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# MAT 259: Project2

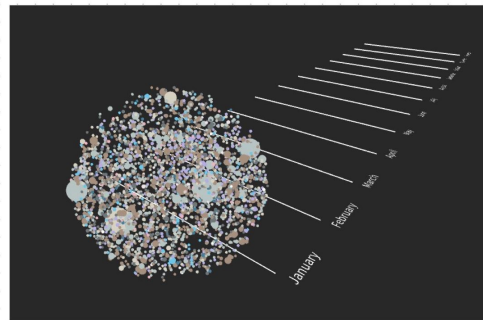
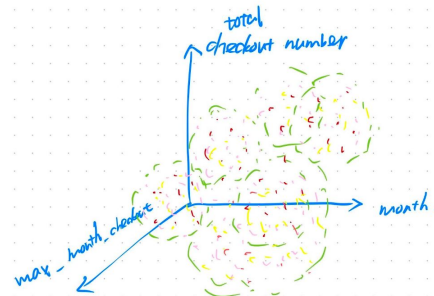
Chinese Related Books Interests at  
Seattle Public Library (2006 - 2022)

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# Initial Idea:

I am curious about Chinese-related books' interests with different Dewey classifications at Seattle Public Library. My initial idea was to create a computer-generated sketch that would display 17 spheres, each representing the number of checkouts of Chinese-related books during a specific year, ranging from 2006 to 2022. The size of each sphere is proportional to the total number of book checkouts in that year, resulting in 16 spheres of varying sizes. Additionally, I want to make the visualization even more intriguing and meaningful, so the x-axis represents this month as the most significant checkout number in the current year, the y-axis represents the checkout number of the month with the biggest checkout number, and the z-axis represents the total checkout number. The color represents the year.



# Query & Data:

1. Select all results (the element should have dewey classification) from each year, unify the dewey class name, group by title.

```
select
COUNT(title) AS Counts, title,
case when deweyclass >= 900 and deweyclass < 1000 then 900 else deweyclass end
from (SELECT distinct id,barcode,itemNumber,itemtype, title, cout, deweyClass
FROM spl_2016.outraw
inner JOIN spl_2016.subject ON outraw.bibNumber = subject.bibNumber
where subject.subject like '%chinese' or subject.subject like '%china%') as A
WHERE YEAR(cout) = 2006 and deweyClass >= 900 and deweyClass < 1000
group by title, deweyclass
ORDER BY Counts DESC
LIMIT 50;
```

```
SELECT
COUNT(title) AS Counts,
title,
deweyclass
FROM
(SELECT
DISTINCT id, barcode, itemNumber, itemtype, title, cout,
CASE
WHEN deweyclass > 900 and deweyclass < 100 THEN 0
WHEN deweyclass >= 100 and deweyclass < 200 THEN 1
WHEN deweyclass >= 200 and deweyclass < 300 THEN 2
WHEN deweyclass >= 300 and deweyclass < 400 THEN 3
WHEN deweyclass >= 400 and deweyclass < 500 THEN 4
WHEN deweyclass >= 500 and deweyclass < 600 THEN 5
WHEN deweyclass >= 600 and deweyclass < 700 THEN 6
WHEN deweyclass >= 700 and deweyclass < 800 THEN 7
WHEN deweyclass >= 800 and deweyclass < 900 THEN 8
WHEN deweyclass >= 900 and deweyclass < 1000 THEN 9
ELSE deweyclass
END AS deweyclass
FROM spl_2016.outraw
INNER JOIN spl_2016.subject ON outraw.bibNumber = subject.bibNumber
WHERE subject.subject LIKE '%chinese' OR subject.subject LIKE '%china%'
) AS A
WHERE YEAR(cout) = 2006 and deweyclass != ''
GROUP BY title, deweyclass
ORDER BY Counts DESC;
```

# Query & Data:

1. Select all results (the element should have dewey classification) from each year, unify the dewey class name, group by title.

