Basic Information

Project Title: GameTop

Description: Data visualization project about the sales of video games

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Github Repository: https://github.com/jtchan2/GameTop

Background and Motivation

Video games have become a huge aspect of today's society. Where people say "oh this game is so good" or "you have to try this game" and making it seem every video game is one the best created. The motivation behind this project is to show which games are good or popular at a given year depending on their sales around the world and maybe influence the potential to create more games in categories of lower or highest sales.

Project Objectives

- Overall Objective: display various top selling games/game categories throughout various years.
- Objective 1: What the top 10 games sold globally overall recent years **Implemented**
- Objective 2: display several game sales and show the difference of sales per region
- Objective 3: display the change of specific game publishers or game genre (if publishers do not have enough info) sales from 1996 to 2016 **completed**

Data

For data collection I will be using a data set from Kaggle by Gregory Smith to be used: https://www.kaggle.com/gregorut/videogamesales

As well as doing self research of data to find more country wise game sales/ genre game sales and additional game release date data

Data Processing

Data from kaggle is already formatted into a table view. The additional processing will be deleting/removing data that have little or insufficient data or importance to overall data. The aspects of the data which I would use are game name, game genre, NA sales, europe sales, Japan sales, year/date published and global sales

Visualization Design

Included at the end of write up

Must Have Features

- Feature 1: create a bar chart to represent the 10 best with the feature of having over bar shows more information about the game. This Feature meets objective 1 **Feature has been implemented**
- Feature 2: Implement a world map where Europe, USA and Japan would be gradient filled to display differences in game/genre sales of a specific year. THis feature meets objective 2
    - **Feature rationally decided to change to treemap as data set that is used for project does not have sufficient information to create Country Maps**
    - **Treemap will instead have 3 large categories of NA sales, JP sales and EU sales of each game so viewer can see which country has best game sales**
- Feature 3: Create a line chart where each line represents a game publisher games sales over the years

    - Also having the feature of hovering over the line will give information specific to the game on that date and its details. This feature address objective 3
    - **Feature has been implemented**

Optional Features

Optional features that I would like to implement for the line chart, would be to make it so it would highlight one genre of video games and lower accents of other genres. Another optional feature would to make the world map visualization handle multiple games where a legend with clickable games that would change the map to replace current map value/color with another game's value

Related Works

- http://gamestudies.org/2201/articles/anonymous By anonymous writer
- https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01731/full by Juliane M. von der Heiden
- https://www.apa.org/pubs/journals/releases/amp-a0034857.pdf Created by Isabele Granic
- https://reader.elsevier.com/reader/sd/pii/S1877050919305393?token=B35C2BB413D3DB13165C3339863E44B55AD75EE923FEEEE2A639CD5126E6B483F35A96E35F375C1D50FC9E26B61EFD3D&originRegion=us-east-1&originCreation=20220317183038 or https://www.sciencedirect.com/science/article/pii/S1877050919305393 Created by Muhannad Quwaider, Abdullah Alabed and Rehab Duwairi
- http://gamestudies.org/2103/articles/toh by Welhiem Toh
- By Jin Ha Lee et.al https://www.ideals.illinois.edu/bitstream/handle/2142/47323/057_ready.pdf?sequence=2&isAllowed=y or https://www.ideals.illinois.edu/handle/2142/47323

- Wilke, Claus O. *Fundamentals of data visualization: a primer on making informative and compelling figures*. O'Reilly Media, 2019.

Website

- https://jtchan2.github.io/GameTop.github.io/

Project Schedule

Initial project proposal Mar 11, 2022
Revised project proposal Mar 29, 2022
- Research additional information about video release/publish dates **Not finished, more published dates to find than initially thought (initial=10k, actual >100k)**
- Decide to include Specific game sold/ genre sold visualization **Decided on Genre Sales**

