Inventory at Brooklyn College, 1998–1999

An Original Method

Judith W. Wild

This article discusses the development of an inventory project at Brooklyn College that entailed examining the collection and comparing it to the corresponding records in the online catalog. The procedure became necessary in large part due to problems resulting from the migration to a new, integrated cataloging system in 1987. We needed to deal with (a) books in the catalog that were not on the shelves, (b) books on the shelves that were not in the catalog, and (c) books that lacked circulation information (item records). We used the circulation module of our integrated system to discharge every book, thereby changing its record. An unchanged record indicated a missing book. Missing books were then removed from the catalog. Books on the shelves with no bibliographic record were redeemed and entered into the catalog. Item records were created for those books that needed them. Other errors were also identified and corrected during this time.

Introduction and Rationale

In 1998, the Brooklyn College Library began an inventory of the main circulating monograph collection known in our NOTIS catalog as "Brooklyn Stacks." The chief impetus to embark on such an undertaking was the expansion and renovation of the library, slated to begin in August of 1999. For at least one year, we would work in temporary quarters with the library's holdings in closed stacks. Because the books could not be browsed, it became crucial that the catalog be accurate. A catalog that failed to match the collection would adversely affect the paging service, as aides would be sent to fetch nonexistent books. Such a situation would be frustrating for our patrons, who would need to research and resubmit their requests, and expensive for the administration funding this service. Also, we knew that after moving the books first to temporary quarters, it would be necessary to send them back, which made it important for us to know exactly what was on the shelves. We had to ascertain which titles, if any, had been misshelved or lost during the course of the moves. We selected only the Brooklyn Stacks collection of about 500,000 books because it was the largest circulating collection.

As far back as 1995, when the library underwent an outside evaluation, the chief librarian made it known that she felt a collection inventory was a high priority. In my capacity as head of technical services, I was charged with looking into the matter and was not entirely surprised to learn that, like ours, many libraries badly needed an inventory but lacked both the human and financial resources to undertake such a commitment. When it became clear that the library construction project would indeed move forward, we received approval from the then vice president of finance and administration to pursue the inventory. The question

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came down to how it could be accomplished. Due to problems in our catalog, we turned to a unique method that used the circulation module to change the records' status for the books on the shelves.

To understand the daunting work ahead of us, a brief history is in order. In 1975, the last inventory of the main circulating collection had been attempted but not completed, so we knew we faced a formidable task (Yu 1997). Furthermore, from circulation staff statistics on "searched but not found books," it was clear that many works could not be located. Such statistics are compiled manually when a reader turns to the circulation desk for assistance after unsuccessfully looking through the stacks for a book listed in the catalog as available; if the circulation staff, after searching the surrounding area, cannot find the book either, it is added to the count. To make matters worse, many titles on the shelves were not in the NOTIS catalog. Although these titles had been in the card catalog, they had never been converted in the Microcon (retrospective conversion of books in Library of Congress Classification) project.

Moreover, although a great deal of effort had been made to correct the problem, most of our bibliographic records did not have linked item records. An item record contains the book's bar code so that it can be checked out. Also included is the circulation history, indicating whether the book is on the shelf or checked out, as well as the last date of check out and return. In the NOTIS system, a *linked* item record is an item record that is attached to the bibliographic record and shares its bibliographic data. An *unlinked* item record is an item record that is not attached to the bibliographic record, has limited bibliographic information, and is only accessible in staff mode through its NOTIS number or bar code.

If, at the point that the book is being checked out, there is no item record, obviously, one must be created. Circulation staff do not always have the knowledge to add the item record to the correct copy. Thus, the process of creating an item record can produce both long lines at the circulation desk and mistakes. While unlinked item records are not accessible to the reader, they can be used by circulation staff to check the book in and out. In our situation, these books upon return were sent to cataloging for linking. We had many unlinked item records that had been created from the data in our CLSI database, the automated circulation system we used from 1982 to 1987. Linking the unlinked item records became the cataloging unit's interminable ordeal. More will be said about these records later.

Background

Brooklyn College is a member of the City University of New York (CUNY), a consortium of nineteen institutions.

The college, founded in 1930, had its first home in rented quarters in northern Brooklyn, locally known as "downtown" Brooklyn. In 1937, the college moved to the Midwood district, its present location in central Brooklyn (Brooklyn College Library 2001). In 1971 a satellite campus with its own library was set up in downtown Brooklyn; when it closed in 1976, the collections and records of the two centers had to be merged, a process that took many years to complete.

In 1974, the library began to use OCLC for cataloging but did not change its procedures for adding copies. They were typed directly onto the shelflist, not added to the OCLC record. Hence, our OCLC archive tape did not reflect copy information (Iskenderian 1997). This procedural decision may be difficult to understand at the present time, but at that time OCLC was in its infancy and we were still experimenting with it. In NOTIS, the default is one copy. Consequently, the absence of copy information meant that when our OCLC records were loaded into the NOTIS catalog, they all appeared as single copies.

