappings apply to all types of
retrieval models. They address the general problem of
reconciling a user’s query vocabulary with the index
vocabulary represented in the catalog or documents.22

Studies show that users’ query vocabulary is large
(people rarely pick the same term to describe the same
concept) and inflexible (people are unable to repair
searches with synonyms.)23 Because of this, Bates refers
to the objective of the entry vocabulary as the “Side-of-a-
Barn Principle.”24

Several approaches have been taken to develop this
functionality. Building on Larson’s “classification clus-
tering” methodology, Buckland created an Entry Vocabulary
Module by associating dictionaries created by analyzing
database records.25 The result was natural language
indexes to existing thesauri and classification systems.

While the Endeca-powered catalog does not yet
incorporate an entry vocabulary, its exposure of the index
vocabulary to the user in subject dimensions could be said
to be a limited side-of-a-barn approach. The limitation is
that only controlled vocabulary from the retrieved records
is exposed as dimensions on the results screen; relevant
records not retrieved because of a lack of match between
query vocabulary and terms in the record will not have
their facets displayed. Were an entry vocabulary for LCSH
available, Endeca’s synonym-table feature could be used
to map between query terms and LCSH.
record fields and ten dimensions results in an index size of approximately 2.5 GB. The entire index resides in system memory. The Endeca Data Foundry can easily parse and re-index the approximately 1.7 million titles in NCSU’s holdings nightly (in stark contrast to the more than 3 days of downtime required to re-index keywords in Unicorn). The relative speed of this process and the fact that it does not interfere with the front-end application prompted the decision not to implement “partial indexing” at the outset.

Though there was little doubt among staff as to the increased capabilities of keyword searching through Endeca, the implementation team decided that authority searching (author, title, subject, call number) would be preserved in the new catalog interface. This allowed NCSU to retain the value of authority headings, in addition to providing a familiar interface and approach to known-item searching. Since the detailed record in Web2 included the capability to save records, place requests, and send system-suggested searches (“more like this”), the implementation team also decided to link from titles in the Endeca-powered results page to the Web2 detailed record. Only slight modifications were required to stylize this display in a manner consistent with the new interface.

The front-end interface for keyword searching in Endeca is a Java-based Web application built in-house. This application is responsible for sending queries to the Endeca MDEX Engine—the back-end HTTP service that processes user queries—and displaying the results that are returned.

User-interface design

Because it is created by the customer, NCSU Libraries has complete control over the look, feel, and layout of the Endeca search-results page.

Indexes, properties, and dimensions

The implementation team began the process of making indexing decisions by looking at the fields indexed in the Unicorn keyword-index file. This list included 161 MARC fields and subfields, including more than thirty fields that are never displayed to the public. This kitchen-sink approach was replaced with a more carefully selected list less than half that number.

The implementation team defined eleven dimensions for use with Endeca’s faceted navigation feature. Once users enter a search query, they can explore the result set by selecting values from these dimensions: Availability; LC Classification; Subject: Topic; Subject: Genre; Format; Library; Subject: Region; Subject: Era; Language; and Author (see figure 2). The eleventh dimension is not displayed on the results page, but is used to enable patrons to browse new titles. Each dimension value also lists the number of results associated with it; most dimensions are listed in frequency order.

Search interface

Once the implementation team made some preliminary decisions regarding dimensions and search indexes, wireframes were created to assist in the iterative design process for the front-end application. While the positioning of the dimensions on the results page and the display of holdings information was well debated, the design of the catalog search page was an even hotter topic. Integration of both Endeca keyword searching and Web2 authority searching required an interface that could help users differentiate between the two tools.

A survey of the keyword-versus-authority searching distinction in a variety of library catalogs led to the development of four mock-ups. The implementation team chose a Search tab that includes separate search boxes for keyword and authority searching, as well as search...
examples dynamically displayed based on the index selected. Authority searching was relabeled “Begins with” searching to let users know that this particular search box featured known-item searching (although it is also where LCSH searching is found) (see figure 3).

An Advanced Search tab re-creates the pre-coordinated search options from the Web2 search interface using Endeca search functionality. One unique new feature allows users to include or exclude reference materials and government documents from their results. A true Boolean search box is made available here, primarily for staff.

Browse

While users can submit a blank search and browse the entire collection by any of the dimensions, the Browse tab specifically supports browsing by LC Classification scheme (see figure 4).

