

Remote Storage: Leveraging Technology to Maximize Efficiency and Minimize Investments

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Remote Storage: Leveraging Technology to Maximize Efficiency and Minimize Investments

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Abstract

Libraries are increasingly using, or at least considering, remote storage facilities for their little-used materials in order to free up valuable on-campus library space for other purposes. This paper details the experiences of one library, Northwestern University's Pritzker Legal Research Center, in preparing for, then doing, this work. This type of work can be expensive in terms of staff time, particularly when staff is already being asked to do many additional things. Because extra staff could not be hired, Pritzker has experimented with alternative ways to get this work done, using relatively inexpensive and readily available technology, combined with the creativity of its staff, to accomplish this work with a minimum of time and other inputs while maintaining quality of work.

Introduction

Northwestern University's Pritzker Legal Research Center, located on the university's Chicago campus, is the law library for the Northwestern University School of Law (Northwestern Law). Additionally, as needed, we serve the research needs of the rest of the University, collaborating with the other Northwestern libraries on numerous initiatives. We are a large academic law library of over 600,000 volumes and equivalents. The library's history dates back to the 1890s; it has voluminous historical and current collections of law and law-related materials.

Planning for Off-Site Storage

Thinking about and planning for the possibility of remote storage of library materials began at Pritzker in late 2010. At that time, the librarians were asked by the then Associate Dean for Information Services to develop a plan detailing which materials would move off-site, assuming the Library were asked to give up 55% of its shelving capacity. After a process that took several months, the librarians established a series of rule-based decisions to follow for each part of the collection, folding those (and the inevitable exceptions) into a final plan in late spring, 2011.

While Pritzker's planning was being done, the University was in the process of building a state-of-the-art, climate-and temperature-controlled high-density library shelving facility with a capacity to

house up to 1.9 million items in 12,000 square feet of space. This facility, named the Oak Grove Library Center, opened in fall 2011. It is located in Waukegan, Illinois, about 30 miles north of the University Library, and about 45 miles north of the Pritzker Legal Research Center. The University Library, along with the Galter Health Sciences Library, began sending portions of their collections to Oak Grove facility between 2011 and 2014. Pritzker did not send any materials to Oak Grove during the facility's first two years of operation.

A Change of Plans

In early spring, 2014, a construction project at Northwestern Law was slated to break ground. As the beginning of construction work loomed closer, the library became aware that about 5,000 volumes stored in the basement of the building would need to be moved to allow construction crews access to a particular area. As it turned out, these old print runs of reports from cases decided in state courts were materials we had identified in our 2011 plan to send off-site since the content is available to our users online, and the volumes are not heavily used. Like print periodical runs, individual volumes are not typically read cover-to-cover, but are accessed via citations to specific pieces of content.

However, we needed to come up with a plan of action for these materials in fairly short order—we had only a little more than one week before the first batch of empty totes was to be dropped

off. Pritzker was fortunate in that we could tap into the experiences of our colleagues who had already been moving materials for several years. Materials are sent from Northwestern libraries to the Oak Grove facility via weekly van pickup. The van has a fairly limited capacity of 108 full totes' worth of materials. We calculated that this project would take three vans trips to move all 5,000 or so volumes we needed to move. We also knew that, since materials in Oak Grove are sorted and stored by size, the maintenance of call number order is really of no importance for materials going there. As long as each item has a barcode, it can be stored there, and retrieved whenever desired.

Getting Ready to Do the Work

As we understood the processes in place at other Northwestern libraries, they involve moving

materials from the stacks to a processing station (consisting of a computer with barcode scanner), where the processing is done. Each book's barcode is either scanned or typed individually into a special piece of simple software, called Oak Grove Assistant, developed by Gary Strawn, Authorities Librarian at the University Library (see Figure 1). The software interfaces directly with the libraries' Voyager database, changing the item record for each scanned barcode so it has an Oak Grove location, changing the item type to the default type for Oak Grove locations, setting an item status of "In Transit" (which is subsequently removed at the Oak Grove facility as part of their ingest process), and, upon scanning of the last item record attached to a holdings record, changing the location code in the holdings record to an Oak Grove one (see Figures 2 and 3).

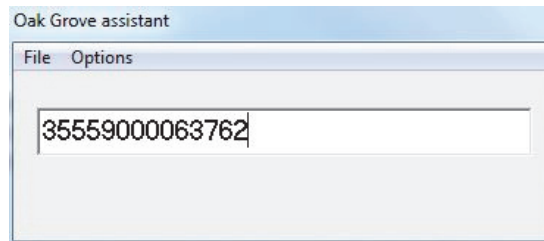


Figure 1. Oak Grove Assistant software.