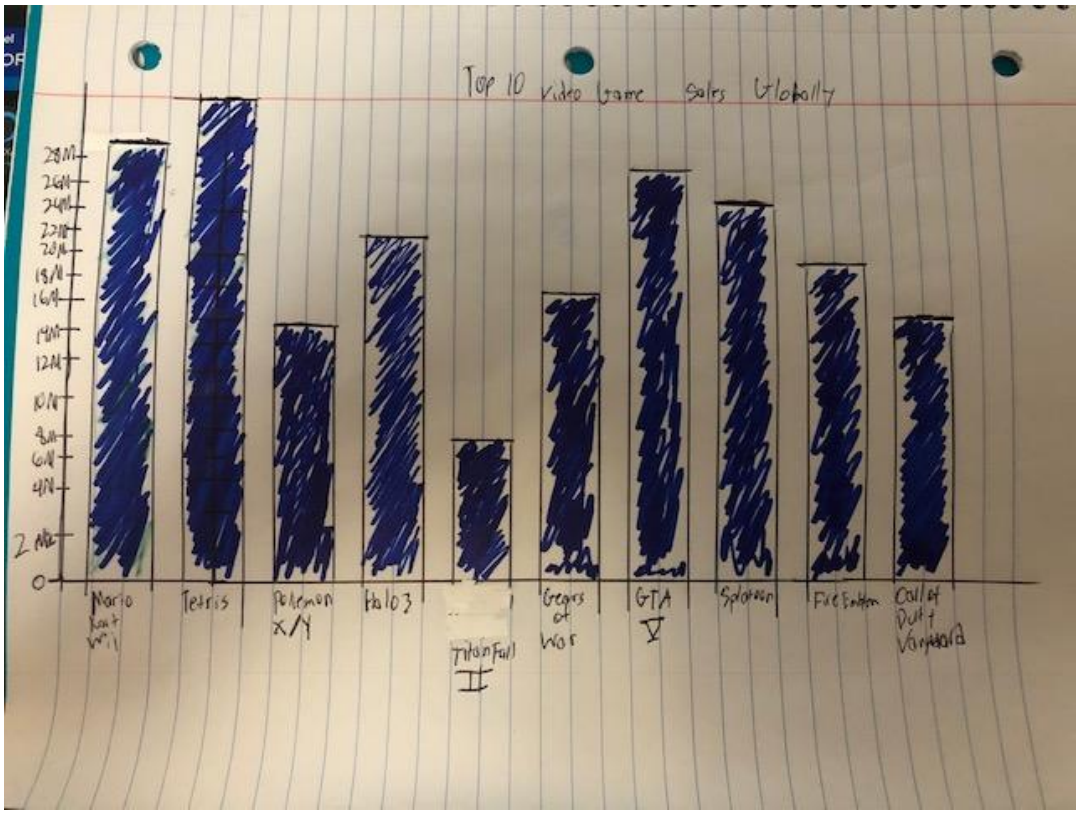
Alpha release of Project Apr 6, 2022
- Create base line chart without tools **Implemented line chart**
- Create Base color map of world **Not implemented, decided to change to treemap**
- Create base bar chart without hovering tools **Implemented Bar Chart with hovering tool**

