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How to Move a Mountain: The Preparation and Transfer of One Million Volumes to an Off-Site Storage Facility

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In late 2013, Hesburgh Libraries at the University of Notre Dame embarked on an audacious journey to renovate its iconic fourteen-story building. Driven by an immediate pressing need to reduce the footprint of physical collections in the library, a massive project commenced in the fall of 2014 to prepare approximately one million volumes for transfer to an off-site high-density mobile shelving storage facility. The project was carried out in two large phases that involved coordination of work and schedules between the renovation committee, vendors and multiple library teams, including the Collections Preparation team that was responsible for ensuring that all items moving off-site had accurate catalog records and were barcoded. This paper provides background information on putting the project together and describes how the work to prepare titles for transfer was organized and completed under a very short deadline.

KEYWORDS catalog maintenance, collections preparation, high-density mobile shelving, inventory management system, off-site storage facility, project management

INTRODUCTION

In late 2013, Hesburgh Libraries at the University of Notre Dame began a journey to renovate its fourteen-story building. The master renovation plan necessitated that at least one million volumes, or approximately 30 percent of the main library print collection, be moved out of the building to accommodate construction of new user spaces. During 2014, to meet broader long-term storage campus needs, the University acquired and worked on renovating a warehouse located approximately fifteen minutes from campus. The Libraries were awarded a portion of the warehouse which was retrofitted with high-density mobile shelving able to hold one and a half million volumes.

By fall 2014, the Libraries began a project to prepare and move off-site one third of their total print collection. The project had a very tight timeline and was divided into two phases, each targeting approximately half a million items for transfer. One of the biggest challenges was preparing each volume for the move by making sure it was barcoded and properly represented in the library catalog.

ENVIRONMENTAL SCAN AND TRANSFER SELECTION CRITERIA

Prior to the start of the project, a small team from Hesburgh Libraries did an environmental scan of peer institutions with existing off-site facilities. The team gathered feedback on best practices and advice on what to avoid. The scan, which included phone or Skype interviews with six institutions and two site visits of off-site storage facilities, resulted in a final report prepared for the Libraries' administration. Some of the stronger recommendations included avoiding title duplication, barcoding each item, addressing preservation issues before transferring items, selecting the best copy for transfer, providing document delivery and

interlibrary loan (ILL) services directly from the facility, and ensuring availability of wi-fi access at the facility so work could be carried out in the stacks.

Additionally, the team learned that most every library that they interviewed used a vended tool, Library Archival System (LAS) developed by Generation Fifth Applications (GFA), to manage off-site inventory. That software, although described as reliable and stable, had certain limitations and did not possess all the desired functionalities. Based on the information, the Hesburgh Libraries made a decision to develop their own inventory management system (IMS) which will be described in more detail later in the article.

At the same time, a joint library and teaching faculty task force worked on establishing the parameters for transfer. The final criteria included all non-currently received journals, monographs with zero circulations and touches in the last ten years, and journal titles with holdings duplicated in JSTOR. It is worth noting that the report also included a number of exclusions, which later complicated collections preparation work and somewhat impeded running accurate pull reports.

OVERVIEW OF THE PROJECT

Considering the institutional importance of the project and its level of complexity, it was elevated to the level of a strategic initiative that received high level of attention. The Libraries assigned a full-time project manager to manage the work of a core team that was responsible for carrying out project tasks. The project team consisted of a Systems librarian, Technical Services librarian, Access Services manager, Facilities manager, and a project manager. The Libraries also hired a moving vendor to ensure materials were pulled, transferred and ingested in a timely manner, and that items remaining in the building were shifted and condensed once the move was completed.

Additionally, in an effort to meet a very tight project deadline, the Libraries hired six limited-term collections processing assistants to help with barcoding of the items slated for transfer. These new team members worked alongside experienced catalogers. The leader of the Collections Preparation team also routinely sought volunteers among library employees who were interested in helping with barcoding.

Limited amount of weeding was undertaken as part of the project to prepare materials for transfer. Whenever Collections Preparation team members came across a title that was destined for storage and duplicated in the collection, they selected the best copy for transfer and, based on the previously established criteria in consultation with subject librarians, discarded the remaining copies.

INVENTORY MANAGEMENT SYSTEM (IMS)

As a result of the environmental scan and, specifically, the information about the vended solution, the Libraries made a decision to invest in developing a local IMS that would accommodate institutional needs. Some of the desired features included a clean looking and simple web interface, ability to interface with the integrated library system (ILS) and ILL/Document Delivery request forms, having bibliographic information printed on pull slips, keeping track of volume's thickness, and having real time data updates between ILS and IMS.

Once the funding for that portion of the project was secured, the Libraries hired an outside programming contractor to do the coding work. He collaborated closely with the local team of developers who outlined requirements, made design decisions, reviewed code, assisted with functional and performance testing, and executed quality assurance.

In summer 2015, the IMS officially went live and in less than a year contained information on approximately one million items shelved at the off-site facility. The Hesburgh Libraries' IMS is open source, and its code is available on GitHub.

