Aleph-based dealer-payment system

Yosef Branse
Younes and Soraya Nazarian Library
University of Haifa

IGeLU Conference
September 2011
A few words from our sponsor
University of Haifa

- Faculties: Humanities, Social Sciences, Education, Science and Science Education, Law, Social Welfare and Health Sciences
- As of 2010-2011 academic year, approximately:
  - 17,000 fulltime degree students
  - 2300 academic staff (500 tenured)
  - 950 administrative staff
A few words from our sponsor
Younes and Soraya Nazarian Library

- central library, single acquisitions budget, open stacks
- 77 staff members
- approximately 2 million items: monographs, periodicals, audio-visual materials, electronic texts and journals, archival collections, digitization projects, etc.
- mid-2011: New building dedicated, Library renamed in honor of the donors, Younes and Soraya Nazarian
- Ex Libris products in use: Aleph v. 20, SFX v. 4, bX, Metalib v. 4, Primo v. 3, Primo Central, Digitool v. 3
- tradition of in-house support and development
Acquisitions process - overview

- Requests from faculty members and subject-specialist librarians (online form, email, etc.)
- Check and prioritize requests – based on urgency for upcoming courses
- Entry into Aleph – bibliographic and order records, even if order will not go out immediately
- Order sent to vendor
- Receipt of material and invoice, usually simultaneously
- Processing material – cataloging, classification, binding, barcode, place in stacks or create Web link to fulltext
Payment process - overview

- Entry of invoice data – code ‘N’ (new)
- Scan invoice
- Selection of invoices for payment – code ‘R’ (ready)
- Generation of payment orders – code ‘P’ (paid), note in note field; letter to bank for foreign-currency conversion
- Print copies on laser printer
Why an in-house system?

☑ Compatible with requirements of University financial office
☑ Flexibility in adapting to changing needs of Library and University
☑ Provides services not included in Aleph (acq-10, acq-29)
☑ User satisfaction!
A stable yet evolving system

1985– Pre-Aleph; in-house software

c. 1990 – Aleph 2

c. 1995 – Aleph 300

1999 – Scanning of invoices (external vendor)

2003-2004 – Aleph 500 – major conversion

2008 – Invoice-scanning module in Aleph

2010 – Check-scanning module in Aleph

???? - Alma ????
Software infrastructure

- **Linux** operating system
- **Apache** Web server
- **MySQL** database
- **Perl** script language
- **Oracle** database
- **PHP** script language
Payment order - example
What is a rikuz?

- A collection of invoices to be paid together, with common parameters:
  - dealer
  - currency
  - material type
  - budget

- Organizing invoices as a “batch” meets requirements of financial office and is more efficient than handling them individually.
Material types

- Monographs, audio-visual materials and other non-subscription items:
  - Hebrew
  - Arabic
  - other languages
- Periodicals
- Bibliographic databases
- Customs clearance
- Personal order - from budget other than Library’s central acquisitions budget
Relevant Aleph tables
(Library HAI50)

- z70 – vendor data
- z72 – vendor addresses (orders, payments, inquiries)
- z77 – invoices
- z82 – currency conversion
- local library tables
Data from dealer tables z70, z72

- \texttt{z70\_rec\_key} (vendor code)
- \texttt{z70\_vendor\_name}
- \texttt{z72\_rec\_key} (vendor code)
- \texttt{z72\_vendor\_address} (for payment)
Data from invoice table z77

<table>
<thead>
<tr>
<th>Invoice data</th>
<th>Payment data</th>
</tr>
</thead>
<tbody>
<tr>
<td>z77_rec_key</td>
<td>z77_p_status</td>
</tr>
<tr>
<td>z77_i_date</td>
<td>z77_p_date</td>
</tr>
<tr>
<td>z77_i_rec_date</td>
<td>z77_p_amount</td>
</tr>
<tr>
<td>z77_i_credit_debit</td>
<td></td>
</tr>
<tr>
<td>z77_i_currency</td>
<td></td>
</tr>
<tr>
<td>z77_i_total_amount</td>
<td></td>
</tr>
<tr>
<td>z77_i_note</td>
<td></td>
</tr>
</tbody>
</table>
Data from currency conversion table z82

- z82_currency_name
- z82_date
- z82_ratio

- Updated regularly to reflect latest exchange rates
- Exchange rate includes VAT and overhead for bank charges
Currencies Used (Before and after Euro)