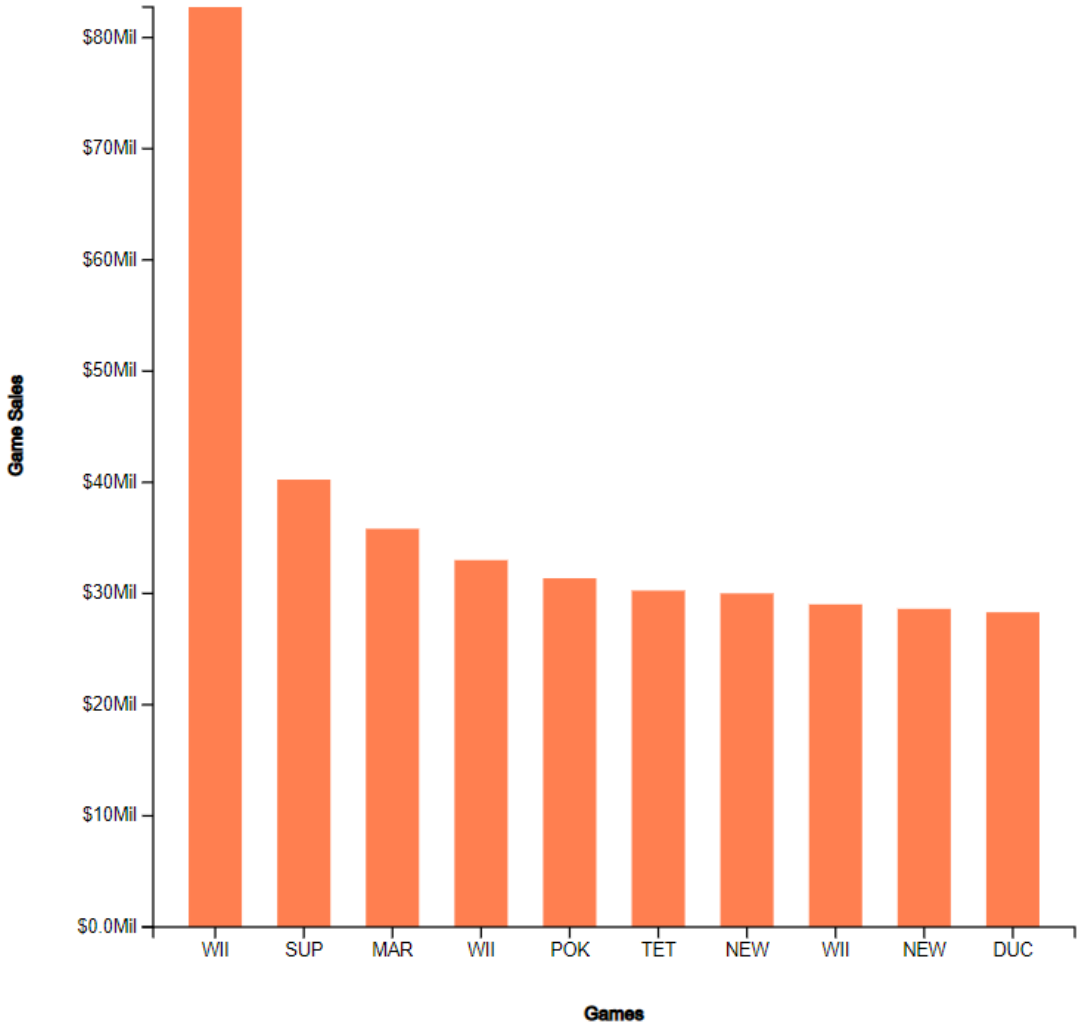
Beta Release of Project, Apr 20, 2022
- **Get all 100,000 publish dates of games and change correct dates for line chart**
- **Improve algorithms of both Line and Bar Charts**
- **Add Legends for genre difference in visualizations**
- Implement tooltips for all visualizations

Final Project Presentation May 9, 2022
- Put visualizations into slides
- Have website running with template of bulma

Final Project report draft May 16, 2022
Final Project Report, Slides, Demo, Code & Data May 19, 2022