This tab also includes a “New Titles” browse that can easily be refined with faceted navigation. At the time of this writing, there are plans to pull out other dimensions, such as format, language, or library, for browsing. This will be a great stride forward since there has traditionally been no way to perform a MARC codes-only search (in order to browse all Chinese fiction in the main library, for example).

Assessment

The Endeca-powered catalog seems self-evidently a better tool to help users find relevant resources quickly and intuitively. But since so much of the implementation involved uncharted territory, plans for assessment began before the launch of the interface, and the actual assessment activities began shortly thereafter. The library identified five assessment measures prior to implementation. One of these, however, requires longer time-series data (changes in circulation patterns), and another, the application of new and potentially complex log-analysis techniques (path analysis). Other measures relate to use of the refinements, “sideways searching,” and objective and subjective measurements of quality search results, some of which can be preliminarily reported on here.

Log analysis

To learn more about how patrons are using the catalog, data from two months of search logs were analyzed. While authority searching using the library’s old Web2 catalog is still available in the new interface, search logs show that authority searching has decreased 45 percent and keyword searches have increased 230 percent. It is noted, however, that a significant—and indefinable—component of this increase in keyword searching is due to the fact that the default catalog search was changed from title to keyword.

Users are taking advantage of the new navigational features. Fifty-five percent of the Endeca-based search requests are simple keyword searches, 30 percent represent searches where users are selecting post-search refinements from the dimensions on the results page, and the remaining 15 percent are true browses with no search term entered (this figure includes use of Browse New Titles).

Dimensions

The horizontal space just above the results is used to display the full range of results within the LC Classification scheme (see figure 2). The first dimensions in the left column focus on the subject dimensions (topic and genre) that should be pertinent to the broadest range of searches. The following format and library dimensions recognize that patrons are often limited by time and space. When designing the user interface, it was not known which dimensions would be most valuable. As it turned out, dimension use does not exactly parallel dimension placement. LC Classification is the most heavily used, followed closely by Subject: Topic, and then Library, Format, Author, and Subject: Genre. Since no basis for the placement of dimen-
sions existed at the time of implementation, the Endeca product team plans to use these data, after some time, to determine if changes in dimension order are warranted.

**Spell correction and “Did you mean…”**

Approximately 6 percent of Endeca keyword searches responded to the user’s query with some type of spelling correction or suggestion: 3.6 percent performed an automatic spell correction, and 2.8 percent offered a “Did you mean…” suggestion. While NCSU has not analyzed how many of the spell corrections are accurate or how many of the “Did you mean…” suggestions are being selected by users, future work in this area is planned.

**Recommender features**

Two features in Endeca that have seen a surprising amount of use are the “most popular” sort option and the “more titles like this” feature available on the detailed-record page for a specific title. Both relate broadly to the area of recommending related materials to patrons.

The “most popular” sort option is currently powered by aggregated circulation data for all items associated with a title. While this technique is ineffective for serials, reference materials, and other noncirculating items, it provides users a previously unavailable opportunity to define relevance. To date, the “most popular” sort is the second most frequently selected sort option (after publication date, at 41 percent), garnering 19 percent of all sorting activity. Most-popular sorting was trailed by title, author, and call-number sorting.

When viewing a detailed record, users are given the option to find “more titles like this” or “more by these authors.” The first option initiates a new subject keyword search combining the phrases from the $a subdivision of all the subject (6xx) fields assigned to the record. The latter option initiates an author keyword search for any of the authors assigned to the current record. While there are not good statistics on use of this feature, these subject strings appear regularly in the list of most popular queries in search logs.

**Assessing top results**

If relevance ranking was effective, one would expect to see good results on the first page. But what are “good” or “relevant” results? Greisdorf finds that topicality is the first condition of relevance, and Xu and Chen’s more recent study finds topicality and novelty to be equally important components of relevance. While someone other than the searcher might be able to assess topical relevance, it is impossible to assess novelty, since it cannot be known what the searcher already knows.

Although researchers agree that relevance is subjective—that is, only a searcher can determine whether results are relevant—Janes showed that trained external searchers do a reasonably good job of approximating the topical relevancy judgments of users. The analysis reported here focuses on topicality (using a liberal interpretation of what might be topically relevant). NCSU Libraries sought to measure how many of the top search results are likely to be relevant to the user’s query in the old and new catalogs.

