Video Game Sales Graph Documentation

Introduction:

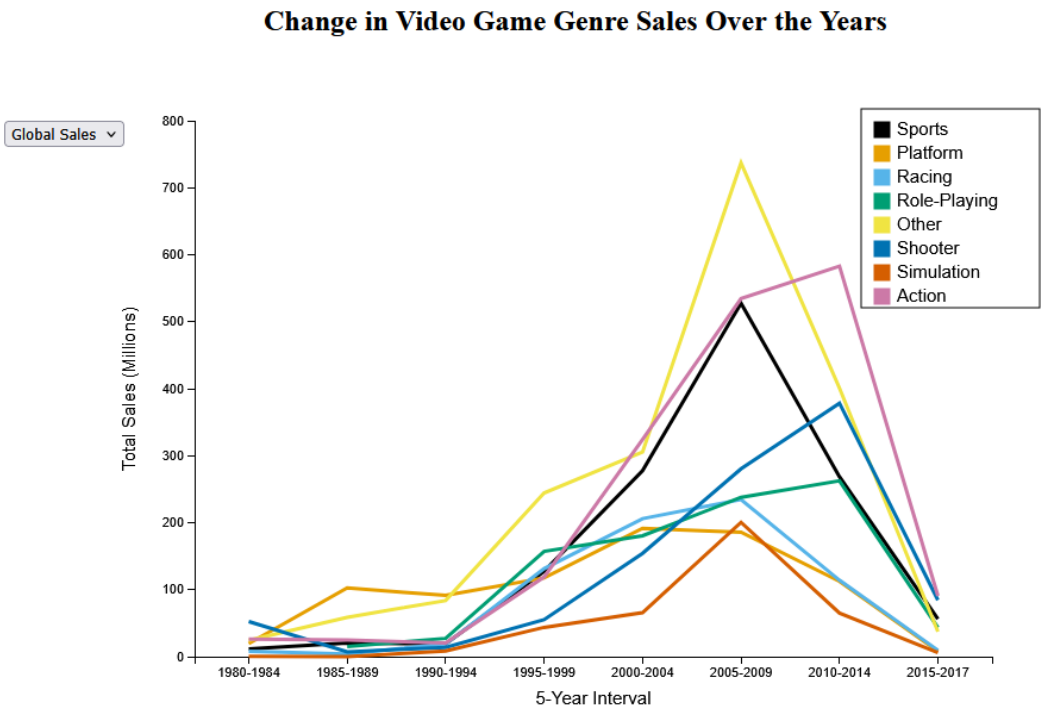
This document explains the design process and choices for the visualization, and determines how video game sales have changed throughout the years.

Dataset Description:

The dataset used for the visualization is Video Game Sales dataset by Anand Shaw, it contains the following attributes: Rank, Name, Platform, Year, Genre, Publisher, NA_Sales (in millions), EU_Sales (in millions), JP_Sales (in millions), Other_Sales (in millions), Global_Sales (in millions). The sales represent the number of copies sold in millions.

Data Visualization of Change in Video Game Sales Across the Years:

The line chart below shows the total sales versus the 5-year intervals, where the various genres are portrayed by different colors.



Visualization Write-Up:

I first explored the dataset to formulate the question: How have video game sales changed across genres over time?

In order to create the graph, the attributes Year, Genre, and the different types of sales were used. Considering the visualization represents the sales values changing over time, a line chart was the most appropriate option. Initially, I attempted to include all genre types and individual years, but the chart became too visually cluttered. To address this issue, while maintaining the accuracy of the data, the "Other" category was created to include the genres with the least change in sales such as Puzzle, Strategy, Adventure, and Fighting, and the years were combined into 5-year intervals. The 5-year intervals were placed on the x-axis, and total sales were placed on the y-axis. For the different genres, color was used as the visual encoding. The visualization includes interactive features such as a tooltip, a dropdown menu to change the sale type, and a click-to-highlight interaction for the lines.

The design choices for this visualization were made to clearly communicate how the sales in the different video game genres change over time. The line chart was chosen, because the question focuses on how sales values change throughout the years, making it the most effective chart for this visualization. The decision to combine the smaller genres, and display the years in 5-year intervals was made to reduce visual clutter, which improves readability. Color was used to distinguish the genres, making it easier to compare their trends. For the interactive features, the tooltip allows users to see the exact values at specific points on the graph. With the click-to-highlight interaction, users can select a line or legend item to dim the other lines, making it easier to focus on and analyze the trend of a specific genre. Finally, the dropdown menu can be used to switch between the sales of different regions, such as NA_Sales (North America), or JP_Sales (Japan). The menu was placed at the top left corner of the chart, so users can easily change the sales type while immediately seeing the updated values.

Based on the visualization above, Platform games had the highest global sales between 1985 and 1989, with 102.6 million copies sold, but this genre fell below most others as the years progressed. Several genres experienced tremendous growth in the 2000s. For example, Sports and Action games each sold more than 500 million copies globally from 2005 to 2009. Wii Sports likely contributed a large portion of the Sports genre's sales. As expected, Shooter games became more popular between 2010 and 2014, selling 378.4 million copies globally. However, between the years 2015 and 2017, there is a very small amount of data in the dataset, that is why there is a sudden drop in sales. Overall, it is shown that most video game genres continued to increase over the years, however Action games appear to be favored the most based on the sales.