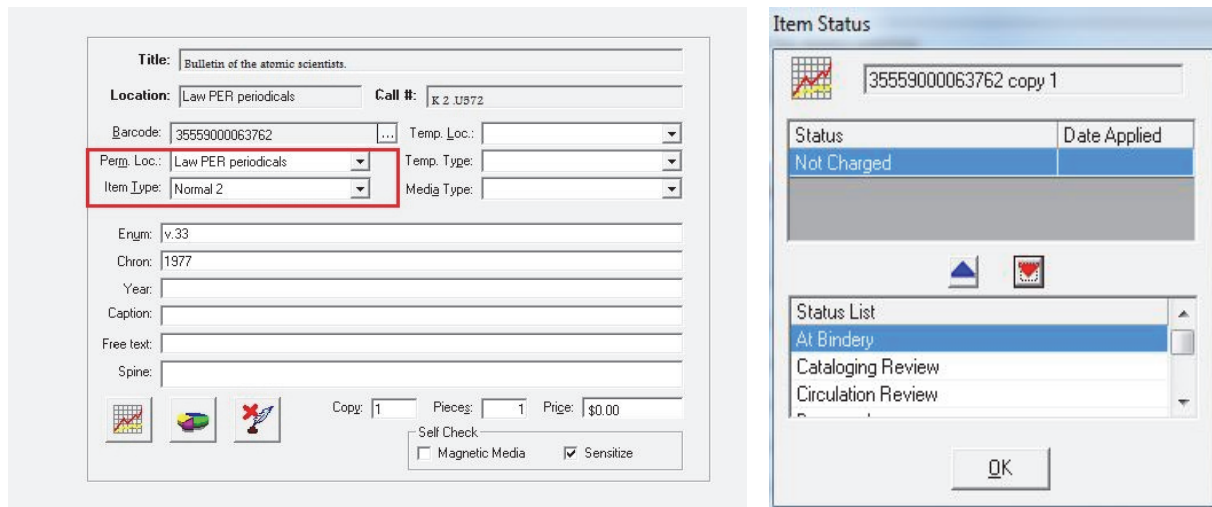


Figure 2. Voyager item record details before Oak Grove Assistant software processing.

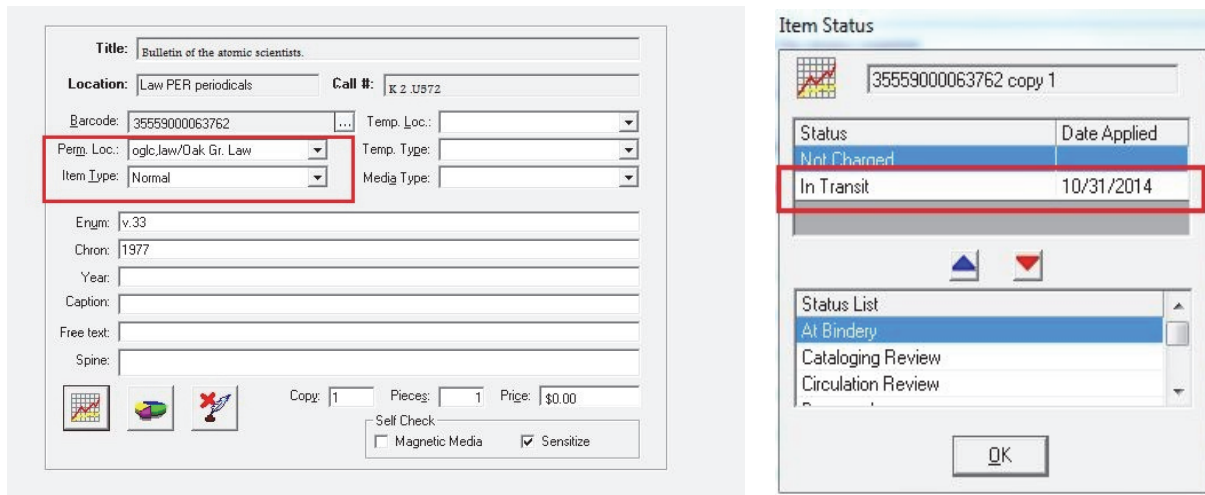


Figure 3. Voyager item record details after Oak Grove Assistant software processing.

Given that we had to carve extra time from already full staff workdays, we were concerned that we devote the absolute minimum amount of staff time and effort needed to accomplish the work accurately. So we tried to think of ways to lessen the workload, deciding that the fewer touches for materials, the better. We attempted to achieve this by taking several steps.

First, we asked Gary Strawn if he would be willing to modify the Oak Grove Assistant software to allow for batch processing of barcodes contained in a simple .txt file. Fortunately, that turned out to be a relatively easy task that he was willing to do for us. We ran some small test files of barcodes through the modified software, confirming that it would work in the ways we wanted. Next, we decided that, rather than take the work (e.g., each and every print volume) to the computer, it would be much easier to take the computer to the work. We use a pretty basic Dell laptop for our work, mostly because we have a couple extra of those on hand; however, almost any device that one can hook a barcode scanner up to, and create files of scanned barcodes that can be processed, would work fine. Additionally, to provide ample movement within the stack areas, we bought a couple of wireless barcode scanners to use with the laptop. These cost about \$75 or so apiece. Finally, we had the empty totes delivered directly to the stack area we would be working in.