**Methodology**

One of the authors searched 100 topical queries (taken from 2005 search logs) in both Web2 and Endeca catalogs using “keyword anywhere.” Topical queries whose meaning was unclear (e.g., “hand wrought”) were excluded. The topical relevance of the top hits (up to five) was coded for each target.

Because not all search-result sets contained five records, success for each was measured as a ratio (e.g., 2/5 = .4). Those searches that resulted in 0 records in both targets were discarded, while those that resulted in 0 records in target $a$ but “found relevant results” in target $b$ were counted as 0 in target $a$. The ratios were then averaged for each target and compared to determine the difference in relevance-ranking performance.

Finally, a random subset of forty-four of the queries was selected, and the placement in the Web2 results of the first result in Endeca was noted.

**Results**

On average, 40 percent of the top results in Web2 were judged to be relevant, while 68 percent of the top results in Endeca were judged to be relevant. That represents a 70 percent better performance for the Endeca catalog. If one makes the assumption that the first Endeca record is relevant (admittedly an assumption), based on these data, then one can look at the average position of that record in the old catalog. It was found that the first hit in Endeca fell between #1 and #4126 in Web2, with more than a third falling after the second screen of results, the maximum number of screens users are typically willing to examine.

While this level of increased performance is impressive, it masks some dramatic differences in the respective result sets. Looking at a broad search, “marsupial,” all of the top five hits in Endeca have “marsupial” in the title and “marsupials” or “marsupalia” as a subject heading. The result set includes seventy-eight records, thanks to this intelligent stemming. In the Web2 result set, just twenty-nine records, not a single one of the top five has “marsupial” in the title or subject headings (and the top two results, *Tributes to Malcolm C McKenna* and *Poisonous plants and related toxins*, are highly unlikely to be relevant). It is not until record #10 that you see the first item that contains “marsupial” in the title or subject.

This single example demonstrates the benefit of both relevance ranking and stemming.
Usability testing

As a result of a long history of catalog-usability studies, there are things that are known about library catalog users. One is that people both expect systems to be easy to use and find that they are not.29

Usability testing was conducted to compare student success in using the new catalog interface with that of students using the old catalog interface when completing the same set of ten tasks. Ten undergraduate students were recruited for the test. Five were randomly selected to use the old Web2 catalog, while the other five used the new catalog interface, which allows users to choose between a keyword search box powered by Endeca and an authority search box (begins with . . . ) that is still powered by Web2. The test contained four known-item tasks and six topical-searching tasks (appendix A).

Task success, duration, and difficulty were recorded. User satisfaction was not measured since catalog usability studies have found that satisfaction does not correlate with success.30

Task duration

Figure 5 shows the average task duration for the topical tasks (5–10) for Web2 and Endeca. Except for task 9, there is clearly a trend of significantly decreased average task duration for Endeca catalog users. The Endeca catalog shows a 48 percent improvement in the average time required to complete a task (01:34 in Web2 compared to 00:49 in Endeca). It is also noted that, although results from known-item searching tasks (1–4) are not reported in detail here, test subjects were just as successful in completing them using keyword searching in the Endeca catalog as they were using authority searching in Web2.

Task success and difficulty

In addition to task duration, the test moderator assigned a difficulty rating to each task attempted by the participants: easy, medium, hard, or failed. Figure 6 illustrates the overall task-attempt difficulty for topical tasks (5–10) in the Web2 and Endeca catalogs. The largest improvement is in the increased percentage of tasks that are completed easily in Endeca and the nearly equivalent decrease in the percentage of tasks that were rated as hard to complete. While a significant number of tasks were still failed using the Endeca catalog, many of these failures can be attributed to participants’ propensity to select Keyword in Subject rather than Keyword Anywhere searches. In fact, the only instances where Keyword Anywhere search in the new catalog failed to lead to successful task completion were for a single participant who was unwilling to examine retrieved results closely enough to determine if they were actually relevant to the task question, assuming too quickly that the task had been completed successfully.

Terminology

Participants using both the Web2 and Endeca catalog interfaces expressed confusion over some of the terminology employed. One of the most problematic terms was “subject.” A number of participants selected Keyword in Subject for topical searches because of the attraction of the word “subject.” None of the participants recognized that this term referred to controlled vocabulary assigned to records. Coupled with a slight unfamiliarity with the term “keyword,” not typically used in Web searching, this misunderstanding led participants to misuse (or overuse) Keyword in Subject searches when they could have found results more effectively using general keyword searching. This terminology problem appears to be an artifact of the usability testing, however. Looking at the search logs, more than 50 percent of the keyword searches were Keyword Anywhere searches, while only 4 percent represented Keyword in Subject searches.