The circulation function was automated in 1982 through our acquisition of the CLSI system. In December of 1987, along with John Jay and Baruch Colleges, Brooklyn College became one of the first libraries in the City University of New York to have an online catalog. This catalog, which we call CUNY+, is a NOTIS catalog and is still being used at the time of this writing. Plans are underway to switch to Ex Libris' Aleph system during the fall of 2002.

As a result of all these changes, the catalog had become compromised. We used OCLC's Microcon process to convert our pre-1974 records for Library of Congress classified books to machine-readable form. Thousands of these records failed to be converted and hence turned up on an exceptions list. This list consisted both of titles for which there were no corresponding records in OCLC and titles that had been keyed in incorrectly on the Microcon grid. Budgeting constraints necessitated my predecessor's decision not to add any of these exceptions to the online catalog until such time as an inventory would be performed, the reason being that he did not want us to spend time adding records for which there might not be books. For economic reasons, an inventory was not performed, so these unconverted LC records went untouched while we processed new books and continued to reclass even older books that were still in Dewey Decimal Classification. These neglected items, which are referred to as the "red dot" books, will be discussed later in this article.

Circulation Information

In preparation for NOTIS, an attempt was made to capture all bar code and circulation information created from 1982

to 1987 through CLSI residing in the system. These became the infamous unlinked item records. Unfortunately, the number of Brooklyn College records exceeded the capacity of the loader of the system to which we were migrating, and many were excluded (Bowdoin 1997).

From 1987 to 1998, the cataloging unit linked many unlinked item records from reports generated for us by the CUNY Office of Library Systems. In spite of these efforts, just before the inventory was performed, when I requested a *linked* item report from the CUNY office on the Brooklyn Stacks collection, I discovered that only 212,000 item records had been linked to bibliographic records. Given how many titles we suspected were missing and a rough count of what remained on the shelves (500,000), it was evident that far less than half of the collection had linked item records; more than likely, the report represented both missing books as well as those on the shelves. A catalog record without a linked item tells the reader nothing about the book's whereabouts; thus, the absence of an item record appropriately generates the message "check shelf." Whereas in an open stack environment this is not important, in a closed stack environment it would be unacceptable to ask readers to fill out paging slips if they could not ascertain from the catalog how many "hits" they were likely to receive. These records without linked items represented books that had not been charged out since we migrated to the NOTIS system.

When it came time to do the inventory, more than 50% of the Brooklyn Stacks collection was represented in the catalog by bibliographic records without bar codes or circulation information. To recap, there were books with no bar codes or item records because they had not circulated since at least 1982, the year we began bar coding; there were books that had bar codes but lacked corresponding item records from our CLSI system because file capacity constraints prevented them from being included in the unlinked item file; and finally, there were books with bar codes, but although the corresponding item records from our CLSI system existed, they were not linked to their bibliographic records. We also discovered other mistakes in the copy and item information, which will be described later.

A method was required that could identify not only books that were missing, but also books on the shelves that were not in the NOTIS catalog, and books that did not have item records attached to the bibliographic records. This method also needed to identify and facilitate a cleanup of the mistakes connected to the copy and item information. Two possible methods were rejected: the traditional one in which the shelflist card is matched to the book on the shelf, and the use of portable bar code scanners (Allen 1998). The former would not identify books on shelves that were absent from the NOTIS catalog, while the latter would be extremely time-consuming.[1] Neither would provide the opportunity to do a cleanup.

Method

The head of library systems proposed the idea of discharging (checking in) every book on the shelves from the location we wanted inventoried. This would have the effect of changing the "last use" date, which is the only date affected by a return (see figure 1); in other systems, incidentally, it may be necessary to charge and discharge the book to achieve the same effect. This method had the advantage of solving the problems we would encounter beyond the missing items. It would reveal the books on the shelves that were *not* in the online catalog, which the shelflist method could not do; it would also reveal mistakes in the records that could not be addressed by using portable bar code scanners. In addition, examining the online record for every book in this collection afforded a once-in-a-lifetime opportunity to do a cleanup. Beyond merely finding books that were not in the online catalog and books that lacked circulation data, we would also find tape-loaded item records linked to the wrong bibliographic record, circulation information attached to the wrong copy, and copies with no call number.

The value of this idea was in its sheer simplicity. Students would actually be able to perform most of the inventory, and they would know when a book had to be "bounced" to a professional.

Because the CUNY+ catalog contains the records for all nineteen institutions and is managed centrally, one step absolutely critical to the success of this project could not be done in-house. After every book was discharged, the programming manager of the CUNY Office of Library Systems would have to create a detailed report. This would be an exceptions list comprising every item in CUNY+ from Brooklyn Stacks that did *not* have a last use date of 1998 (the year the inventory began) or later. These would be the missing books. However, this would not be a record of every book that had been lost. Missing items that were still in the paper shelflist but had never made it into the online catalog would not be discovered. Nonetheless, that was deemed acceptable because the aim was to correct the records in our *online* catalog.

In fact, there would have to be two "lost" lists. The first would identify missing books without item records; these would be titles that had not circulated since 1987, the year of migration to NOTIS, or earlier. The second would identify missing books with item records.