COLLECTIONS PREPARATION

After the initial environmental scan and logistics planning, the Libraries hired a team of six limited-term processing assistants to do the collections preparation work. Each new hire was paired with an experienced cataloger, and those six pairs were sent out to various locations in the stacks to work on preparing the collection for transfer. Each two-person prep team was given a mobile station to work from, which consisted of a laptop and the necessary accessories (e.g. mouse, scanner, etc.), locked to a three-tiered cart.

The collections prep teams worked from shared Google spreadsheets that contained lists of materials to be prepared for transfer in accordance with the task force criteria. Routinely, one of the two prep workers would operate the laptop, while the other pulled and barcoded the physical item. Often, the newly hired processing assistant would quickly take to operating the laptop and navigating between the various Google and ILS tools, while the experienced cataloger felt more comfortable identifying the physical pieces on the shelf and assessing the associated bibliographic data. Therefore, as a rule of efficiency, it is beneficial to quickly identify individual strengths associated with this unique mobile workflow and assign roles within the two-person teams that build upon individual areas of expertise and comfort level with different tasks.

The collections preparation workflow began with the receipt of the barcoding spreadsheets. The Systems librarian submitted reports in two forms: titles with items (i.e. titles already partially or completely barcoded) and titles without items (i.e. titles with no item records). Spreadsheets were formatted to hold five sets of essential information in individual

columns: call numbers, titles, first and last volumes for multipart titles, holdings numbers and bibliographic numbers, along with an additional column for notes and comments.

Furthermore, a color-coding scheme was established in which the prep staff colored an item row yellow or red depending on the readiness of the item for transfer. For instance, a row would be colored yellow to indicate that the item was barcoded and is ready to move, or red to indicate that the item required further attention from Catalog Maintenance staff and should be excluded from transfer. The common cataloging problems that were encountered during this process included the following: unlinked items, uncataloged titles, serial title changes, wrong/obsolete OCLC copy numbers in local bib records, bound-with volumes, and partially-analyzed titles (see Appendix for more details).

Once a transfer spreadsheet was completely reviewed, it was transformed into a pull report for the vendor. Pull reports were formatted to include no more than twenty rows of item information per page, making them easy to read for the vendor's tagging and pulling teams. However, because of this, these reports were often hundreds of pages long when printed, making it necessary to break them into smaller sections for practical use.

The final step in the collections preparation workflow was the batch-processing of changes to the item and holdings catalog records of titles identified for transfer. This was carefully coordinated between Systems staff and the moving vendor to ensure that item and holdings information properly reflected an item's actual location as accurately as possible during the physical move. All items that were sent to off-site storage were coded with a process status that displayed as Temporarily Unavailable. This code was removed from the item record when the item was scanned into the IMS at the off-site facility.

In an effort to manage these day-to-day activities, lead staff got together every morning for stand-up scrums as an opportunity to ask each other questions, consider potential problems, and collectively coordinate the continual changes that were inherent to the project. Those scrums included lead staff from the Collections Preparation and Stacks Management teams, the project manager, the Systems librarian and a representative of the moving vendor.

CONDITION REVIEW

One important issue that was critical to consider early in the collections preparation process was how to handle items in poor condition. The sheer volume of material involved made it impractical to inundate the Preservation unit with condition review requests. Therefore, the decision was made to use heavy-duty string to hold items with loose covers, pages and/or binding together. Preservation-quality envelopes were also used for items that could benefit from being shelved in an enclosure. Additionally, the Systems librarian wrote a script for the purpose of processing batches of items in poor condition. This condition review process allowed for the insertion of specific condition-related codes directly into the item records of problem titles for future reference and condition reports.

PROJECT PHASES

Phase One was a tremendous challenge for the Collections Preparation team. It was a rushed process, with an unrealistic six-month timeline to prepare 450,000 items for off-site transfer. The training needs of the new limited-term processing assistants, and insufficient staffing overall, resulted in additional pressure on the project leads. Therefore, it was decided that the Collections Preparation team should focus only on the low hanging fruit, that being barcoding performed by the processing assistants and limited catalog maintenance activities performed by experienced cataloging staff. It also meant that only the most basic preparation

work would be the objective. As a result, more complex cataloging problems were left untouched, to be excluded from transfer and dealt with at a later date.

Furthermore, it was necessary and time-consuming to work through the many unexpected issues that were inherent to establishing many new processes. For instance, the extant inaccuracy of catalog records, and the associated problematic data, required the Systems librarian to develop scripted workarounds that sometimes resulted in the need to re-run transfer reports on multiple occasions. Also, the many exceptions within the larger categories of the selection criteria greatly complicated the process of creating accurate reports. In spite of all that, the Libraries managed to barcode over 200,000 items, and were able to prepare and move over 400,000 items in a process that was minimally disruptive to patrons. However, due to the hurried pace of the phase, some items with significant cataloging problems were ingested without remediation. Additionally, the tight project timeline allowed no time for collection managers to review spreadsheets and mark exclusions within their subject areas. Thus, all items meeting the task force selection criteria were moved off-site to the chagrin of some bibliographers who then requested the permanent return of titles that they considered of primary importance.