| 2006 |        |  |       |
|------|--------|--|-------|
| year | Counts | title  | class |
| 2006 | 540    | China  | 9     |
| 2006 | 523    | Da Tang shuang long chuan                                      | 8     |
| 2006 | 433    | story of the weeping camel Ingen numsil                        | 9     |
| 2006 | 404    | silk road  | 9     |
| 2006 | 224    | Loc dinh kÃfÃ~   | 8     |
| 2006 | 206    | Chop socky cinema Hong Kong                                    | 7     |
| 2006 | 179    | 1421 the year China discovered America                         | 9     |
| 2006 | 154    | Sesame Street Big Bird in China                                | 9     |
| 2006 | 149    | Into thin air a personal account of the Mount Everest disaster | 7     |
| 2006 | 149    | Ancient China  | 9     |
| 2006 | 133    | Oracle bones a journey between Chinas past and present         | 9     |
| 2006 | 129    | Shanghai ghetto  | 9     |
| 2006 | 128    | Tan qing shuo ai yan chang hui DVD Sammi and Sally             | 7     |
| 2006 | 126    | Jin qu man tian xing yan chang hui                             | 7     |
| 2006 | 123    | Tikki Tikki Tembo  | 3     |
| 2006 | 122    | Li hua huang gong Jubilee the finale ya zhou ban karaoke       | 7     |
| 2006 | 119    | Lin Yilian yan chang hui Sandy in concert                      | 7     |
| 2006 | 117    | Everest the death zone   | 7     |
| 2006 | 115    | Fushigi yÃcÃcÃ"gi the mysterious play Vol 17 Demon             | 7     |
| 2006 | 114    | Surviving Everest  | 7     |
| 2006 | 112    | Eason Chan Sally Yeh   | 7     |
| 2006 | 109    | Xun zhao Xu Xiake zu ji  | 9     |
| 2006 | 108    | Li mao huan tai zi   | 7     |
| 2006 | 107    | Zhen Ni 2001 yan chang hui Jenny in concert                    | 7     |
| 2006 | 107    | China a century of revolution                                  | 9     |
| 2006 | 105    | Huai He cai feng   | 9     |
| 2006 | 105    | Ye Feng yu chang jia ban Guo yu jin qu 30 nian yan chang hui   | 7     |

# Query & Data:

2. Get year , month and checkout number relationship result.

| years | total | max_month | max_count |
|-------|-------|-----------|-----------|
| 2006  | 40202 | 8         | 4120      |
| 2007  | 35052 | 3         | 3924      |
| 2008  | 41989 | 1         | 3873      |
| 2009  | 41299 | 3         | 4037      |
| 2010  | 34837 | 1         | 3553      |
| 2011  | 30942 | 3         | 3110      |
| 2012  | 26028 | 7         | 2502      |
| 2013  | 27380 | 3         | 2540      |
| 2014  | 22982 | 1         | 2599      |
| 2015  | 19601 | 1         | 1971      |
| 2016  | 17271 | 1         | 1668      |
| 2017  | 15468 | 3         | 1551      |
| 2018  | 9639  | 4         | 1250      |
| 2019  | 13548 | 1         | 1399      |
| 2020  | 3692  | 1         | 1339      |
| 2021  | 7591  | 10        | 841       |
| 2022  | 9040  | 1         | 1043      |



# Thinking:



## Data Volume

Data should be multivariate, and granular, but If the amount of data is too large, the screen will freeze.



## Interesting

It need some innovative design.



## Meaningful

Every data has its own meaning.