Reports Required from the CUNY Office of Library Systems

Report 1—No Item Record Attached to the Bibliographic Record (figure 2). (If these books had been on the shelf, an item record would have been created as part of the inventory process.)

- This would be a list of records for books in the location Brooklyn Stacks with Library of Congress call numbers that were already cataloged, as opposed to records for books that were on order.
- The elements to be included were (1) call number, the method by which the report was sorted; (2) NOTIS record number; (3) OCLC number, taken from the *first* 035 field; (4) author's last name; (5) title; (6) date; and (7) publisher. The latter four were for reordering purposes, as was the arrangement.

Report 2—Linked Item List (Item Records Linked to the Bibliographic Record) (figure 3).

- This would be a list of linked item records that had a last use date occurring *before* 1998, with two exceptions: (1) Any book charged to a patron was omitted from this report, regardless of how long ago the book had been borrowed, because its title did not appear as available in the catalog. Moreover, on such items it was in the best interest of the library not to delete these records since it would wipe out the circulation history, thereby making it impossible to exact fines and other penalties. (2) Any book with a "creation date" of 1998 or later (the inventory period) would also be omitted from this report because in NOTIS a newly cataloged book would automatically have a creation date but not a last use date. If this group was not

omitted, those newly catalogued books that were not borrowed during the inventory period would show up on the missing list (see figure 4). Alternatively, the cataloging unit could discharge every new book at the point of cataloging.

- This report would require the same arrangement and specifications as Report 1, except that the NOTIS number would be extended to the item level.

Preparation and Budget

The administration of the college appropriated $250,000 above our normal budget for this endeavor. The staffing costs were $227,000; the remainder went for equipment and supplies. The inventory would take one year to perform. There were a total of twenty-eight hourly employees, made up of computer operators and shelvers, as well as three full-time computer operators. The total number of hours devoted to this project by the part-time workers was 19,515, which included hours spent on deleting records from the local catalog. The cost of the hourly employees was $161,000, the average pay being $8.25 per hour. The three full-time workers cost a total of $66,000. This budget did not include my time, that of the evening circulation supervisor, or that of the CUNY programming manager. During any given period, there were as many as nine computer operators and a supervisor.

The hours of operation were 9 A.M. to 9 P.M., Monday through Thursday, and 9 A.M. to 1 P.M. on Fridays. These hours mirrored the normal operating hours of the library during the week. It is important to point out that when time is not a factor, rather than hiring a large pool of new workers, the same procedure can be done more economically a section at a time with existing staff.

It was obvious that tackling this kind of inventory would take a great deal of organization because it needed to be completed before we moved into temporary quarters, slated for the
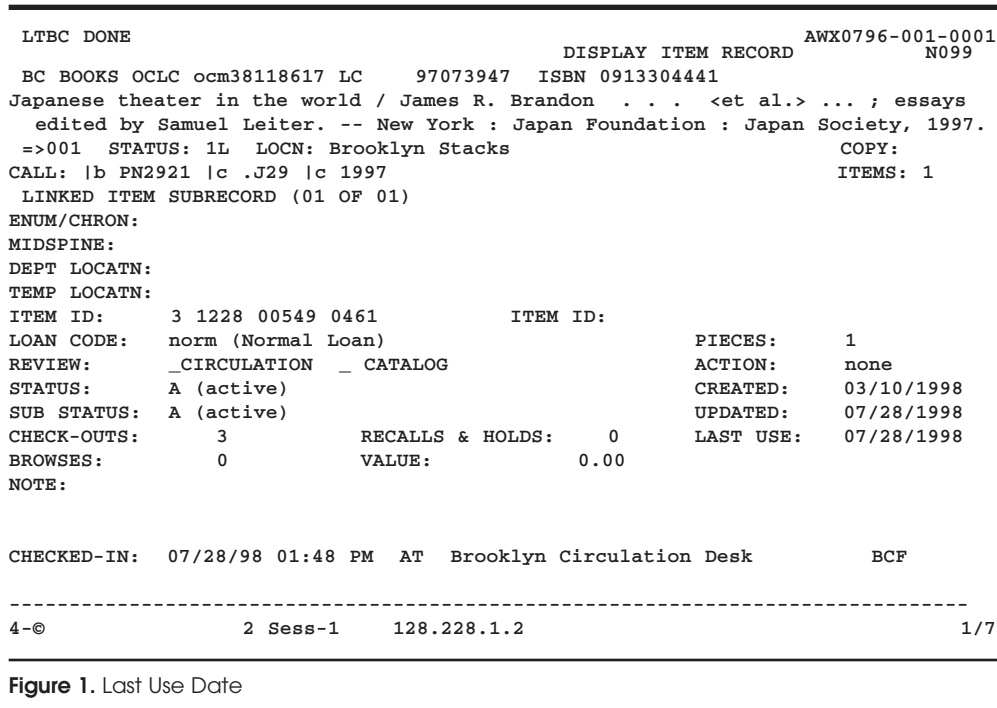
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LTBC DONE                                              AWX0796-001-0001
                                DISPLAY ITEM RECORD            N099
 BC BOOKS OCLC ocm38118617 LC    97073947  ISBN 0913304441
Japanese theater in the world / James R. Brandon  . . .  <et al.> ... ; essays
  edited by Samuel Leiter. -- New York : Japan Foundation : Japan Society, 1997.
 =>001  STATUS: 1L  LOCN: Brooklyn Stacks                 COPY:
CALL: |b PN2921 |c .J29 |c 1997                           ITEMS: 1
 LINKED ITEM SUBRECORD (01 OF 01)
ENUM/CHRON:
MIDSPINE:
DEPT LOCATN:
TEMP LOCATN:
ITEM ID:    3 1228 00549 0461         ITEM ID:
LOAN CODE:  norm (Normal Loan)                  PIECES:    1
REVIEW:     _CIRCULATION  _ CATALOG             ACTION:    none
STATUS:     A (active)                          CREATED:   03/10/1998
SUB STATUS: A (active)                          UPDATED:   07/28/1998
CHECK-OUTS:    3       RECALLS & HOLDS:   0     LAST USE:  07/28/1998
BROWSES:       0       VALUE:         0.00
NOTE:


