Topic: Global Game Sales by Genre

This project aims to create an interactive web-based visualization of video game sales data, categorized by genre and platform. The visualization will provide insights into the global gaming market, highlighting trends in different genres and across various gaming platforms.

Team Member:

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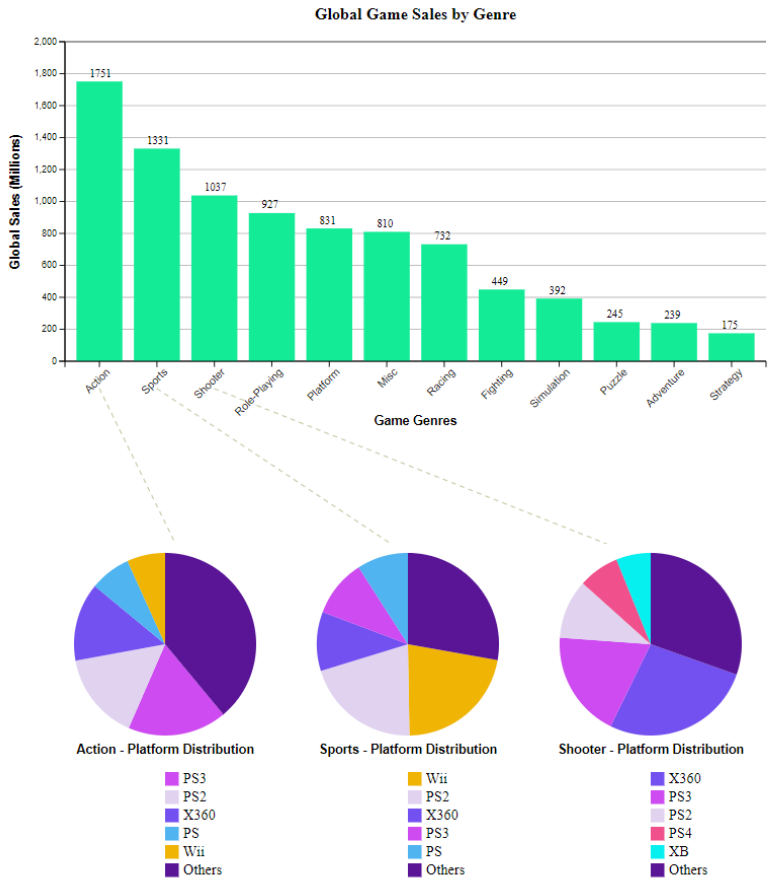
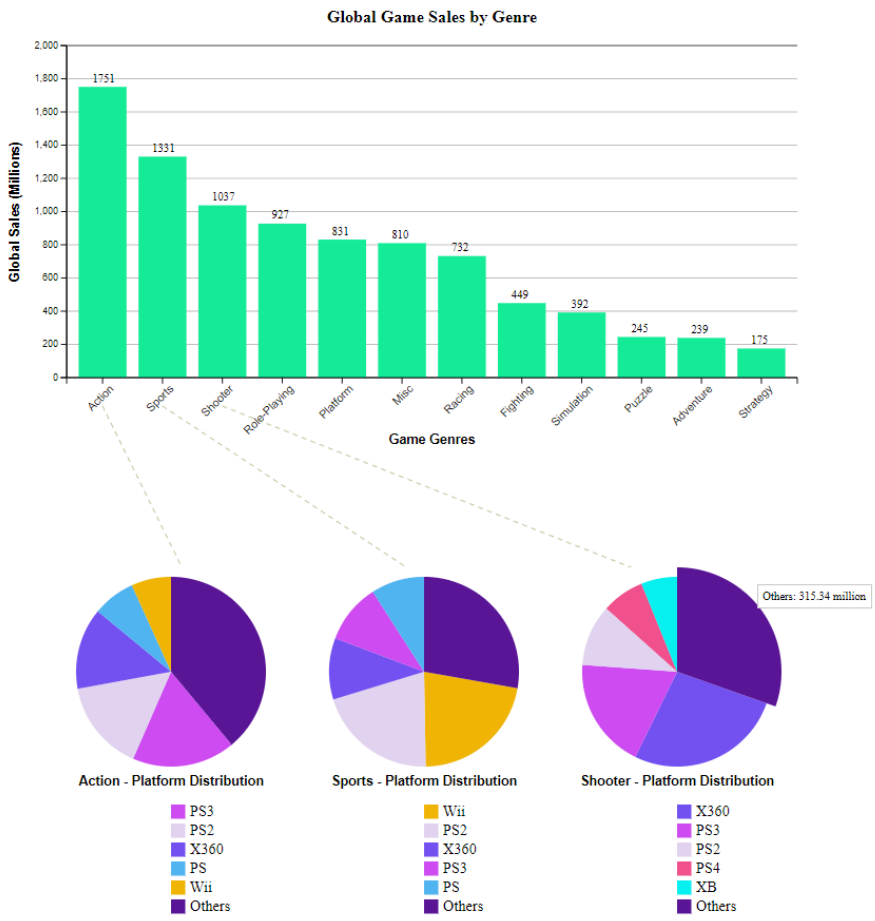
Final Static Visualization:



