

# Harvard Library Lab

## *Shifting Tool Project*

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**Overview:** The Shifting Tool Project is an effort to create a software tool that can inform library staff of the time and resources required for a shift of materials, the relocation of books and other items housed in library stacks from one area to another. The project team envisions a user interface from which librarians can enter a call number range, and get back a measurement of linear footage. With the further input of the time it would take to physically move the materials from point A to point B, it is intended that the tool can then provide a time estimate to complete the job, expressed in person-hours; that resulting estimate could be customized by changing various parameters available for the task. For example, a shift that the tool determines would take 200 person-hours to achieve could be handled by one person working 200 hours, 2 people working 100 hours, four people working 50 hours, etc., giving librarians options regarding the amount of resources to devote to a project in order to complete it within a given time-frame or budget.

Please refer to the project interim report of 9/1/2013 for development progress as of that date.

**Technical Requirements:** At last report, the Berkman development team reports real progress handling call number data. Using the customized API created for this project by the Library Cloud team, our people have worked through the problems, and are finally getting back good data. Since our last report, when the algorithm was returning up to ten times more items than actually on the shelf, the error rate has been significantly reduced, to within tolerances for the shifting tool to be effective and useful. Below is an example of four call number ranges, and the results produced:

start number	end number	real items	real length	guess items	guess length	percent error
ML410.A152 P47 2008	ML410.Z62 S9316 2000	1995 items	164.5'	1951 items	163.79'	0.43%
ML410.M377 A88 2002	ML410.M595 D57 2013	41 items	35"	37 items	34.77"	0.66%
ML410.T167 H6 2000	ML410.V4 P58 2004	78 items	70"	78 items	73.21"	4.6%
ML410.B244 A5 2009	ML410.B4968 A4 2002	111 items	105"	107 items	110.48"	5.2%

These results represent a significant breakthrough. Further testing with the GUI is ongoing. In their latest report, the developers have a test environment in place, and they have recently built in the item calculation functionality. The welcome page interface is in place, and introduces the system, and lists prior calculations, in addition to the starting point for new calculations. The test environment, shown below, is available at the following URL: <http://collshift.dev.berkmancenter.org/>

# Welcome to **CollectionShift**

**CollectionShift** is a tool to help plan the shifting of collections of library items (primarily books and serials) from one shelf space to another.

Simply enter the library code, collection code, and the call number range for the items you're looking to move, plus a few other bits of data, and we'll put together an estimate of the number of person-hours required to complete your shift.

Right now, we're limited to Library of Congress call number ranges, so this tool won't work with other numbering schemes. We also rely heavily on data from [LibraryCloud](#), so if they're missing data about the records you're looking to shift, we won't be much help.

Listed below are all the shift calculations that have been performed so far. Peruse them as examples, and when you're ready to calculate your own shift, click [New Calculation](#).

## Previous Calculations

Library code	Collection code	Call num start	Call num end	Result
MUS	GEN	ML410.A165 D5 2006	ML410.Z62 S9316 2000	<a href="#">Result</a>
MUS	GEN	ML410.B244 A5 2009	ML410.B4968 A4 2002	<a href="#">Result</a>
MUS	GEN	ML410.T173 A3 2013	ML410.V4 P58 2004	<a href="#">Result</a>
MUS	GEN	ML410.M377 A88 2002	ML410.M595 D57 2013	<a href="#">Result</a>
MUS	GEN	ML410.B244 A5 2009	ML410.B4968 A4 2002	<a href="#">Result</a>
MUS	GEN	ML410.B244 A5 2009	ML410.B4968 A4 2002	<a href="#">Result</a>
MUS	GEN	ML410.A165 D5 2006	ML410.Z62 S9316 2000	<a href="#">Result</a>

[New Calculation](#)

At this time, the calculation to produce the end result, the resources required to effect a shift, expressed in person-hours, has not yet been installed into the tool. When a calculation is requested in the test environment, the results are supplied via an e-mail:

# Shift Plan

## Input

Library code	MUS
Collection code	GEN
Call num start	ML410.A165 D5 2006
Call num end	ML410.Z62 S9316 2000
Travel time	10.0
Feet moved per trip	4.0
Load time	5.0
Unload time	5.0

## Results

~1951 items

~163.8 linear feet

*Visualized*

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## Library Cloud Data

Total Records	1951
Total Books	1820
Total Serials	12
Total Multi-volume works	194
Total Pages	571344
Records without pages	28

[Recalculate](#)

## Derived Stats

The tool also includes graphing in its output. It appears, at this point in time, that the only remaining functionality required to begin field testing is the calculation of the time

components and resulting measurements in person-hours. Please see “Process and Timeline,” below, for next steps.

***Financial Update:*** From an overall grant award of \$15,000, \$11,000 has been allocated for the Berkman Center, funding the technical work of the application developers. At this time, balances and future spending remain unclear, hinging on the need to extend the development time beyond the end of the current Library Lab funding cycle in which this project was initiated. The remaining \$4000 of the original grant, designated for administrative, promotional, and overrun purposes, remains unspent, but could be available for potential costs incurred bringing the application to fruition once the development stage has concluded.

***Process and timeline:*** In the last interim report, we speculated that the project timeline was in doubt, due to the technical problems encountered. Given that the end date of the current Library Lab development round has now passed, a decision will need to be made regarding the immediate plans for this project. It appears that the largest technical hurdle has been conquered, and the Berkman developers make assurances that the final construction of the GUI and its background functions should not take much more time to complete. Following that milestone, a period of field testing will be needed to prove the accuracy and functionality of the tool. Such testing could be completed within a matter of one to two weeks, assuming availability of project staff time. The project team is, at present, awaiting the final developments in the tool and its interface. The Project Manager is available to discuss the next steps forward with Library Lab staff. With the most recent developments, it is hoped that the development process can be seen through its completion, and a beta version of the tool can be deployed for, at a minimum, proof of concept testing.

As always, the project team is indebted to the Library Lab staff, as well as the Arcadia Fund, for supplying the support and resources needed to develop this project.

Respectfully submitted,

Andrew Wilson, Project Manager