CHECKED-IN:  07/28/98 01:48 PM  AT  Brooklyn Circulation Desk       BCF

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4-©            2 Sess-1    128.228.1.2                              1/7
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Figure 1. Last Use Date

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                    City University of New York
                 University Library Automation Services
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
  bcmn      F804.C36 K87                       ACL2636   1 07835923
         Kutsche, Paul, 1927-          Ca nones, values, crisis, and
         1981:    Albuquerque :  University

  bcmn      F805.M5 G6 1969                     ABQ5785   1 00052603
         Gonz alez, Nancie L. Solien,  The Spanish-Americans of New M
         1969:    Albuquerque, University o

  bcmn      F809 .B27 1960                      ACF4370   1 00479862
         Barnes, Will C.  ( William CroArizona place names.  Rev. and
         1960:    Tucson, University of Ari

  bcmn      F811 .C79                           ACF4373   1 00479934
         Cross, Jack Lee, 1921-        Arizona:  its people and resou
         1960:    Tucson, University of Ari

  bcmn      F82.L66 C5 1970                     ABQ6121   1 00126848
         Chyet, Stanley F.          Lopez of Newport;  colonial Am
         1970:    Detroit, Wayne State Univ

  bcmn      F851.7 .M7                          ABU2837   1 03512741
         Miller, Tom, 1932-          Photographs by Tom Miller: the
         1964:    Seattle, The Mountaineers

  bcmn      F852 .W28                           ACE4559   1 00171625
         Warren, Sidney, 1916-         Farthest frontier:  the Pacifi
          949:    New York, Macmillan co.,

  bcmn      F859 .G63                           ACE4441   1 00606542
         Goethe, C. M.  (Charles MatthiWhat's in a name?  Tales, hist
         1949:    Sacramento? 1

  bcmn      F864 .A2                            ABQ4030   1 00418751
         Dillon, Richard H.          The legend of Grizzly Adams,
         1966:    New York, Coward-McCann

  bcmn      F865 .S923                          ACF7607   1 00474962
         Sutter, John Augustus, 1803-1Sutter's own story; the life
         1936:    New York, G.P. Putnam's s

  bcmn      F868.D2 N4 1963                     ACQ0912   1 03258015
         Newhall, Nancy Wynne.       Death Valley / photographs by
         1963:    San Francisco : 5 Associa

  bcmn      F868.S5 M88 1967                    ABU2883   1 00269147
         Muir, John, 1838-1914.        Gentle wilderness; the Sierra
         1967:    San Francisco, Sierra Clu

  bcmn      F868.Y6 A36 1967                    ABU2895   1 00479849
         Adams, Ansel, 1902-          Yosemite Valley. Edited by Na
         1959:    San Francisco, 5 Associat

  bcmn      F868.Y6 M915                        ABQ4443   1 01470665
         Muir, John, 1838-1914.        Yosemite and the Sierra Nevada
         1948:    Boston, Houghton Mifflin
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Figure 2. Sample from Report 1—Missing Books without Item Records

summer of 1999. Our task was huge. Five hundred thousand books would have to be discharged. Some item records would have to be created, others linked, and some corrected. Lists of all the missing books would have to be produced and their records deleted from CUNY+. Our holdings for the corresponding records would have to be removed from the OCLC database. The copy cataloging unit would take care of recataloging for the online catalog those books that were on the shelves but not in NOTIS, a process that was not part of the inventory costs. It was agreed beforehand that the CUNY Office of Library Systems would not programmatically delete the CUNY+ records. This determination resulted from a pilot project conducted before the inventory; we had come to the conclusion that copies and volumes still on the shelves might get deleted due to the relationship between the item, vol-

ume, and copy holdings records in NOTIS. Thus, we deleted them manually in-house.