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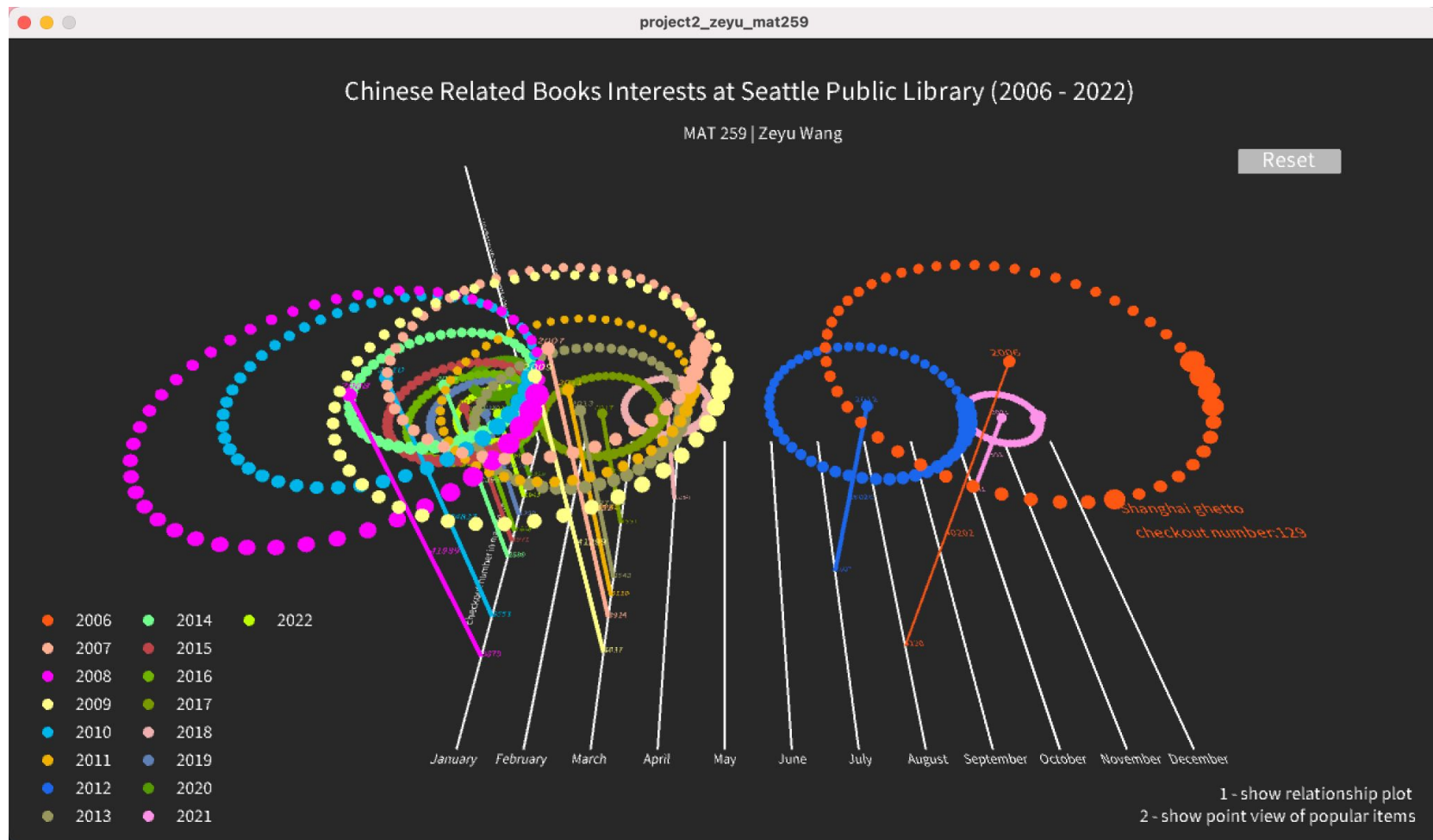
## Implementation:

Two main views with interactions:

Plot: displays a plot that shows the checkout number of Chinese-related books over time, with a focus on the top 50 popular books.

Point: presents a 3D visualization of popular books over time, highlighting trends in five-year intervals

# Plot View





# Point View