- Austrian schilling
- Australian dollar
- Belgian franc
- British pound
- Canadian dollar
- Danish kroner
- Dutch florin
- Euro
- Finnish mark
- French franc
- German mark
- Italian lira
- Japanese yen
- Norwegian kroner
- Spanish peseta
- Swedish kroner
- Swiss franc
- U. S. dollar
Local Oracle tables used by system

- rikuzim – payment orders
- rikuz_parameters – current counter, VAT percentage, overhead percentage
- rikuzim_test_run – copy of rikuzim table, for checking results of creating new payment orders
Extracting data and formatting output

- Acquisitions staffer manually updates payment status from ‘N’ to ‘R’ in invoices selected for payment.
- SQL query retrieves invoices with status ‘R’.
- PHP script traverses rows of data, preparing payment order(s) for each dealer.
Setting Parameters
Data in payment-order record

- Sequential ID number
- Creation date
- Budget number
- Dealer code
- Invoice numbers
- Material type code

- Currency
- Total amount
- Shekel equivalent
- Dollar equivalent
- VAT
- Fiscal year
  (1 Oct. – 30 Sept.)
Letter to bank for payment in foreign currency

Every payment order in a foreign currency is accompanied by a letter to the bank, requesting a bank transfer (or check) for payment of the amount, with supplier details.

Sample:

Update invoice details after inclusion in payment order

- **z77_p_status** – from ‘R’ to ‘P’
- **z77_p_amount** – same value as **z77_i_total_amount**
- **z77_p_date** – current date, in format YYYYMMDD
- **z77_i_note** – text citing number and date of payment order
Invoice record in GUI after creation of payment order
Invoice record in GUI after creation of payment order
Scanning invoices

- Goal: satisfy legal requirement to save invoices for seven years – without drowning in paper!
- HTML added to invoice display tab in GUI, invoking local module
- Functions included:
  - scan current invoice
  - view or delete existing scan
  - upload PDF-format invoice sent by vendor
### Invoice Line Items

<table>
<thead>
<tr>
<th>No.</th>
<th>Order Number</th>
<th>Obj</th>
<th>Units in Inv</th>
<th>Net Amount</th>
<th>Total Amount</th>
<th>Units in Or</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1633580-1</td>
<td>1</td>
<td>1</td>
<td>-80.00</td>
<td>-83.04</td>
<td>1</td>
<td>1590790-201</td>
</tr>
<tr>
<td>2</td>
<td>1633568-1</td>
<td>1</td>
<td>1</td>
<td>-55.00</td>
<td>-57.09</td>
<td>1</td>
<td>1590790-201</td>
</tr>
<tr>
<td>3</td>
<td>1622488-1</td>
<td>1</td>
<td>1</td>
<td>-125.00</td>
<td>-129.75</td>
<td>1</td>
<td>1590790-201</td>
</tr>
<tr>
<td>4</td>
<td>1626923-1</td>
<td>1</td>
<td>1</td>
<td>-64.00</td>
<td>-66.44</td>
<td>1</td>
<td>1590790-201</td>
</tr>
<tr>
<td>5</td>
<td>1621533-1</td>
<td>1</td>
<td>1</td>
<td>-63.00</td>
<td>-65.40</td>
<td>1</td>
<td>1590790-201</td>
</tr>
<tr>
<td>6</td>
<td>1620661-1</td>
<td>1</td>
<td>1</td>
<td>-54.75</td>
<td>-56.82</td>
<td>1</td>
<td>1590790-201</td>
</tr>
</tbody>
</table>

---

### Vendor Information

<table>
<thead>
<tr>
<th>Vendor Code</th>
<th>Invoice Number</th>
<th>Amount</th>
<th>No. Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROBIN</td>
<td>13964</td>
<td>(83.04)</td>
<td>1</td>
</tr>
</tbody>
</table>
ROBINSON BOOKSELLERS

P.O.B. 4308 TEL-AVIV 61042 Fax 972-3-5660349 Tel 972-3-5605461
557291028 rob_book@netvision.net.il WWW.ROBINSON.CO.IL
09:48 31/03/10

مشובית מס 13964

No. 13964

השבונית כולה מע"מ.