Process
Inventorying the Collection

Each book was taken off the shelf, placed on a truck, and brought to one of the computer operators. While searching for the record with book in hand, the computer operator would be faced with one of several possibilities. It might be a bar coded book *with* or *without* an item record, a bar coded book whose item record had been *linked* or *unlinked*, or a book lacking a bar code *with* or *without* a bibliographic record. These possibilities and the ensuing actions are illustrated in the flowchart (figure 5). The first action on all existing item records was to discharge the book, which was done in the circulation module. When it was an unlinked item, as soon as the book was discharged, an "X" would appear in the "Catalog" field. In such a case, the operator would go into the technical services module to link the item to the bibliographic record. A book that did not have a bibliographic record was put aside for the cataloging unit after being tagged with a red dot.

The supervisors were trained in all the duties required to perform the inventory: searching by Library of Congress call number, title, and author; matching a book to a record; creating an item record; linking an unlinked item record to a bibliographic record; and discharging a book. The supervisors, in turn, trained the computer operators. The operators added their initials to the records so that they could be identified. This facilitated periodic reviews of the operators' work, and any necessary retraining was conducted.

Correcting the Record (Quality Control)

In addition to correcting mismatched item records attached to bibliographic records (see flowchart, figure 5), operators were also trained to spot and correct multiple items attached to the same copy (for single-volume works) and to add call numbers to copies that lacked them (see figure 6). This procedure is designated "Quality Control" on the flowchart.

Teamwork

The inventory turned out to be an outstanding example of interdivisional cooperation between technical services and access services. The cataloging unit (technical services) did the inventory. The shelvers (access services) brought down the books and returned them to the shelves. The evening circulation supervisor (access services), who was essentially the inventory's "Busby Berkeley," choreographed a moving panorama of shelvers and book trucks. This enabled every computer operator to have a sufficient number of new books to work on at all times, without being bogged down in a sea of completed books.

How the Process Impacted the Readers

The evening circulation supervisor, working with the evening head shelver, devised an ingenious method for keeping track of all the books and informing the patrons of where any book in the Brooklyn Stacks collection happened to be at any given moment. Every time books were loaded onto a truck, the truck received a number. That

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City University of New York
University Library Automation Services
bc - Item Analysis
Version: 10/27/99
Run Date: 10/27/99
                                PAGE        220
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
ACE2700-001-0002 Call number:  QA37.2.A74 1985 Oclc number: 11713453   Location: bcmn
  Author: Arfken, George B.
  Title: Mathematical methods for physicists /  George Arfk
  Year: 1985 Publisher:      New York :  Academic Press
AFK8694-001-0001 Call number:  QA37.2.B36;1988 V. Oclc number: 13560784   Location: bcmn
  Author: Bamberg, Paul G. *
  Title: A course in mathematics for students of physics /
  Year: 1988 Publisher:      Cambridge ;  New York :  C
AFK8694-001-0002 Call number:  QA37.2.B36;1988 V. Oclc number: 13560784   Location: bcmn
  Author: Bamberg, Paul G. *
  Title: A course in mathematics for students of physics /
  Year: 1988 Publisher:      Cambridge ;  New York :  C
ACK0250-001-0001 Call number:  QA37.2.E38 Oclc number: 05029610   Location: bcmn
  Author: Edwards, R. E.
  Title: A formal background to mathematics /  R. E. Edward
  Year: 1979 Publisher:      New York :  Springer-Verla
ASZ0034-001-0001 Call number:  QA37.2.K6313 1991 1 Oclc number: 23384105   Location: bcmn
  Author: Koch, Helmut,
  Title: Introduction to classical mathematics /  by Helmut
  Year: 1991 Publisher:      Dordrecht ;  Boston :  Klu
ADG7183-001-0001 Call number:  QA37.2.S575;1986 Oclc number: 12103790   Location: bcmn
  Author: Smith, Douglas,
  Title: A transition to advanced mathematics /  Douglas Sm
  Year: 1986 Publisher:      Monterey, Calif. :  Brooks
ACC8415-001-0001 Call number:  QA37.2.S87 1986 Oclc number: 12312881   Location: bcmn
  Author: Strang, Gilbert.
  Title: Introduction to applied mathematics /  Gilbert Str
  Year: 1986 Publisher:      Wellesley, Mass. :  Welles
AAA6617-001-0001 Call number:  QA37.2.U42X;1987 Oclc number: 16502957   Location: bcmn
  Title: UMAP modules :  tools for teaching 1986 /  edited
  Year: 1987 Publisher:      Arlington, MA :  Consortiu
ACV6659-001-0001 Call number:  QA37.2.U42X;1988 Oclc number: 18701990   Location: bcmn
  Title: UMAP modules :  tools for teaching 1987 /  edited
  Year: 1988 Publisher:      Arlington, MA :  Consortiu
ABV0523-001-0001 Call number:  QA371.B79 Oclc number: 00900404   Location: bcmn
  Author: Brand, Louis,
  Title: Differential and difference equations
  Year: 1966 Publisher:      New York,  Wiley  1966
AUS4435-001-0001 Call number:  QA371.F3413 1993 Oclc number: 25371334   Location: bcmn
  Author: Fedor§i uk, Mikhail Vasil-evich. ,
  Title: Asymptotic analysis :  linear ordinary differentia
  Year: 1993 Publisher:      Berlin ;  New York :  Spri
AVN3243-001-0001 Call number:  QA371.F85 1929 Oclc number: 02279245   Location: bcmn
  Author: Fry, Thornton C.
  Title: Elementary differential equations,  by Thornton C.
  Year: 1929 Publisher:      New York,  D. Van Nostrand
ACM7128-001-0001 Call number:  QA371.H37 Oclc number: 07313216   Location: bcmn
  Author: Hassard, B. D.
  Title: Theory and applications of Hopf bifurcation /  B.D
  Year: 1981 Publisher:      Cambridge ;  New York :  C
AUA2416-001-0001 Call number:  QA371.K82 1993 Oclc number: 27107133   Location: bcmn
  Author: Kuang, Yang,
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Figure 3. Sample from Report 2—Missing Books by Item Record