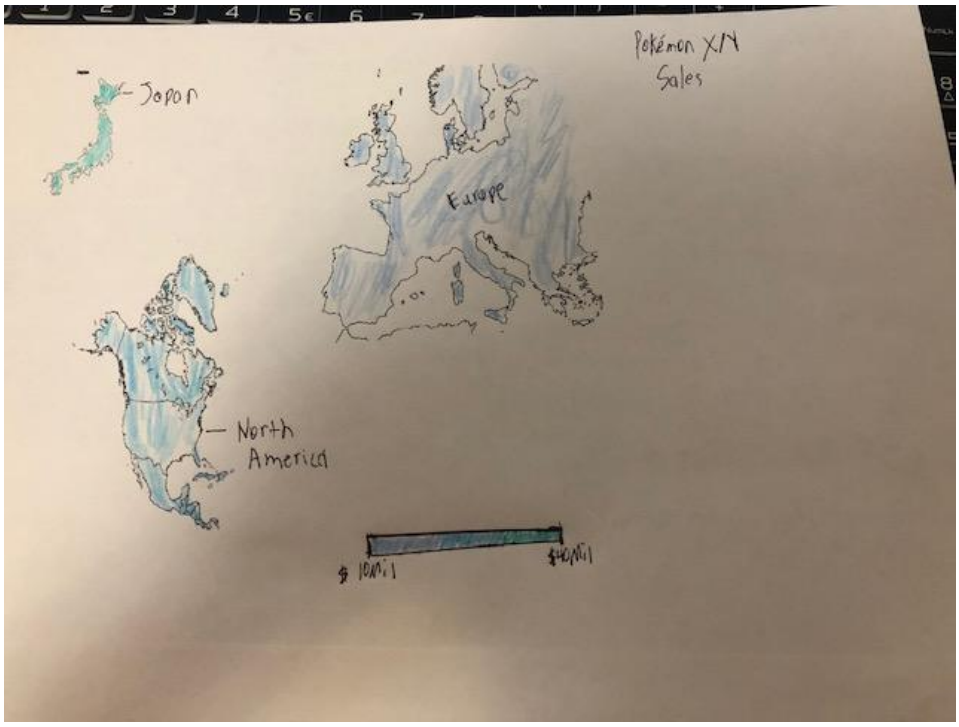
Features
Feature #1



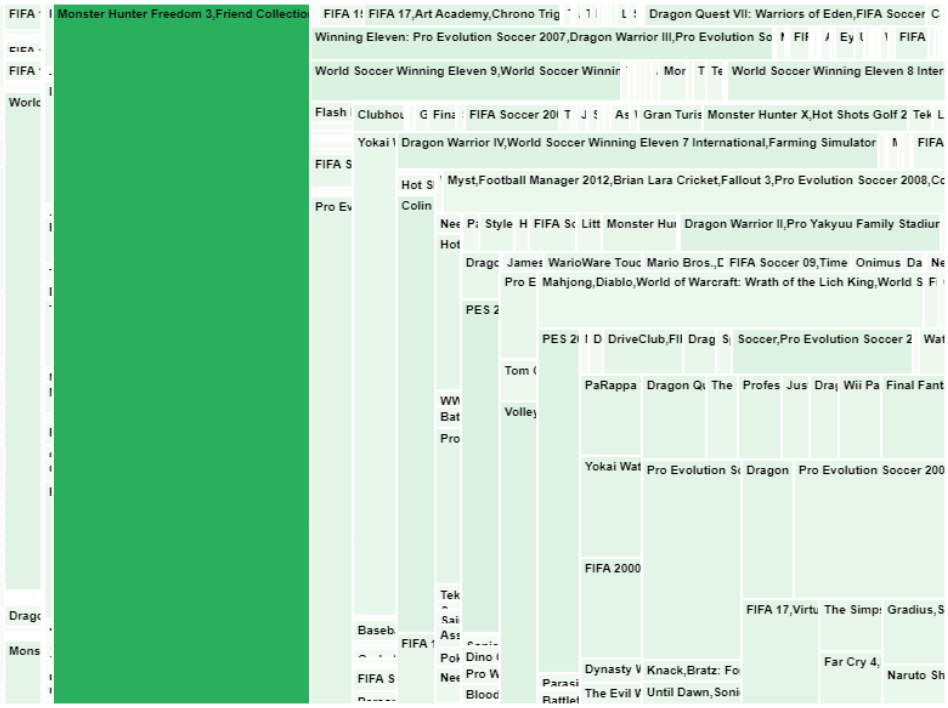


Implemented Feature Link:
https://jtchan2.github.io/GameTop.github.io/vgBar.html
Link to code: https://github.com/jtchan2/GameTop.github.io/blob/main/vgBar.html