ופפזון הrawing (ערבית) ספריה

לבוות:

אות חרף רישמה (עברית) ספריה

מטלקות: 0002
Vendor name: ROBIN

Invoice Number: 13964

Scanned on: April 06 2010 13:57
Scanning checks

- Option added April 2010
- When a check is issued (in place of bank transfer), it is scanned and stored, identified by payment-order number
- When viewing a payment order, the system detects that a check is included and displays a link to it following rikuz details
Summary, 1995-2011

- 17,250 payment orders
- 1400 vendors
- c. 235 million shekels, 58 million dollars
- 43,000 scanned invoices
- 40 scanned checks (2010-2011)
Followup, reports and statistics

- View payment orders and invoices by dealer code, rikuz number or invoice number
- Summary of payments to single dealer
- Queries can be run for summary data based on fiscal year, currency, material type, etc.
- Delete a payment order
You may have thought to ask...

- Isn’t it premature to mark the invoice paid?
- Why are you still pushing all this paper around?
- Does the Library system interface with the University ERP?
Thank you!

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http://aleph.haifa.ac.il/www/public/IGelu_2011/yb/Vendor_Payments.ppsx
Orders processing status reports
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Younes and Soraya Nazarian Library
University of Haifa

IGeLU Conference
September 2011
Acquisitions process - overview

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- Check and prioritize requests
- Entry into Aleph – bibliographic and order records, even if order will not go out immediately
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Notifying users

**Purpose**: inform users of the status of their order requests, by means of:

- Periodic mailing with details of items whose status has changed recently
- Online display of all the user’s outstanding requests
Connecting the order to the requester

Local fields in bibliographic record, tags 904/905:
904 – Academic staff
905 – Library staff

Field specifies:
- User name
- Department
- Identification number
Sample 904/905 entries

- 000075880 904  L $$Wyziwyg, Wendell (Dr.)—Ergonomics (011205887)
- 001573258 904  L $$aRubin, Billy (Dr.)—Physiology (015787468)
- 002345678 905  L $$aSafrani, Marion (Ms.)—Library, Cataloging (013683131)
- 002345678 904  L $$aNitzan, Saul J. (Prof.)—Russian Language and Literature (011494762)
- 003964376 904  L $$aRubino, Marcia (Dr.)—Bible Studies (304338692)

In practice, the notification system uses only the tag and the ID number. Personal details (name, title, email address) are extracted from Oracle tables z303/304/305.
Managing identifier fields

Indicators are added to 904/905 tag for inactive users:

10 – temporarily inactive (sabbatical, incomplete personal data)

20 – permanently inactive (retirement, death, left University)

Indicators are checked weekly and revised or deleted per change in user status
Order requests by user type

As of 8.9.2011:
101,262 accumulated requests:
  - academic staff: 72.85%
  - library staff: 27.15%

17,838 active requests:
  - academic staff: 83.16%
  - library staff: 16.84%
Aleph tables

- items - z30 (library HAI50)
- bibliographic details - z00, z00r (library HAI01)
- local tables:
  - osr_requests
  - osr_item_status
Fields from Aleph tables

- **z00r:**
  - z00r_doc_number
  - z00r_text

- **z30:**
  - z30_rec_key (z00r_doc_number + 6 digits for specific item)
  - z30_item_process_status
Status codes
(z30_item_process_status)

- OI – Not yet ordered
- OR – On order
- NP – Delayed: Not yet published
- OS – Delayed: Out of stock
- OQ – Delayed: Out of print, searching
- CA – Order cancelled
- OO – Cancelled: Out of print
- PA – Cancelled: Publication abandoned
- IP – Arrived - In Process
### Distribution of orders by processing status (as of 8.9.2011)

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of items</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OI – Not yet ordered</td>
<td>9411</td>
<td>55.33</td>
</tr>
<tr>
<td>OR – On order</td>
<td>1543</td>
<td>9.07</td>
</tr>
<tr>
<td>NP – Delayed: Not yet published</td>
<td>287</td>
<td>1.69</td>
</tr>
<tr>
<td>OS – Delayed: Out of stock</td>
<td>23</td>
<td>0.14</td>
</tr>
<tr>
<td>OQ – Delayed: Out of print, searching</td>
<td>24</td>
<td>0.14</td>
</tr>
<tr>
<td>CA – Order cancelled</td>
<td>3261</td>
<td>19.17</td>
</tr>
<tr>
<td>OO – Cancelled: Out of print</td>
<td>928</td>
<td>5.46</td>
</tr>
<tr>
<td>PA – Cancelled: Publication abandoned</td>
<td>144</td>
<td>0.85</td>
</tr>
<tr>
<td>IP – Arrived - In Process</td>
<td>1389</td>
<td>8.17</td>
</tr>
</tbody>
</table>
Distribution of orders by processing status  
(14.4.2010 - 8.9.2011)