same number was also affixed to the empty shelf. While looking for a book, if a reader approached an empty shelf, he would be instructed to jot down the number on the shelf, go to the inventory area, and glance at the trucks at each station until he found the matching number. Since the books were stacked in call number order, it did not take much effort to find the book. Once found, a book was either forfeited immediately (if it had already been discharged), discharged on the spot while the reader waited, or sent back to cataloging, where it was given same-day processing. The circulation supervisor maintained a record of the call number range of books on each truck. Throughout the inventory, all trucks were numbered consecutively, the last number being 2,627.

There was not a single complaint throughout the entire operation. In fact, there were fewer complaints during the inventory than usual because a crew of shelvers followed the books as they were returned to the shelves and shelf-read them.

Other positive outcomes were similar to those experienced elsewhere (DeMiller 1991): the identification of books needing repair, of multiple copies that were set aside for possible de-selection, and of misshelved books within Brooklyn Stacks. This last benefit can help clear up situations where patrons are billed for books that are actually in the library (Stearns 1998).

Immediate Benefit

As soon as every book had been inventoried, and even before the missing lists had been produced and the records subsequently deleted, both the reference bibliographers and the circulation staff were instructed on how to interpret the catalog in light of the inventory. Thus, they could give the reader on-the-spot information that had previously required a lengthy search of the shelves. As discussed earlier in this article, the online public access catalog (OPAC)

message "check shelf" is generated when no item record is attached to that copy or volume. Previously, that message indicated three possibilities: the book was somewhere in the stacks, the book was checked out under an unlinked item record, or the book was lost. Once the books passed through this unique inventory, all books on the shelves were given linked item records, and as a result, "check shelf" took on a narrower meaning. Staff viewing this message would know for certain that the book was not there; otherwise, it would have acquired a linked item record which generates the message "not checked out" or "chkd-out, due: [date]."

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 LTBC DONE                                                           AWX0796-001-0001
                                           DISPLAY ITEM RECORD                   N099
  BC BOOKS OCLC ocm38118617 LC     97073947   ISBN 0913304441
Japanese theater in the world / James R. Brandon ... <et al.> ... ; essays
   edited by Samuel Leiter. -- New York : Japan Foundation : Japan Society, 1997.
 =>001   STATUS: 1L   LOCN: Brooklyn Stacks                          COPY:
CALL: |b PN2921 |c .J29 |c 1997                                      ITEMS: 1
  LINKED ITEM SUBRECORD (01 OF 01)
ENUM/CHRON:
MIDSPINE:
DEPT LOCATN:
TEMP LOCATN:
ITEM ID:     3 1228 00549 0461              ITEM ID:
LOAN CODE:   norm (Normal Loan)                      PIECES:    1
REVIEW:      _ CIRCULATION  _ CATALOG                ACTION:    none
STATUS:      A (active)                              CREATED:   03/10/1998
SUB STATUS:  A (active)                              UPDATED:   none
CHECK-OUTS:       0         RECALLS & HOLDS:   0     LAST USE:   none
BROWSES:          0         VALUE:          0.00
NO

TE:


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4-©                    2 Sess-1    128.228.1.2                              1/7
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Figure 4. New Book—Cataloged but Not Discharged

Thus, whenever the message "check shelf" appeared, without any additional effort, the staff would be able to inform the reader that the book was indeed missing.

Likewise, the staff were also shown how to look for the last use date on the item record in the technical services module (this information is not available in the OPAC). If the message "not checked out" appeared but the book was not in fact on the shelves, and if the record had a pre-1998 last use date, the staff member could inform the patron that the book was gone.

Problem Solving

When conducting this kind of an inventory, one should note the following:

- In order to catch all the books to be inventoried that have been stashed somewhere else in the library, it is necessary to operate like a detective. One should request a list of all the temporary locations such as reserves, storage, and bindery. Remaining vigilant is paramount. In our case, for example, every book in the reserves collection was discharged at the onset of the inventory. Thereafter, each new influx of reserve items was discharged.

    Then there are the unofficial temporary locations such as librarians' offices. Librarians do not always subscribe to the belief that they actually have to check out a book if it is not taken out of the building.

