Library Data Sorter

Trinity College
HARTFORD CONNECTICUT

William Tanamli ‘22

Project Advisor: Professor Islam | Department of Computer Science, Trinity College

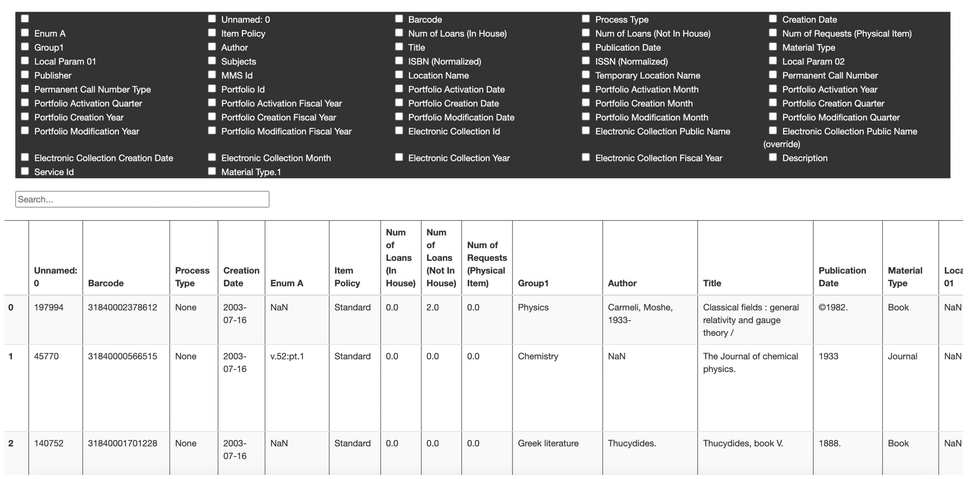
Introduction

Librarians at Trinity have access to an extensive database of the school’s collection. With such a high volume of available resources, one of the most useful tools a librarian could use would allow for specific searches and sorts. My goal was to create a tool that will allow for filtered searches to be easily performed, such as the ability to search for only items present in both the school’s physical and digital collections simultaneously. I also created a bubble sort visualization of the data that displays the distribution of books by subject.

Significance

- Rapid search of library database with filterable results
- Works offline
- Provides a visualization of the data

Search Feature



	Unnamed: 0	Barcode	Process Type	Creation Date	Enum A	Item Policy	Num of Loans (In House)	Num of Loans (Not In House)	Num of Requests (Physical Item)	Group1	Author	Title	Publication Date	Material Type	Loca 01
0	197994	31840002378612	None	2003-07-16	NaN	Standard	0.0	2.0	0.0	Physics	Carmeli, Moshe, 1933-	Classical fields : general relativity and gauge theory /	©1982.	Book	NaN
1	45770	31840000566515	None	2003-07-16	v.52:pt.1	Standard	0.0	0.0	0.0	Chemistry	NaN	The Journal of chemical physics.	1933	Journal	NaN
2	140752	31840001701228	None	2003-07-16	NaN	Standard	0.0	0.0	0.0	Greek literature	Thucydides.	Thucydides, book V.	1888.	Book	NaN

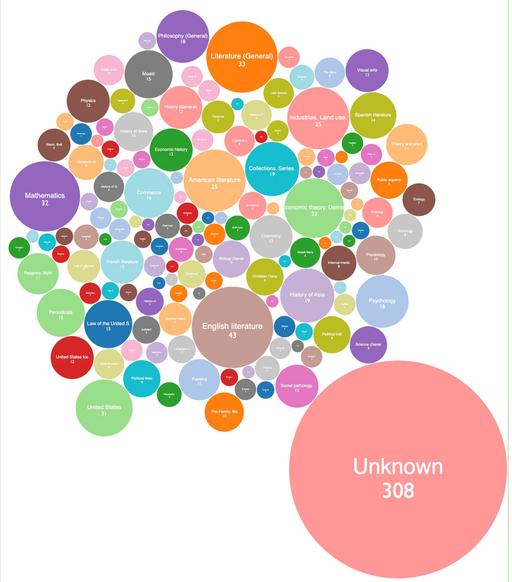
Tools Used

pandas

HTML

D3

Data Visualization



Development Process

- Narrow down and export relevant datasets from database
- Use Pandas to create data frames
- Implement search function in Pandas
- Use HTML to display and interact with the data
- Use JavaScript to create data visualization

Outcome

- Learned how to work with HTML and JavaScript
- Learned important methods of data analysis and manipulation
- Only included 1200 total items in the demo for ease of use
- Adapted to instances of incomplete and missing data

Further Work

- Use full library data instead of a sample group
- Combine the physical collection data frame with the digital collection data frame
- More HTML work to improve the design of the webpage and user interface
- Create other visualizations of the library data