Mouse Move Over Vision:



Data Description

This project analyzes a dataset containing video game sales data across various platforms and regions. The dataset, sourced from Kaggle CSV file (https://www.kaggle.com/datasets/gregorut/videogamesales), includes key variables such as the game's rank, title, platform, release year, genre, publisher, and sales in four regions: North America (NA), Europe (EU), Japan (JP), and other regions (Other). Additionally, the dataset includes the total global sales figures for each game. To focus the analysis on the popularity of game genres and the relationship with platforms, the data was first aggregated by genre and platform, and preprocessing steps were taken to calculate total global sales and percentage contributions for each genre-platform combination.

Data Cleaning Focus

- During data cleaning, all games of the same genre were consolidated, and their global sales were aggregated. To accurately reflect market trends, the data was categorized by genre, merging

games of similar themes and calculating their total sales. We also retained data from the highest-selling game genres to provide representative market insights in the analysis.

- For further analysis of the relationship between platform and game genre popularity, we selected the highest-selling genres and performed platform-specific breakdowns, focusing on the distribution of game genres on platforms like the Nintendo Switch and PS5.

Design Rationale

1. Graph 1: Most Popular Game Genre
    - Goal: By aggregating the sales data of different game genres, we aim to show which genres are the most popular in the market. The bar chart provides a straightforward comparison of sales across different game genres.

    - The focus of data cleaning was to consolidate the sales of all games in the same genre and rank them by global sales to ensure the chart reflects the most popular genres.

    - The bar chart shows total global sales by genre, utilizing vertical bars to represent each genre. The height of each bar corresponds to the sales volume, a straightforward mapping that leverages the position channel to convey magnitude, making it easy to compare across genres.

2. Graph 2: Popularity of Top 3 Game Genres on Different Platforms
    - Goal: We will explore whether the popularity of game genres is related to the platform on which they are played. Pie charts will visualize the genre distribution on different platforms, such as the Nintendo Switch and PS5.

    - Chart Type: To add a fun and creative touch, the pie charts will be designed based on the appearance of pizza, with separate charts for Switch and PS5. These charts not only show the relative share of each genre but also highlight the differences between platforms, enhancing the understanding of how platform preference affects game popularity.

    - Three pie charts illustrate platform distribution for the top three genres (Action, Sports, and Shooter). Each slice represents the share of sales across different platforms. Color differentiates platforms, and the size of each slice reflects each platform's proportion within the genre. Pie charts were chosen here to show part-to-whole relationships, making it easier to understand platform preference within specific genres.

Visualization and Story

For the bar chart, we chose a static chart with a neutral color scheme to provide the audience with an overall experience. Since the subject is related to games, we used a bold, eye-catching game color palette for the pie chart and incorporated mouse-over interactive elements, as learned in class, to give users a bit of interactivity. To ensure coherence between the two charts, we used lines to connect the corresponding bars and pie chart sections. Our insights are that different genres tend to perform better on certain platforms (e.g., shooters on X360, sports on Wii). This insight suggests a potential platform-targeting strategy for developers, showing which genres perform well on which platforms. Another surprising aspect is the sustained popularity of older platforms, like the PS2, in certain genres, which might indicate a longer lifecycle or continued demand for certain games. Additionally, the sales of action games are far ahead, with a significant gap compared to strategy games.

For Graph 1: The bar chart depicting the global sales of different genres provides a clear view of which game genres dominate the market, with Action and Sports leading in sales by a wide margin.

For Graph 2: The pie charts illustrate platform distribution for the top three genres (Action, Sports, and Shooter). For example, the Action genre has a strong presence on the PS2 and PS3 platforms, while Sports games show higher sales on the Wii. These charts help to understand the relationship between platform preference and game genre sales, revealing how platforms influence game popularity.

Team Contribution-10h

Shangshang : Import game_sales.json into the project, clean it for any inconsistencies, and prepare it for visualization. Work specifically on the "Action - Platform Distribution" part, ensuring the data accurately represents the different platforms within the action genre.Helped revise the final report.

Yuning(Eva) : Manage the GitHub repository, making sure all code is correctly updated and accessible to all team members. Helped create the pie chart, modified the chart colors, and added mouse-over interactive elements to the D3.js bar chart. Additionally, Wrote the final report and ensure that all team members are on track with their deadlines.

Calvin : Build D3.js bar and pie charts for all game genres, ensuring each chart correctly represents the underlying data. Manage the layout, and scaling using D3.js functions such as xScale and yScale to ensure that charts are well-proportioned and visually effective.Helped revise the final report.

Wuyou :.Initially sketch out the layout for the bar and pie charts, determining the aesthetic elements like color and font style.Work with the team on style selections and provide support in developing other sections of the project.Helped revise the final report.