    Books that readers have taken off the shelves and left on the tables have to be discharged as well. At Brooklyn College, they are called the "sweep" books. Twice daily, they are swept up in order to be reshelved. Every day during the inventory, these books were delivered to the inventory area so that they could be discharged before being returned to the shelves.

- It is a good idea to periodically set aside specific books so as to prevent them from being discharged, using them as samples to test the programs that are being developed.

- If the library is planning to migrate to a new system, this is the ideal time to do the inventory. When ushering in a new system, it is undesirable to bring over incorrect or incomplete data. No one can predict, after all, what the new system will do with such information or whether errors will be easily corrected. Besides, the negative PR that might result could cause an additional problem.

- To avoid skipping any books, an easy way for an operator to keep track of each book that he is discharging is to turn it on its fore edge after the task is executed. However, from a preservation standpoint, remaining in this position would not be good for the life of the
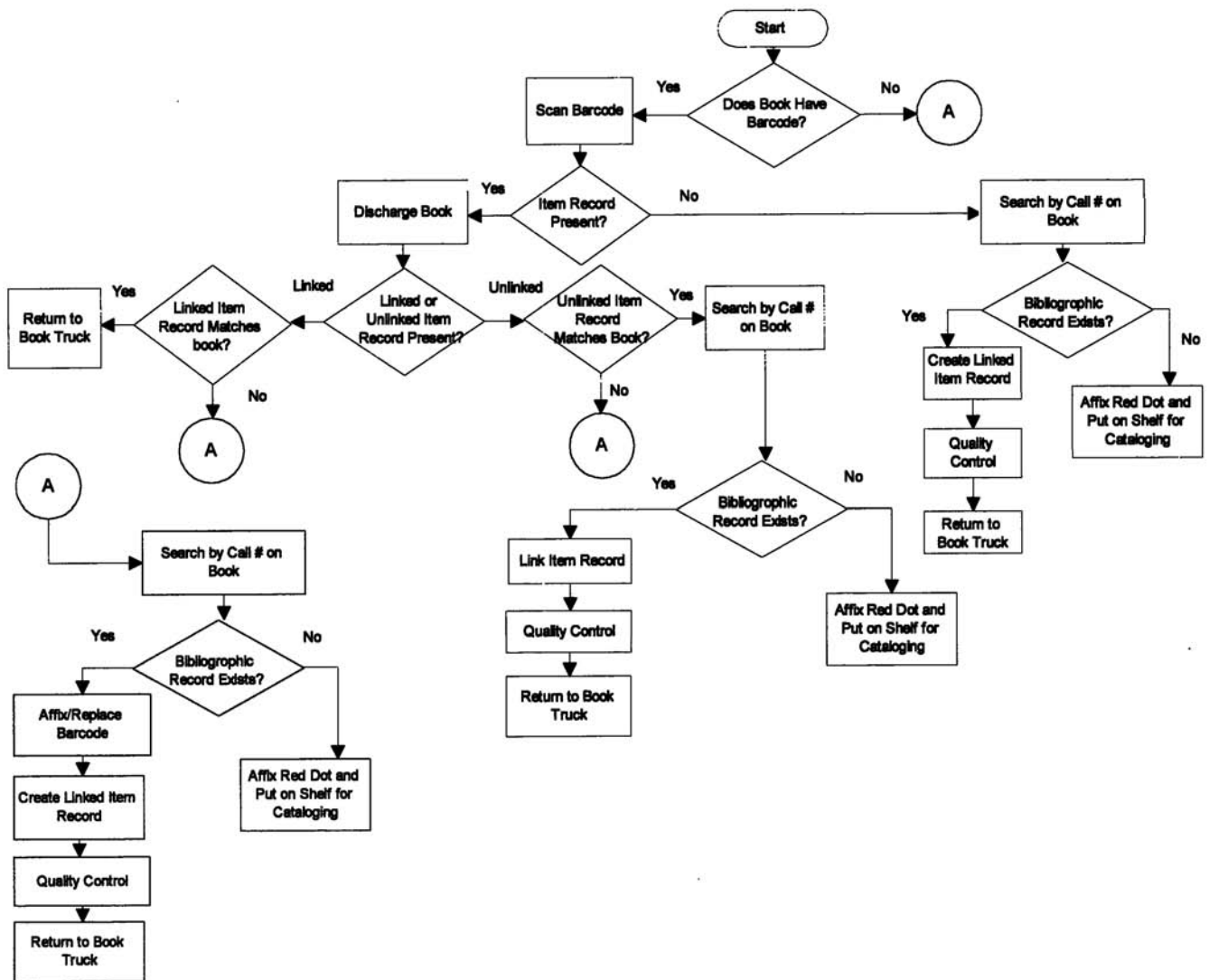
Figure 5. Inventory Procedure Flow Chart

book. Our books were never in this position for more than a few hours before being righted by the shelvers, who then returned them to the shelves.

