

How to get more from your Ex Libris Products:

**Using the LORLS open source reading list
management system as an example**

Gary Brewerton

Middleware & Library Systems Team (IT Services)

Background: journey into the unknown

- In 1999 Loughborough University's Learning & Committee decided that reading lists should be made available online to students
- Key requirements:
 - Allow academics to maintain their own online reading lists
 - Allow students to easily check Library availability of resources on reading lists
- Library Systems Team was tasked with developing the solution

Background: launch of reading list system

- We launched the Loughborough Online Reading List System (**LORLS**) in June 2000 alongside our existing LMS, although we were out to tender for a new LMS
 - To add new items to a reading list, academics could either manually fill in an online form or enter an ISBN and pull data from the LMS using a bespoke Perl CGI script
 - Provided [[Check Library holdings](#)] links against all citations to deep link into Library catalogue (regardless of holdings)

Change of LMS: getting things working again

- Less than a year after implementing **LORLS** the Library replaced the prior LMS with **Aleph** - O# cr@p!
- Getting **LORLS** to work with **Aleph** was (thankfully) very straight forward
 - Supported deep linking into the catalogue using **REST** (e.g. <http://aleph.lboro.ac.uk/F/?func=find-b&request=1565922840>) ✓
 - Provided a **Z39.50** interface to the LMS which allowed us to standardize our method for data retrieval ✓



Change of LMS: additional improvements

- With a standard (**Z39.50**) data retrieval method we were able to create an overnight job to pre-check library holdings (no more dead ends)
- Alongside **Aleph** the Library also purchased this weird **SFX** thingy (very easy to integrate)

The screenshot shows a web browser window titled "Reading List Display 08SSA101". The page content includes:

- 08SSA101 - Introduction to Social Psychology A Semester Two**
- Professor Michael Billig
- Text: "There are five textbooks to which you might give particular consideration:"
- List of five textbooks with links to library holdings.
- Text: "Also useful reading are:-"
- List of three additional readings.
- Section: "Lecture 1. Deindividuation and crowd behaviour"
- Text: "Do people behave differently in crowds? An outline of early ideas about crowd psychology (Le Bon and MacDougall) and the modern theory of 'deindividuation' (Zimbardo)."
- List of six readings related to the lecture.

At the bottom of the browser window, there is a "Your reading list is currently:" section with a table:

Select	Rank	Entry	Editing
<input type="checkbox"/>	1	Brewerton, Gary, <i>Librarian Baiting for Fun and Profit</i> , 10th Edition, (1999), Addison-Wesley. Note: This is required reading in the Library Systems Team	Edit item
<input type="checkbox"/>	2	Brown, Jeff, <i>My Summer</i> , 1st Edition, (2000), Fairbairn Ltd. Note: Jeff regales us with tales of what he did over the summer.	Edit item
<input type="checkbox"/>	3	Fletcher, Louise, <i>Napalming Short Loan Overdue Borrowers</i> 2nd Edition, (2000), Kerboom Publications. Note: I love the smell of napalm in the morning! And at 14.01.	Edit item
<input type="checkbox"/>	4	Seagrove, Carol, <i>Flower arranging in cataloguing departments</i> , 3rd Edition, (2000), Sniff-n-scratch	Edit item
<input type="checkbox"/>	5	This is a standalone note that tells the reader something about the list	Edit note
<input type="checkbox"/>	6	Cole, D, Dealing with part-time loud mouthed troublemakers in <i>Managing Annoying Techies</i> , 5(10), pages 34-39, (1996), Big Idea Management	Edit item

Example: subroutine to generate OpenURL (v0.1)

```
sub generateOpenUrl{
  my ($metadata)=@_;
  my $openURL='http://sfxeu10.hosted.exlibrisgroup.com/loughborough?';

  my @details;

  if($metadata->{'genre'}){push @details, "genre=".uri_escape($metadata->{'genre'})}
  if($metadata->{'issn'}){push @details, "issn=".uri_escape($metadata->{'issn'})}
  if($metadata->{'isbn'}){push @details, "isbn=".uri_escape($metadata->{'isbn'})}
  if($metadata->{'volume'}){push @details, "volume=".uri_escape($metadata->{'volume'})}
  if($metadata->{'issue'}){push @details, "issue=".uri_escape($metadata->{'issue'})}
  if($metadata->{'journalTitle'}){push @details, "title=".uri_escape($metadata->{'journalTitle'})}
  if($metadata->{'articleTitle'}){push @details, "atitle=".uri_escape($metadata->{'articleTitle'})}
  if($metadata->{'startPage'}){push @details, "spage=".uri_escape($metadata->{'startPage'})}
  if($metadata->{'endPage'}){push @details, "epage=".uri_escape($metadata->{'endPage'})}

  $openURL.=join('&',@details);

  return $openURL;
}
```

Example: invoking the OpenURL subroutine

```
#!/usr/bin/perl

use URI::Escape;

my $item={
  'genre'=>'article',
  'issn'=>'0305-5728',
  'issue'=>'4',
  'volume'=>'33',
  'journalTitle'=>'VINE',
  'articleTitle'=>'From local project to open source: a brief history of the Loughborough Online Reading List System (LORLS)',
  'startPage'=>'189',
  'endPage'=>'195'
};

print generateOpenUrl($item)."\n";
```

Redevelopment: time to re-think reading lists

- In 2007 we started considering how to re-develop **LORLS**, development began in 2009 and we released the new version in February 2011
- Key considerations were:
 - Greater flexibility (e.g. support organisational structures other than Loughborough University)
 - Better interface design (e.g. drag and drop re-ranking)
 - Embedding of additional content in system (e.g. library holdings, book covers)

Web services: getting at the information

- Re-developing **LORLS** allowed us to take advantage of web services
 - For example: extracting holdings data from the **Aleph X-Server** in **XML** format, and embedding it in the reading list screen

The screenshot shows two overlapping browser windows from Loughborough University. The top window displays a 'Time Management Reading List' by Elizabeth Gadd and Stephanie McKeating, listing recommended books. The bottom window shows a detailed view of a book: 'Principles and practice of marketing' by David Jobber. A red box highlights the 'Library Holdings' table in this view.