Phase Two was structured with a much more reasonable deadline and buffer of time to properly prepare for the second ingest. That allowed for a more comprehensive review of items to be moved, and more time for continuing to train the processing assistants. Processing assistants had the time to check all of the items on the transfer reports for acceptable bibliographic, holdings and item record information and make corrections when necessary. Also, with further training, processing assistants became experienced enough to handle basic cataloging problems during the prep process. For instance, they were trained to link items associated with bound-with and partially-analyzed titles, to overlay temp bibliographic records

with full copies, and to ensure the reconciliation of local records with OCLC copies.

Furthermore, there was enough time to identify and exclude titles with complex cataloging problems, and collection managers were given the opportunity to review spreadsheets and identify titles they deemed necessary to exclude from transfer. Ultimately, the Libraries were able to successfully prepare and move over 450,000 items during Phase Two with a much diminished post-ingest cleanup burden, compared to that of the previous phase.

POST-INGEST CONSIDERATIONS

One important consideration following the ingest portion of a phase is the storage of ingest rejects, i.e. items with condition or cataloging problems that the IMS system or ingest personnel refused to accept. When moving such a vast amount of materials, even a very small error rate can result in a significant cleanup project. Therefore, it is imperative to consider temporary storage space for potential problem items. It is a good idea to identify well in advance a shelving location in the cataloging office, or even a temporary location in the general collection, where a large amount of items can be held until complex cleanup becomes a priority.

Ingest rejects, or problem items at the point of ingest, existed mostly in two forms: system rejects (i.e. items rejected by the IMS) and personnel rejects (i.e. items rejected by the ingest staff). One type of system reject often encountered was the barcode not found occurrence. This case simply required updating the barcode in the item record or linking the item to the proper bibliographic record before sending it back to the off-site facility for ingest. A second type of frequently encountered system reject was item not marked for transfer. In that case, the item was either not meant to be transferred in the first place, or its holdings information was not updated by the global change. In such case, it is necessary to check the transfer reports to verify where the item belongs, then proceed accordingly.

Personnel rejects were often complex cataloging problems that somehow slipped through the pre-ingest cleanup period and were identified during the ingest process. Frequently, those rejects were found to be simply unlinked or unbarcoded items, and cleanup proceeded quickly. However, in other cases, specifically those involving partially analyzed or bound-with titles, cleanup became a prolonged affair requiring significant temporary storage space.

Two additional post-ingest cleanup priorities that had to be considered were items left behind by the moving vendor and items to recall temporarily for catalog maintenance. A decent number of items coded for transfer were missed by the vendor, which resulted in the need to do a separate search, gather, transfer and ingest at a later date. That process also involved sorting out what actually was left behind by the vendor from what had already been missing. In addition, some items were ingested with significant cataloging problems and needed to be temporarily recalled by Catalog Maintenance staff for remediation.

ENDURING COMMITMENT

Following the final ingest, it is of paramount importance to consider how to best transition from project mode to enduring commitment mode. To make this happen, it is critical to determine how to most efficiently style book transfers as a regular (e.g. daily or weekly) routine. Several distinct workflows can be designed, and their variations measured, to find out what practices work best for any unique situation. For instance, one variation that could be measured is the efficiency of having Collections Preparation staff work from a mobile station in the stacks versus having them work from a seated station in the cataloging office. Another variable to keep in mind is that item and holdings record changes might be made more efficiently by the Collections Preparation staff on an item-by-item basis rather than globally by Systems staff, since only a limited number of items need be transferred daily. Also, at this point, it is important

to remember that, without the help of a moving vendor, the Collections Preparation team will have to take on the extra burden of pulling books identified for transfer from the stacks, and staff from other units outside of cataloging (e.g. mailroom, stacks management, and off-site facility) will have to get more involved with the full spectrum transfer.

While developing best practices for ongoing daily transfers, it is important to continue working with the Systems librarian to root out glitches in the IMS and further enhance the product. Additionally, it is necessary to work more closely with Collection Development in an effort to reduce faculty misconceptions about the true function of an off-site storage facility.

CONCLUSION

Some of the advice for anyone looking at a similar project includes starting preparation work for the project early, learning from other institutions' experiences, hiring additional help if needed, investing healthy amount of time in collections preparation, negotiating a straightforward criteria for transfer with teaching faculty, working with subject librarians to review pull lists for exceptions, and working with the vendor to establish clear expectations and incorporate better quality control.

The main goal of the Hesburgh Libraries' project was to create sufficient space needed for renovation of the building. At the end of Phase Two, once all the shifting of remaining collections in the building was completed, the Libraries were able to gain enough swing space to accommodate their near-term needs. In addition, library materials stored off-site are now in better controlled environmental conditions. They are all accurately represented in the catalog and are easily accessible through document delivery requests.

Finally, technical services staff experienced some real benefits from organically developed cross-training opportunities throughout the course of the project. The project also

elevated the visibility of catalogers and displayed the importance of the skill sets that they possess.

CONTRIBUTOR NOTES

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APPENDIX: COMMON CATALOGING PROBLEMS

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