Relevance

Relevance ranking of search results is clearly the most important improvement in the new catalog. Students in this usability test all looked immediately at the first few results on the first page to determine if their search had produced good results. If they didn’t like what they saw, they were likely to retry the search with fewer or more keywords in order to improve their first few results. One participant

Figure 5. Average task duration: Web2 versus Endeca

* While task 9 may appear to be an aberration, it actually reveals effective use of new functionality. This task required users to locate an audio recording of poetry in Spanish. In Web2, three of five participants completed the task successfully, all using the material type and language limits available in the advanced search tab. The two participants who didn’t locate this tool failed to complete the task. In Endeca, two participants used the same advanced search limits to complete the task successfully and two additional participants were able to locate and use Endeca dimensions to complete the task successfully. This suggests that the new interface is providing users with more options to help them arrive at the results they seek.
using the Web2 catalog expressed the need for relevance ranking, “Once I scroll through a page, I get pretty discouraged about the results.”

The number of paging requests recorded in system logs confirms that users are focusing on the first result screen (with ten results per page); only 13 percent of searchers go to the second page.

**Use of dimensions**

When questioned after the test, all five participants who used the Endeca catalog intuitively understood that dimensions could be used to narrow results. However, only three used the dimensions during the test.

Throughout the tests, the student participants frequently attempted to limit their search at the outset, rather than beginning with a broad search and then refining. It is unclear whether this behavior is a function of the very specific nature of the test questions or experience with the old catalog. Log data show that users are indeed entering broad keyword searches with only one or two terms, which implies that dimensions may be more useful than this usability test indicates. It is also interesting to note that while none of the students understood that the LC Classification dimension represented call-number ranges, they did understand that the values could be used to learn about a topic from different aspects—science, medicine, education.

**Future directions**

Weeks before the initial application went live in January 2006, the list of desired features had grown long. Some of these were small “to do” items that the team did not have time to implement. Others required deeper investigation, discussion, and testing before the feature could be put into production. Still others may or may not be possible. A few of NCSU’s significant planned development directions are summarized below.

**Functional Requirements for Bibliographic Records**

There is much interest in the utility of applying the Functional Requirements for Bibliographic Records model to online catalogs. Endeca includes a feature called “record rollup” that allows retailers to group items together for example, different sizes and colors of a shirt. All that is required for this feature is a rollup key. NCSU, working with OCLC, has elected to try the OCLC work identifier to take advantage of this functionality and create work-level record displays in the Endeca catalog hit list.

**Subject access**

The collective investment libraries have made in subject and name authorities is leveraged with the faceted navigation features of Endeca. But only authorized headings in records are seen by Endeca, cross-references in the subject-authority record are not used. During implementation, the team looked at ways to improve the entry vocabulary to authorized-subject terms by loading the 1xx and 4xx fields from the subject-authority file into Endeca synonym tables so that users could be guided to proper subject terms. The team still views this as a promising direction, but simply did not have time to fully explore it prior to implementation.

Additional discussions with OCLC centered on their Faceted Access to Subject Terms (FAST) project. FAST terms are more amenable than LCSH headings to being broken up into topical, geographic, and time-period facets without losing context and meaning. The normalization of geographic and time-period subdivisions promises to be particularly useful. FAST has, to date, lacked a ready interface for the application of its data. While the FAST structure is more conducive to non-cataloger metadata creation and post-coordinate refinement, it still does not meet the need...
for a user-entry vocabulary. Were such a vocabulary for LCSH to become available, it could be mapped to synonym tables to lead users to authorized headings.

Abandon authority searching?

The future of authority searching, however, is less clear. Although the usability testing described in this paper showed that the Endeca keyword search tools performed on a par with the old catalog for known-item searching, it is recognized that authority searching serves more functions. Clearly, collocation of all books on a topic is absent when a user does a topical search using keyword rather than a controlled subject heading. But there are more subtle losses as well. As Chan points out, one purpose of subject access is to help users focus searches, develop alternative strategies, and enable recall and precision. This is not possible with a simple keyword search, unless the searcher discovers that he can search on a subject heading from a record of interest. The display of subject facets in the Endeca-powered catalog works to counter this weakness of simple keyword searching.