	Total	On Loan	On Shelf
Long Loans	13	8	5
Week Loans	18	5	13
Short Loans	1	0	1
Total	32	13	19

Example: Aleph X-Server call and results

- http://aleph.lboro.ac.uk/X?op=circ-status&sys_no=001212234&library=lbo01&user_name=<USERNAME>&user_password=<PASSWORD>

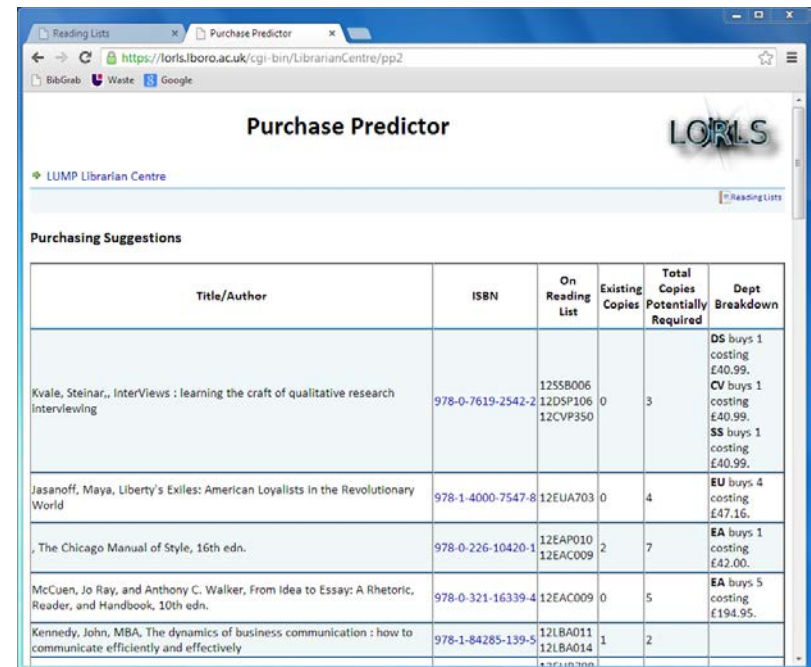
```
<circ-status>
  <item-data>
    <z30-description/>
    <loan-status>Long loan</loan-status>
    <due-date>On Shelf</due-date>
    <due-hour>22:00</due-hour>
    <sub-library>Library</sub-library>
    <collection/>
    <location>006.76/LEA</location>
    <pages/>
    <no-requests/>
    <location-2/>
    <barcode>0403866928</barcode>
    <opac-note/>
  </item-data>
  <item-data>
    <z30-description/>
    <loan-status>Long loan</loan-status>
    <due-date>25/10/13</due-date>
```

```
<due-hour>22:00</due-hour>
<sub-library>Library</sub-library>
<collection/>
<location>006.76/LEA</location>
<pages/>
<no-requests/>
<location-2/>
<barcode>0403866936</barcode>
<opac-note/>
</item-data>
<session-id>
  8D7DJ2B34RG697D...2QIS8R21EI6FKR2
</session-id>
</circ-status>
```

Purchasing prediction: Big-ish data

- Step-by-step guide to how it works

1. Identify items to check (e.g. recently edited items) from **LORLS**
2. Validate ISBNs
3. Estimate initial copies required from item importance and student numbers in **LORLS**
4. Drop books which have sufficient copies in stock according to **Aleph**
5. Find costs (from **Aleph**, Amazon, GoogleBooks, etc.)
6. Discard books without available prices
7. Get recent loan information from **Aleph**
8. Drop underused items
9. Identify latest edition of books
10. Round robin purchasing algorithm to keep purchasing suggestions within **Aleph** budget
11. Output results (onscreen or email)



The screenshot shows a web browser window with the URL <https://lorls.lboro.ac.uk/cgi-bin/LibrarianCentre/pp2>. The page title is "Purchase Predictor" and it features the LORLS logo. Below the header, there is a section titled "Purchasing Suggestions" containing a table with the following data:

Title/Author	ISBN	On Reading List	Existing Copies	Total Copies Potentially Required	Dept Breakdown
Kvale, Steinar., InterViews : learning the craft of qualitative research interviewing	978-0-7619-2542-2	1255B006 12D5P106 12CVP350	0	3	DS buys 1 costing £40.99. CV buys 1 costing £40.99. SS buys 1 costing £40.99.
Jasanoff, Maya, Liberty's Exiles: American Loyalists in the Revolutionary World	978-1-4000-7547-8	12EUA703	0	4	EU buys 4 costing £47.16.
, The Chicago Manual of Style, 16th edn.	978-0-226-10420-1	12EAP010 12EAC009	2	7	EA buys 1 costing £42.00.
McCuen, Jo Ray, and Anthony C. Walker, From Idea to Essay: A Rhetoric, Reader, and Handbook, 10th edn.	978-0-321-16339-4	12EAC009	0	5	EA buys 5 costing £194.95.
Kennedy, John, MBA, The dynamics of business communication : how to communicate efficiently and effectively	978-1-84285-139-5	12LBA011 12LBA014	1	2	

bX: adding article recommendations

- When the Library purchased **Primo** they also purchased **bX**
 - Used with **Primo** and **SFX**
 - Added option to **LORLS** dashboard to see suggested articles for inclusion and allow editors to append to a reading list with a single click