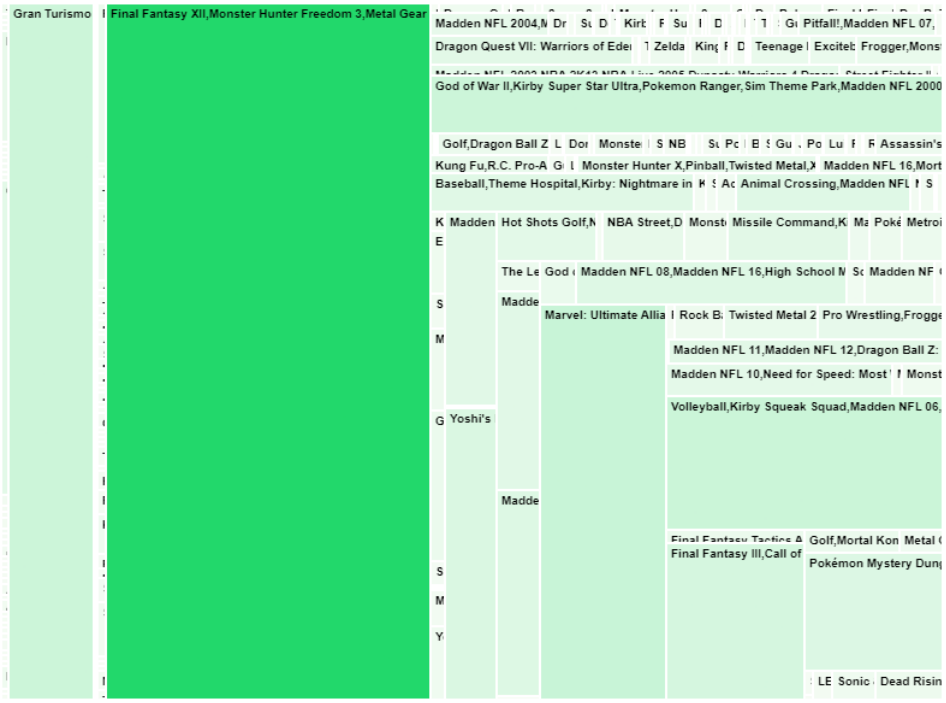
Feature #2



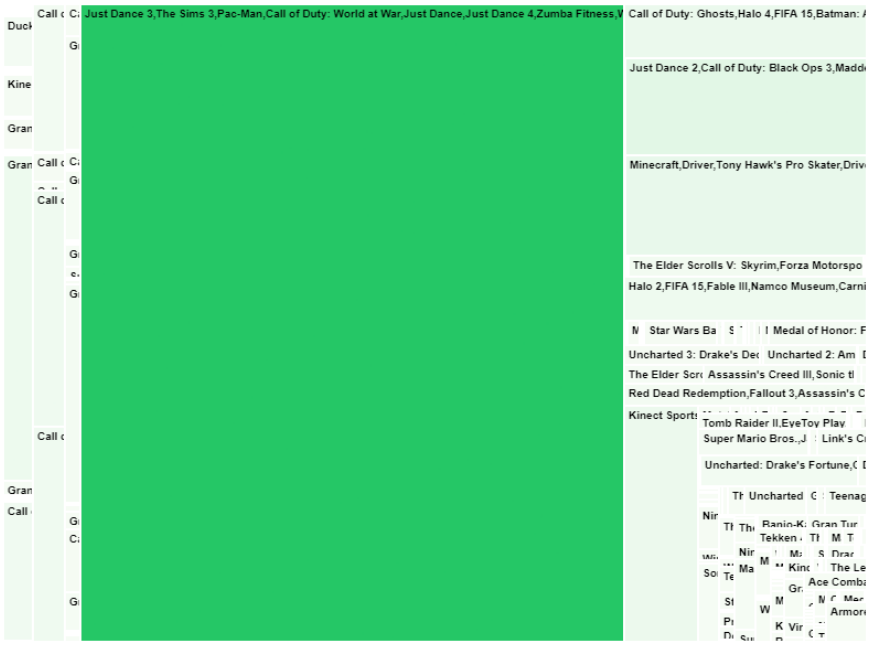
Rationale for Change: Data set does not have values for longitude and latitude to implement a map of data
Considered Change: Create treemap representation of data set
Potential Visualization outlook:



Treemap above is of NA sales, color is by global sales

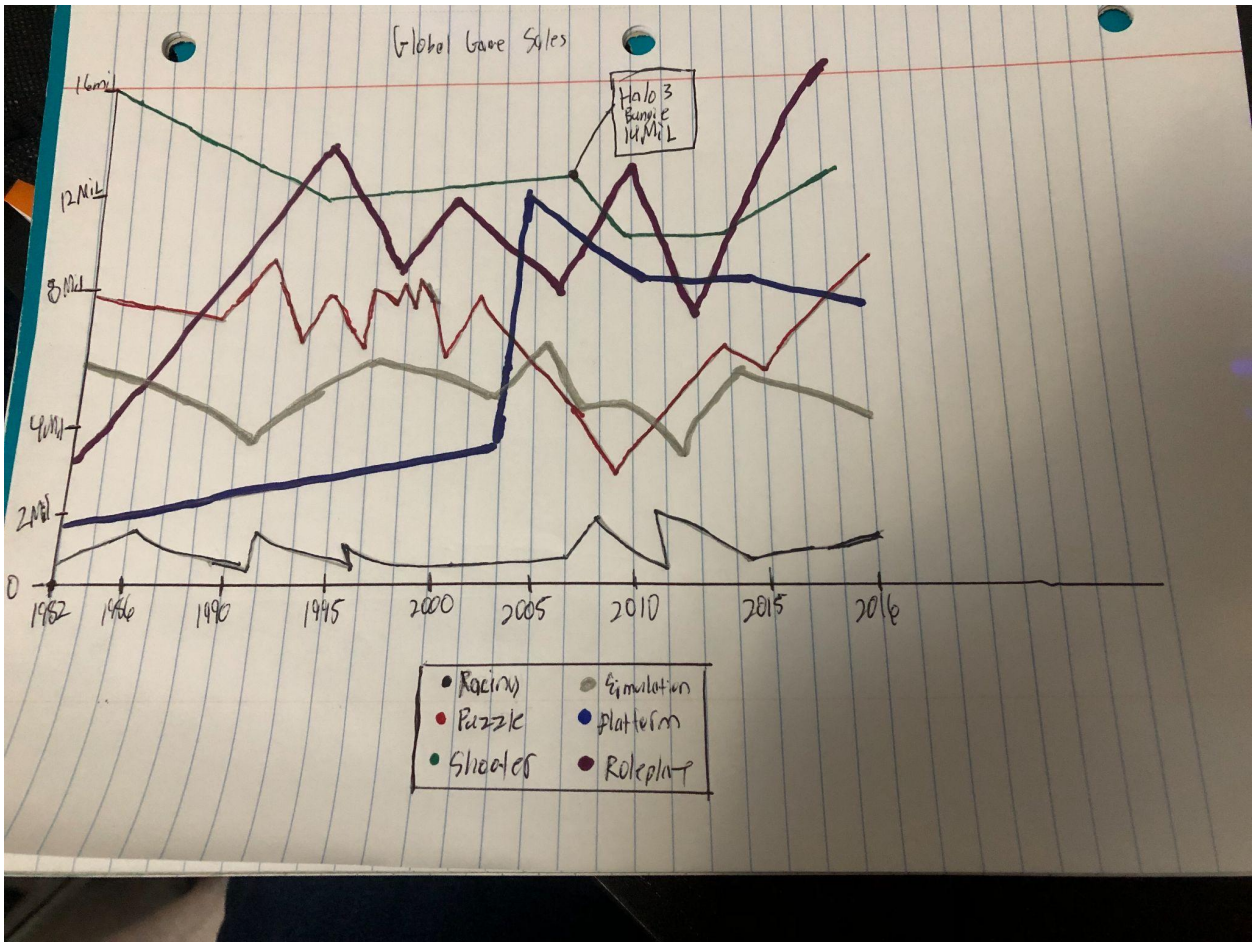


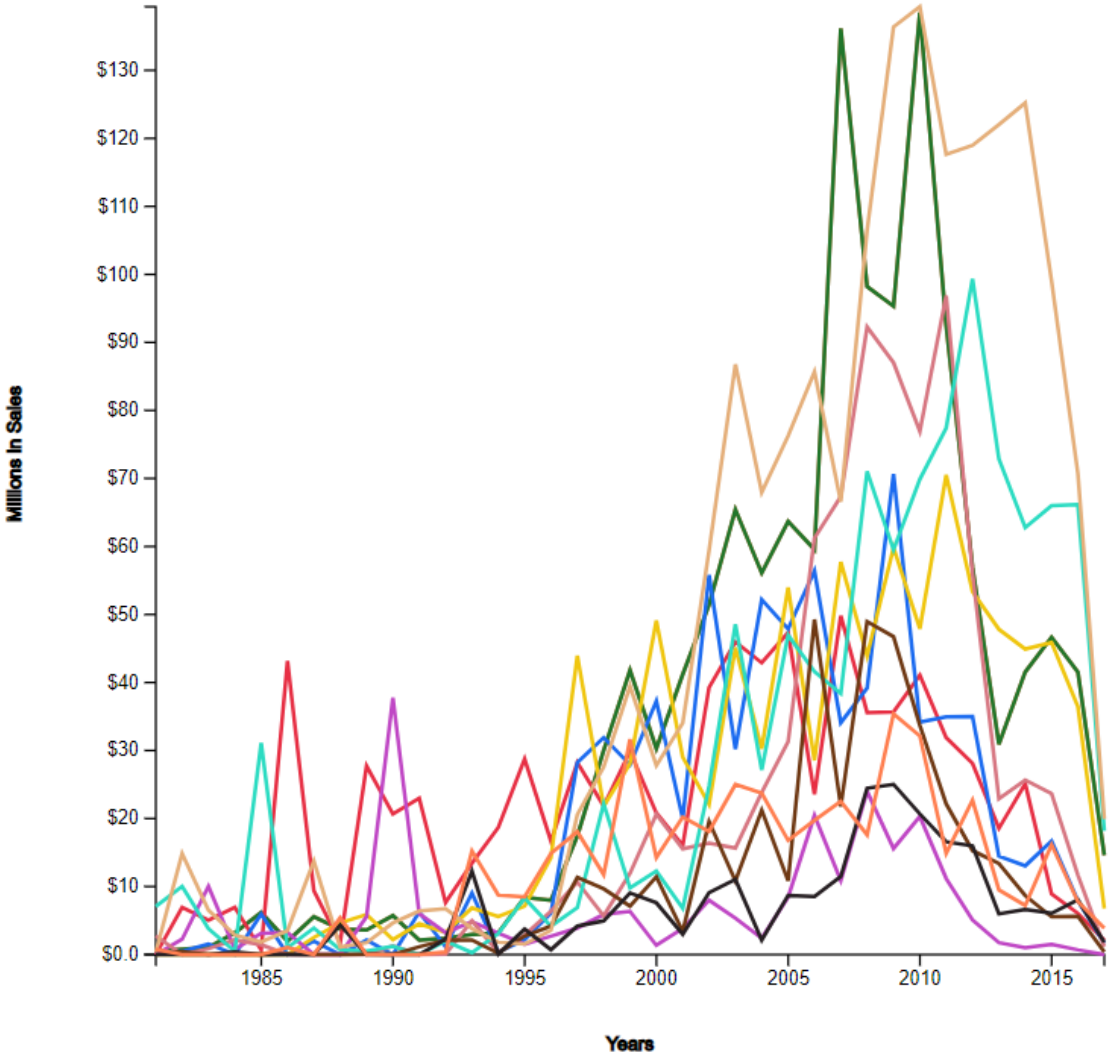
Treemap above is of EU sales where color also is by global sales



Treemap above is of JP sales where color as ones before based off global sales

Feature#3


Global Game Sales
Halo 3
Bungie
14 Mil
16Mil
12Mil
8Mil
4Mil
2Mil
0
1982
1986
1990
1995
2000
2005
2010
2015
2016
Racing
Puzzle
Shooter
Simulation
Platform
Roleplay



Implemented feature website Link:
https://jtchan2.github.io/GameTop.github.io/vgLine.html
Link to Code:https://github.com/jtchan2/GameTop.github.io/blob/main/vgLine.html