Doing the Work

With the above pieces in place, library assistants could pull each volume from the shelf, scan its barcode into a .txt file on the laptop, and then place the book directly into the bin. Full bins were stacked four-high (how they would be moved, and how they would fit into the van). Since every item going off-site needs a barcode, items lacking them would be set aside to have them added later, their barcode processed by the Oak Grove Assistant software, then placed into a bin. At the end of a shift, the library assistant would then email me the file or files containing the barcode numbers that had been scanned. I would then process these using the Oak Grove Assistant software. In essence, the packing up of materials and the changes to the Voyager database were not accomplished together, but batched and separated chronologically.

So, How Did It Work Out?

We were able to complete our initial move of, as it turned out, 5,300 volumes to off-site storage on time, and with an extremely small number of errors. Out of the 5,300 things that were sent, exactly one item came back from Oak Grove because it lacked a barcode. Maintaining accuracy is critically important due to the way materials are stored in a facility such as ours (e.g., not in any call number order). In regular library stacks, missing items can be searched for in ways that have some

fair probability of the item being found; that probability goes down dramatically at a remote storage facility. While we do not have the ability to compare directly how this method compared with any other used at Pritzker, we believe that we were able to complete this initial project accurately and with a minimum of staff time and effort, since materials did not need to be pulled from shelves, placed onto carts, and then moved to a processing station.

Lessons Learned

The biggest lesson we learned: include staff that will do most of the work in the planning process, and really listen to their thoughts and suggestions. Library assistants are often way more creative problem solvers than we librarians are. So tap into those abilities! Because of space limitations in the stack aisles, I had initially thought that our process would involve filling bins by removing books from shelves on one side of an aisle at a time. Once that side was empty, and the full totes had been taken away, the shelves on the other side of the aisle would then be emptied and the totes filled. Fortunately, our library assistants are smarter than I, so they quickly figured out how to build in extra efficiencies that would not alter our need for accuracy. For example, rather than follow the above work pattern, they determined that it would be faster to scan materials in bulk, then go back and pack the materials into the totes. This would involve less turning, bending, and stooping to place materials into totes. When they asked me if this would be OK, I told them they should try it and see how it works out. In fact, it has worked out great!

Another efficiency that our staff approached me about involved the number of text files of barcode number to create each shift. Initially, I had asked them to create a separate file for each tote, so that, if problems were to develop, we could isolate which tote to look in for problem volumes. However, they found the creation of separate files to be cumbersome, and I found that the number of problems that required looking for in already-filled totes was exceedingly small. So we decided to try having each person create only one or two text files per shift. Again, in our case, the change has resulted in a faster process (less remembering

to open and close a lot of text files, and to be sure that barcodes were in the correct file) without really creating any problems with accuracy.

Finally, after we had completed our initial 5,300 volume project, and had begun work on the rest of the collection, I had a library assistant ask me why we couldn't just make the database changes without scanning each individual barcode. We are still working primarily with portions of our collection that are large print runs of serial titles—not an unusual thing in law libraries. So we have been trying out this modified approach. Essentially, this just shifts the time that quality checks are done. Instead of them being accomplished prior to materials leaving the building, they occur once the processing has happened at Oak Grove. I use a program, similar to Oak Grove Assistant, called Vger Location Changer, to bulk process these changes. Our colleagues at Oak Grove let us know when they have completed the processing of each week's batch. I then check to see which item records still say "In Transit," and resolve those that do. There have been a few hiccups in doing the work this way, but there have been very few cases wherein an item record did not transfer, or a piece lacked a barcode. So few, in fact, that it seems to be not worth the effort to scan each and every barcode at our end just to catch a handful of problems. It is easy enough for our colleagues at Oak Grove to send those materials back to us to handle.

As mentioned above, many of the materials sent thus far have consisted of long serial runs. I think our process, while efficient for handling these sorts of sets, will be less efficient when we turn our attention to the monograph portions of our collection. There, we will be dealing with many additional bibliographic and holdings records to represent the same number of volumes. We could produce reports of particular items to change through software to Oak Grove locations, etc. Since we will not be pulling contiguous volumes from shelves, we run a significantly greater risk of pulling and sending incorrect materials, or, at least, having many more corrections to make. Therefore, I would not be surprised if we determine that our earlier scanning and packing process, wherein we scan things and set them on

their sides on the shelves, to be packed up a bit later, will work best in those areas. To me, it seems most important not to take a one-size-fits-all approach to any of this work, but to develop the best process that will fit the particular materials being sent.

As libraries are increasingly using, or at least considering, remote storage facilities for their little-used materials in order to free up valuable on-campus library space for other purposes, they face the often-daunting task of actually getting

this work done. Often, that means getting the work done without many additional resources, such as extra staff. This paper has attempted to detail how one library has tried to approach this work. To date, this work has been successful, while allowing staff enough time to complete their many other additional responsibilities. At Pritzker, we expect the Oak Grove work to take about three years total to complete, but, as a result, we expect to have the ability to transform the collections we do keep on site, as well as the library space itself.