<table>
<thead>
<tr>
<th>Status</th>
<th>Minimum %</th>
<th>Maximum %</th>
<th>Average %</th>
</tr>
</thead>
<tbody>
<tr>
<td>OI – Not yet ordered</td>
<td>49.73</td>
<td>78.21</td>
<td>57.47</td>
</tr>
<tr>
<td>OR – On order</td>
<td>5.73</td>
<td>14.81</td>
<td>8.94</td>
</tr>
<tr>
<td>NP – Delayed: Not yet published</td>
<td>1.58</td>
<td>2.33</td>
<td>1.85</td>
</tr>
<tr>
<td>OS – Delayed: Out of stock</td>
<td>0.06</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>OQ – Delayed: Out of print, searching</td>
<td>0.09</td>
<td>0.44</td>
<td>0.2</td>
</tr>
<tr>
<td>CA – Order cancelled</td>
<td>1.2</td>
<td>20.71</td>
<td>17.44</td>
</tr>
<tr>
<td>OO – Cancelled: Out of print</td>
<td>0.91</td>
<td>6.37</td>
<td>4.69</td>
</tr>
<tr>
<td>PA – Cancelled: Publication abandoned</td>
<td>0.18</td>
<td>0.92</td>
<td>0.7</td>
</tr>
<tr>
<td>IP – Arrived - In Process</td>
<td>7.18</td>
<td>11.07</td>
<td>8.51</td>
</tr>
</tbody>
</table>
Daily update procedure

- Locate bibliographic records added or updated the previous day
- Update table osr_requests per 904/905 fields in new/updated bibliographic records
- Extract item data from z30 corresponding to records in osr_requests
- Update table osr_item_status to reflect current orders’ processing status
Entries in table osr_item_status

<table>
<thead>
<tr>
<th>ID</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>000075880</td>
<td>OI</td>
</tr>
<tr>
<td>000553959</td>
<td>CA</td>
</tr>
<tr>
<td>000590734</td>
<td>CA</td>
</tr>
<tr>
<td>000590734</td>
<td>CA</td>
</tr>
<tr>
<td>000590734</td>
<td>CA</td>
</tr>
<tr>
<td>000591948</td>
<td>CA</td>
</tr>
<tr>
<td>000591948</td>
<td>OR</td>
</tr>
<tr>
<td>000591948</td>
<td>CA</td>
</tr>
<tr>
<td>000591948</td>
<td>CA</td>
</tr>
<tr>
<td>000599706</td>
<td>OO</td>
</tr>
<tr>
<td>000599770</td>
<td>CA</td>
</tr>
</tbody>
</table>
List of latest changes, as a basis for formatting letters

- User ID number
- Aleph ID number
- Item record number in z30_items
- Current status code
- Previous status code
List of latest changes, as a basis for formatting letters

Comparison of current list with previous produces list of changes:

000773861|001622947|0016229470000010|OR|OI
001049154|001511022|0015110220000010|99|IP
001049154|001553532|0015535320000010|99|OR
001049154|001554179|0015541790000010|99|IP
001049154|001553006|0015530060000010|IP|OR
001049154|001626680|0016266800000010|IP|OR
001049154|001628480|0016284800000010|IP|OR
001625250|001417298|0014172980000010|99|OR
Dear ...

The following is an update regarding the status of your Library acquisition requests. It includes:
- new requests you submitted in the last week, and their current status
- requests whose status has changed in the past week

Requests whose status has not changed are not included. You may view a cumulative listing of all your requests by clicking here

If you have questions or comments, please contact Ms. Cila Harel:
- telephone 04-8249324, 3324 (internal) or
- email: harel@univ.haifa.ac.il

Sincerely,
Technical Services Division
University of Haifa  Library
Sample letters

- 316872910
- 065528978
- 016751919
- 055559645
- 015192594
- 012074340
Online view of all requests

- Access to interface via:
  - link embedded in letter
  - direct access through Library web site
    http://aleph.haifa.ac.il/www/public/orders_status_reports/user_item_status.php

- Summarizes processing status of all outstanding requests

- Extracting data from items table enables system to indicate that volumes of multivolume set might have different statuses
Thank you!

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http://aleph.haifa.ac.il/www/public/Igelu_2011/yb/Orders_Status_Reports.ppsx