Put it Away with a Barcode
Barcode Locations in Aleph

Billy Rawles, Senior Database Engineer

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS
Introduction

Billy Rawles, Senior Database Engineer
38 years IT experience
28 Years with Church History

The Church of Jesus Christ of Latter-day Saints
World Wide Church
14 Million Members
Church Headquarters in Salt Lake City, Utah.
Church History Library

Collections consist of manuscripts, books, Church records, photographs, oral histories, architectural drawings, pamphlets, newspapers, periodicals, maps, microforms, and audiovisual materials. The collection continues to grow annually and is a prime resource for the study of Church History. Our collection contains approximately:

- 270,000 books, pamphlets, magazines, and newspapers
- 240,000 collections of original, unpublished records (journals, diaries, correspondence, minutes, etc.)
- 13,000 photograph collections
- 23,000 audiovisual items
- Library, Archives, and Museum collections
Storage Facilities

• Open Stacks in the Library
  – About 1000 books
  – Stored by call number

• Closed Stacks in the Library
  – Ten Main Rooms kept at 55 Degrees, 35% humidity
  – Two Rooms kept at -4 Degrees

• Granite Mountain Records Vault
  – Off site storage facility
History

• We implemented Aleph in October 2010

• Old System
  – Assigned barcode’s to shelf locations
  – Items assigned to a location using the barcode
  – Audit of shelf done with barcodes
Storage Containers

A storage container is a box or microfilm reel that has material from multiple collections.

Barcode Standard

Locations – 10 digit numeric

Items and Storage Containers – 12 digit numeric
Manage Locations and Storage Containers

- Locations and Containers are created as Items in Aleph
- Created BIB records

Two Material Types
- LOC for locations
- CONT for storage containers
Columns used in Item Record (Z30)

• Call Number 2 – Location Description
  – Displayed in Aleph GUI and on Printed Call Slips

• Shelf Report Number – Location Barcode
  – To maintain the assigned location

• On Shelf Date – Date location assigned

We do not use the Aleph Shelf Reports.
Database Trigger control of items

• Only the Put-Away program can:
  – Assign a location barcode (SHELF REPORT NUMBER)
  – Modify the location description (CALL NO 2)

• If location barcode (SHELF REPORT NUMBER) is assigned the item cannot be deleted

• Sub-library of the item is based on the sub-library of its location

• We have a barcode that will clear the location barcode (SHELF REPORT NUMBER) and location description (CALL NO 2)
Put-Away program

• JAVA application

• Changed the existing program to interface with Aleph

• Query data directly from the Oracle Database

• Update Z30 item table using the Aleph API

• Used on a wireless laptop on a cart in storage area
**Put-Away Security**

Staff user in Aleph are assigned privileges to execute Put-Away process

<table>
<thead>
<tr>
<th>User</th>
<th>QA_LIB</th>
<th>Name</th>
<th>QA Library Test User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password:</td>
<td></td>
<td>Department</td>
<td>AUDIT;PUTAWAY</td>
</tr>
<tr>
<td>User Library:</td>
<td>LDS50</td>
<td>Note 1</td>
<td></td>
</tr>
<tr>
<td>Cataloger Level:</td>
<td>00</td>
<td>Note 2</td>
<td></td>
</tr>
<tr>
<td>Function Proxy:</td>
<td>CIRCADM_QA</td>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>Cataloger Proxy:</td>
<td></td>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>Budget Proxy:</td>
<td></td>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Order Unit/Sublibraries</td>
<td>LIBRARY</td>
<td>Expiration Date:</td>
<td>00/00/0000</td>
</tr>
<tr>
<td>Cat. OWN ID:</td>
<td>LIBRARY</td>
<td>Last Alert Date:</td>
<td>00/00/0000</td>
</tr>
<tr>
<td>Cat. OWN Permission:</td>
<td>LIBRARY</td>
<td>Blocked</td>
<td></td>
</tr>
<tr>
<td>Circ. Override Level:</td>
<td>50</td>
<td>Block Reason:</td>
<td></td>
</tr>
<tr>
<td>ILL Unit:</td>
<td></td>
<td>ERM User:</td>
<td></td>
</tr>
<tr>
<td>ERM Password:</td>
<td></td>
<td>ERM Password:</td>
<td></td>
</tr>
</tbody>
</table>
Put-Away Process

• Scan the barcode of the location
  – Displays the location scanned
  – Displays all the items currently at that location

• Scan the item to be placed at the location
  – The item is displayed
  – Item is updated
    • Shelf Report Number: barcode of location
    • Call Number 2: description of location
    • On Shelf Date: today’s date
    • Sub-Library: locations sub-library
Put-Away

Location – **Description and Barcode**

Items on Shelf – **Description, Call Number, and Barcode**

```
To: 1 N 29 2 2 : 9106 : 1001391928
- [HDCPY] BOX 1 : CR 2 164 : 100000714801
- [HDCPY] BOX 1 : CR 34 202 : 100000714803
- [HDCPY] BOX 1 : CR 59 11 : 100000714856
- [HDCPY] BOX 1 : CR 194 111 : 100000683224
- [OTHER] BOX 1 : CR 226 166 : 100000714804
- [PCOPY] BOX 1 : CR 245 20 : 100000714839
- [MULTI] BOX 1 : CR 255 211 : 100000714837
- [HDCPY] BOX 1 : CR 735 2 : 100000714848
```
Put-Away