- The computer operators will need instruction on how to read the bibliographic record to identify multivolume works. In our library, they set them aside for the two copy catalogers who were moonlighting as inventory operators. They created volume holdings when necessary.
- If the books without bibliographic records are set aside for later processing, it is helpful to distinguish them with a colored dot, as we did. Even so, they should be segregated because both temporary and permanent dots will fall off, especially if the public

has contact with them. Many of our old books had such a patina of fingerprints that nothing would stick, so we squirreled away the "red dot" books in technical services, where they would not be confused with books already in the online catalog.

- In NOTIS, a newly cataloged book will have a creation date but not a last use date. The item report of exceptions will have to omit all books with a creation date during the inventory period so that the cataloging unit will not have to discharge every new book.
- If retrospective conversion must occur concurrently with the removal of holdings from OCLC, special care should be taken. Ideally, the Dewey books should be

```
LTBC DONE                                    AYT8924
                        NOTIS COPY HOLDINGS        N001
BC BOOKS OCLC ocm42365897
Acute leukaemia in children. -- London : Leukaemia Research Fund, 1997.
 (Information booklets and leaflets / Leukaemia Research Fund)
STATUS h DT 12/17/2001 AD none
NOTES
001 1L CN |a bcmn |b RJ215 |c ...26 |c 1997        |d 12/17/01
    NOTES
    ITEM RECORDS    2
002 1L CN |a bcmn                                  |d 12/17/01
    NOTES
003 0A CN                                          |d 12/19/01
    NOTES
004 0A CN                                          |d 12/19/01
    NOTES
005 0A CN                                          |d 12/19/01
    NOTES
006 0A CN                                          |d 12/19/01
    NOTES
007 0A CN                                          |d 12/19/01
    NOTES


-----------------------------------------------------------------------
4-┌          2 Sess-1    128.228.1.2                    1/7
```

Figure 6. Quality Control—Incorrectly Linked; No Call Number

new to the online catalog, but in actuality they are often duplicates of books in the LC collection. The danger is that one hand might be adding the copy to the local catalog while the other is deleting its holdings from OCLC. If this process is done manually, the person deleting from OCLC can check the creation date of each of these copies in the local catalog.

- If the inventoried collection has many old books, it might be desirable to have each book pass through the entrance sensor to check for the absence of tattle tape after each truck has been completed.

Conclusion

Once the reports were generated, we learned that 41,000 books (8%) of the Brooklyn Stacks collection were missing. The records for these books have since been deleted. Twenty-eight thousand of these were from report 1, the books that had no item record attached to the bibliographic record. While we did not have reason to believe it was a mishelving problem (Van Gemert 1996), there is no basis to conclude that the entire 41,000 had been stolen. During the 1970s, a large number of books had been inadvertently deselected from the satellite library without going through the withdrawal process, and as a result, their records remained in the catalog. This is a somewhat comforting thought; one would normally expect that the missing items are the most used (Brazier and Reynolds 1997). The bibliographic records for 8,000 "red dot" (previously cataloged) books (1.6% of this collection) were identified and input into CUNY+. Every LC classified book in the Brooklyn Stacks collection that lacked an item record acquired one.

Even though the inventory process allowed us to fulfill all of our goals, this is not to imply that we encountered no difficulties. During our examination of the first version of report 2, the linked item list, it became clear that some books had been overlooked, so we found it necessary to redo portions of the inventory. This predicament had occurred due to human error. The lesson to be learned here is that while a cadre of inexperienced personnel might be cost-effective, supervision is essential throughout every aspect of the project.

Either the traditional shelflist method or the portable bar code scanner method would have been more efficient had we wanted merely to identify missing items. Given our circumstances, however, there is no doubt that the method we chose was superior. The paper shelflist method could not possibly reveal the 8,000 items on the shelves that had been cataloged previously but were not present in the online catalog. The portable scanner method presupposes that virtually every book has a bar code that is connected to the full cataloging record. Not only was that not the case for us, but even worse, many bar coded books had lost their item records during migration to NOTIS. This factor, plus the lapses in quality control, and the books for which there were no catalog entries in NOTIS, meant that a large number of books on the shelves would need to be retrieved for special handling. Such a requirement would offset any advantage gained by utilizing portable bar code readers in the stacks.

I was recently asked what feedback the library was receiving from such a monumental undertaking. I answered proudly, "The best feedback of all—none." At the time of this writing, we have been in a closed stack environment in temporary quarters for more than two and a half years. The president of the college has informed me that he has not received one complaint about the library. This reaction (or more specifically, this lack of reaction) cannot be attributed solely to the accuracy of the catalog, but it surely must play a part. Additionally, the statistics kept by the circulation unit since the paging operation began provide a 98% hit rate even though some books had been misshelved during the move. Now that all the records have full circulation information, we can do maintenance inventories with portable bar code readers (Webb 1994).

We have been told by the CUNY Office of Library Systems that we have the cleanest records in the City University of New York. All our hard work was worthwhile.

Notes

1. Workers would have had to make two trips to the same shelves: one to scan in the bar codes and another to remove the books that had to be added to the NOTIS catalog after each bar code exceptions report was generated. Parenthetically, if the portable bar code method is selected, it will be greatly facilitated by placing the bar code on the outside of the book rather than on the inside back cover.

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