To find a suitable Mobile Interface Device that will allow Library Shelving Facility Staff to complete daily tasks more efficiently and at the same time use less paper increasing the productivity and sustainability of the Library Collection Services Department

Submitted by Michael Dadio
SCOPA Grant Proposal

Mobile Interface Device for Library Shelving Facility Staff

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• Topics
  
  o The purpose of this project is to find a suitable Mobile Interface Device that will allow Library Shelving Facility Staff to complete daily tasks more efficiently and at the same time using less paper increasing the productivity and sustainability of the Library Collection Services department
  
  o The method to be used in this research will be the involvement of multiple outside vendor consultants to analyze the current workflow in the hopes of suggesting the purchase and testing of different types of mobile devices. Also, a trip to NYPL BookOps and another similar warehouse facility will be done to compare types of devices being used and current workflows.
o Timeline
  ▪ Outside consultations and analysis of current work practices (6-8 weeks)
  ▪ Travel to NYPL BookOps and similar warehouse facilities (1-2 days)
  ▪ Purchase and testing of a single new mobile device (3-4 weeks)
  ▪ Review of the device’s performance by LCS management. (1 week)

o List of estimated project-related expenses
  ▪ Outside Vendor Consultations- Free
  ▪ Trip to NYPL BookOps and another similar warehouse in NYC ($253+$74 Lodging and M&IE)
  ▪ Purchase of a single test device- ($1000)
  ▪ Installation of device to LCS Industrial Lift Truck-($250)

o Will your project impact two or more departments? (No)

o Benefit: explain how the project will contribute to the YUL and the larger library and information science community.
By doing this research the YUL will be affected in two major areas. This first will be the sustainability of the workflow at LSF. By replacing 50-80 percent of the 500 sheets printed at LSF per day with work done on a mobile device the carbon footprint and paper waste of the operation will greatly be reduced. This will bring the work at LSF in line with President Salovey’s mission of “A Yale where sustainability is seamlessly integrated into the scholarship and operations of the university, contributing to its social, environmental, and financial excellence and positioning Yale as a local and global leader.”

The second area of impact will be the increased production capability of the LCS staff. Currently staff must gather paperwork, prep the sheets for the task at hand, and finally make an upload from the current PDT to a desktop when complete. All these steps (approx. 5-10 min) will be eliminated from the use of a mobile device hopefully saving the staff about 2 hours of combined work time daily. This time can be utilized elsewhere in the workflow to make the operation more productive.
The effect on the information science community will be the ability for management to seamlessly track the production levels of staff at a shelving facility. Currently management at LSF inputs each staff members rate of production into an Excel spreadsheet by hand. This is a lengthy but useful process when management needs to forecast labor requirements for new work. By integrating the mobile devices to the software, production tracking can be done with the use of a Business Intelligence Module that is already offered by the current software company used by LCS. This will give management data that can be used in forecasting new labor requirements for upcoming increases of work as well as recognizing staff who may be over or under performing which can lead to a breakdown of the workflow.

The major impact to the library community will be a new and innovative process that can be shared with other shelving facilities across the country. The use of these new devices and software will be widely accepted by universities that all currently operate using the same archaic paper-based methodology. Yale will be the front runner of this modernization and will be recognized for creating this innovation.
SCOPA Grant Submittal Additional Requested Information

- Additional Budget Detail: Add documentation about the purchase and installation price of a test device (vendor links or quotes) and specifics about travel expenses (who will be travelling, method and cost of transit).

  https://www.glaciercomputer.com/rugged-tablets/
  https://www.ruggedtabletpc.com/products/t1600-powered-forklift-vehicle-mount

Travel

I will be travelling to New York via Metro North. While in New York I will be using both subway and Uber to move throughout the city. An overnight stay will be possible depending on the length of time spent at each facility and the cost was estimated using the GSA per diem rates for New York City.

  http://web.mta.info/mnr/html/fares_CT/170101fares-NHLgrids.htm

- Additional Workflow Detail: Explain who will be performing the work, which other warehouse facilities will be visited, and if you have already completed research about methods used by other shelving facilities or if that research will also be part of your project.

I will be performing the work to schedule and test the equipment as well as the process here at LSF. I will be working with my staff and other managers within the unit.

I have been put in contact with an operations manager who works at the New York Public Library BookOps facility, he has agreed to host me at their unit to observe their operation. I also have a contact within one of the largest food distributors in the New York Metro Area based out of the Hunts Point Food Center in the Bronx who uses similar hardware and software to coordinate the picking and packing of material to be shipped to clients throughout the country.

I have reached out to other libraries via a listserv but have not gotten any responses yet.
• **Process of Investigation:** Describe the criteria you will use to determine which equipment to test, including functionality requirements you have identified.

   The equipment that will be tested will be chosen from models that are suggested by vendors that are willing to diagnose our current need for a mobile device. I will also seek input from GFA, the vendor that supplies the inventory control software used at LSF. One of these vendors will be Wasp Barcode Technologies. Another possible vendor that I may use will be Zebra Technologies. We currently use their barcode printers here at LSF and they offer other tablet-like hardware that may be compatible with our lift equipment.

   Currently staff uses a PDT (Portable Data Transmitter) to do some functions but they are not mounted to the lift equipment and they do not connect to the software wirelessly. These units are old and need to be updated as soon as possible.

   The equipment must be able to support our current software that is in use. It must also be a touch screen device and give the operator the ability to “highlight” barcodes as the books are pulled off the shelf to designate that pick as complete. The equipment must connect to our systems via wireless internet and must have a service contract available for purchase.

• **Evaluation:** Describe how will you determine if the trial is a success.

   The trial will be deemed a success if the installation and use of the new hardware replaces the paper-based workflow that we are currently using at our facility without impacting the speed and accuracy of the staff. We currently monitor both the speed and accuracy of every task completed by a staff member and management will be able to observe if the new process hinders their production in any way. Once the trial is over the hope is that we will be able to outfit all our lift equipment with the selected device.

• **Sharing Results:** Explain how you will share the information with other university shelving facilities (write a report, present at a conference, share information through a professional organization or listserv, etc.).

   The results will be shared with other institutions via a listserv at the completion of the trial. We also share our workflows and procedures with other university shelving facilities when we host visits at our unit. The paper saving and streamlining of the process will be very attractive to managers of similar facilities.