Another navigation aid in the traditional authority display that is lost in a simple keyword-search result is visible “seams.” As Mann points out, “Seams serve as perceptible boundaries that provide points of reference; without such boundaries, readers get ‘lost at sea’ and don’t know where they are in relation to anything else they can’t perceive either the extent of what they have, or what they don’t have.” Until users have confidence that a known item will appear at the top of a results list if the library holds that item, with a large keyword result set, one cannot confirm a “negative result” without browsing through the entire set. The Endeca-powered catalog interface does not help to address either the “seams” or the negative-result problem, which are two reasons why NCSU maintained authority searching.

An integration platform

Despite the vast improvements found in the Endeca catalog, the fact remains that it is still mainly books—as Calhoun says, “only a small portion of the expanding universe of scholarly information.”

There are two approaches to take with the Endeca platform: one is to take advantage of having control over the data and the interface to facilitate incorporation of outside data sources to enhance bibliographic records. The second is to put other, non-catalog data sources under the Endeca search-and-navigation umbrella. The middleware nature of the Endeca platform makes either approach more promising than the “square peg and round hole” problem of trying to work with library management systems ill-equipped to handle a diversity of digital assets. Whether as a feed of catalog data to a metasearch application or Web-site search tool, or as a platform for faceted access to electronic theses, institutional repositories, or electronic books, Endeca has clear potential as a future platform for library resource discovery.

Conclusion

While it cannot be claimed that this Endeca-powered catalog is a third-generation online catalog, it does implement a majority of the third-generation catalog features identified by Hildreth. Most notably, through navigation of subject and item-level facets, the Endeca catalog supports two of his objectives, “related record search and browse” and “integration of keyword, controlled vocabulary, and classification-based approaches.” Spell correction, intelligent stemming, and synonym tables support “automatic term conversion/matching aids.” The flexible relevance-ranking tools support “closest, best-match retrieval” as well as “ranked output.” Much work remains, however. Three important features identified by Hildreth cannot be said to be implemented in this catalog at this time: “natural language query expression,” that is, an entry vocabulary, “expanded coverage and scope,” and “relevance feedback methods.” Requirements for these features are either being reviewed or are already under development by both Endeca and NCSU Libraries.

NCSU views the Endeca catalog implementation in the context of a broader, critical evaluation and overhaul of library discovery tools. Like the library Web site, the catalog still requires users to come to it. When they do, it still sets a high threshold for patience and the ability to interpret clues. Still, at the end of the day it rewards the NCSU student searching “Declaration of Independence” with the book, American Scripture: Making the Declaration of Independence instead of the recent Congressional resolution, Recognizing the Mexican holiday of Cinco de Mayo.

References


9. Ibid.


11. Larson, “Classification Clustering.”


21. Larson, “Classification Clustering.”


33. Chan, Exploiting LCSH, LCC, and DDC.


Appendix A: NCSU Libraries Catalog Usability Test Tasks

**Known-Item Questions**

1. “Your history professor has requested you to start your research project by looking up background information in a book titled *Civilizations of the Ancient Near East*.”
   a. “Please find this title in the library catalog.”
   b. “Where would you go to find this book physically?”
2. “For your literature class, you need to read the book titled *Gulliver’s Travels* written by Jonathan Swift. Find the call number for one copy of this book.”
3. “You’ve been hearing a lot about the physicist Richard Feynman, and you’d like to find out whether the library has any of the books that he has written.”
   a. “What is the title of one of his books?”
   b. “Is there a copy of this book you could check out from D. H. Hill Library?”
   a. “Using the library catalog, can you determine if the library owns this journal?”
   b. “Do library users have access to the volume that actually contains this article (either electronically or in print)?”

**Topical Questions**

5. “Please find the titles of two books that have been written about Bill Gates (not books written by Bill Gates).”
6. “Your cat is acting like he doesn’t feel well, and you are worried about him. Please find two books that provide information specifically on cat health or caring for cats.”
7. “You have family who are considering a solar house. Does the library have any materials about building passive solar homes?”
8. “Can you show me how would you find the most recently published book about nuclear energy policy in the United States?”
9. “Imagine you teach introductory Spanish and you want to broaden your students’ horizons by exposing them to poetry in Spanish. Find at least one audio recording of a poet reading his or her work aloud in Spanish.”
10. “You would like to browse the recent journal literature in the field of landscape architecture. Does the Design Library have any journals about landscape architecture?”

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