Scan item to location

To: 1 N 29 2 2 : 9106 : 1001391928

- [HDCPY] BOX 1 : CR 2 164 : 100000714801
- [HDCPY] BOX 1 : CR 34 202 : 100000714803
- [HDCPY] BOX 1 : CR 59 11 : 100000714856
- [HDCPY] BOX 1 : CR 194 111 : 100000683224
- [OTHER] BOX 1 : CR 226 166 : 100000714804
- [PCOPY] BOX 1 : CR 245 20 : 100000714839
- [MULTI] BOX 1 : CR 255 211 : 100000714837
- [HDCPY] BOX 1 : CR 735 2 : 100000714848

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- [HDCPY] BOX 1 : CR 194 111 : 100000683224
- [OTHER] BOX 1 : CR 226 166 : 100000714804
- [PCOPY] BOX 1 : CR 245 20 : 100000714839
- [MULTI] BOX 1 : CR 255 211 : 100000714837
- [HDCPY] BOX 1 : CR 735 2 : 100000714848
- [PCOPY] BOX 1 : CR 302 137 : 100000714849

Ready: Scan Object
Put-Away

Shelf with Storage Containers
Put-Away

Storage Container with items

To: BOX 6 : 100003145781

- [PRMUS] Item 1 : M285.1 F275s 1978 : 100003145649
- [PRMUS] ITEM 1 : M285.17 A425m 2001 : 100001148051
- [PRMUS] ITEM 1 : M285.17 A441d 2009 : 100001148115
- [PRMUS] ITEM 1 : M285.17 C621l 2002 : 100001148025
- [PRMUS] ITEM 1 : M285.17 D724s 2000 : 100001148073
- [PRMUS] ITEM 1 : M285.17 D752w 2006 : 100001148026
- [PRMUS] ITEM 1 : M285.17 E47h 1993 : 100001148038
- [PRMUS] ITEM 1 : M285.17 F757m 1938 : 100001148044
- [PRMUS] ITEM 1 : M285.17 H249i 1985 : 100001148036
Shelf Audit
Shelf Audit Process

• Scan the location
  – Displays the location
  – Displays Items at the location in left column

• Scan the items
  – Moves the item to the right column

• Set status of items
  – Moves the item to the right column

• Finish Location
  – Sets the location as audit complete
Shelf Audit

Location Scan - Checked out Items

[Image of a computer screen showing an inventory audit tool with scanned items and codes]

- BOX 1: 100000733122
- [MULTI] BOX 1: MS 17663: 100000724391
- [HDCPY] BOX 1: MS 19808: 100000724386
- [HDCPY] BOX 1: MS 20175: 100000724387
- BOX 2: 100000733121
- BOX 3: 100000733128
- BOX 4: 100000733127
- BOX 5: 100000733126
- BOX 6: 100000733125
Shelf Audit

Last audit results

[Image of a software interface showing inventory audit results, including item codes and locations.]
Shelf Audit

Item Scan

Each item scanned is moved to the right column

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Location</th>
<th>Code</th>
<th>ID Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>[HDCPY] BOX 1</td>
<td>CR 2 164</td>
<td>100000714801</td>
<td></td>
</tr>
<tr>
<td>[HDCPY] BOX 1</td>
<td>CR 34 202</td>
<td>100000714803</td>
<td></td>
</tr>
<tr>
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<td>100000714856</td>
<td></td>
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<tr>
<td>[OTHER] BOX 1</td>
<td>CR 226 166</td>
<td>100000714804</td>
<td></td>
</tr>
<tr>
<td>[MULTI] BOX 1</td>
<td>CR 255 211</td>
<td>100000714837</td>
<td></td>
</tr>
<tr>
<td>[PCOPY] BOX 1</td>
<td>CR 302 64</td>
<td>100000714838</td>
<td></td>
</tr>
<tr>
<td>[PCOPY] BOX 1</td>
<td>CR 302 137</td>
<td>100000714849</td>
<td></td>
</tr>
<tr>
<td>[HDCPY] BOX 1</td>
<td>CR 735 2</td>
<td>100000714848</td>
<td></td>
</tr>
</tbody>
</table>

[Image of Inventory Audit Tool interface with scanned items and locations]
Shelf Audit

We created two tables in the database:

**Item data stored in the database**

<table>
<thead>
<tr>
<th>USERNAME</th>
<th>AUDIT_DATE</th>
<th>AUDIT_TYPE</th>
<th>Z30_BARCODE</th>
<th>Z30_LOC_BARCODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:44:15 AM</td>
<td>SCANNED</td>
<td>1000006683224</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:44:43 AM</td>
<td>SCANNED</td>
<td>100000714839</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:47:03 AM</td>
<td>MISSING</td>
<td>100000714838</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:50 AM</td>
<td>VERIFIED</td>
<td>100000714801</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:52 AM</td>
<td>VERIFIED</td>
<td>100000714803</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:53 AM</td>
<td>VERIFIED</td>
<td>100000714856</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:54 AM</td>
<td>VERIFIED</td>
<td>100000714804</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:55 AM</td>
<td>VERIFIED</td>
<td>100000714837</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:56 AM</td>
<td>VERIFIED</td>
<td>100000714849</td>
<td>1001391928</td>
</tr>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:50:59 AM</td>
<td>VERIFIED</td>
<td>100000714848</td>
<td>1001391928</td>
</tr>
</tbody>
</table>

**Location data stored in the database**

<table>
<thead>
<tr>
<th>USERNAME</th>
<th>AUDIT_DATE</th>
<th>AUDIT_TYPE</th>
<th>Z30_LOC_BARCODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAWLESBA</td>
<td>4/29/2011 7:51:11 AM</td>
<td>COMPLETE</td>
<td>1001391928</td>
</tr>
</tbody>
</table>

Reports have been created from this data to allow for the management of the audit process.
Questions and Answers

Billy Rawles
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