

Data Visualization – Project

- **Basic info :**

- Project title:

Video Game Sales Data Visualization Project.

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- **Overview:**

His project is a data visualization using R to demonstrate different types of visualization reports for different audiences. The premise of this project is that the user is a senior data analyst at a video game company and is asked to create data reports for the CEO, Vice President of Marketing, and the Europe "Call of Duty" Project Manager. The goal of this project is to demonstrate data visualization skills for different types of stakeholders which are crucial right now in the industry. the audience is the most important part of data visualization, so creating visualizations and reports for different stakeholders is great practice for the workforce.

problem:

For this report, we are asking about pull sales numbers globally for the past 20 years. The first thing we need to do is create a time series graph, specifically a line graph, and show sales for each of the three regions, as well as global sales, over the past 20 years. Since executive managers benefit from having a high-level view of company performance, we are also going to create a circle graph with sales year-to-date for each of the three regions. This will help the executive management team make decisions pertaining to performance incentives. In addition to sales, since the executive management team is in charge of long-term strategy and planning, we are also going to add a section on sales by genre of the video game. This will help the executive management team see how they are performing in each genre and will help them make decisions moving forward on where to allocate resources.

- **Description of the data:**

Dataset link:

<https://www.kaggle.com/gregorut/videogamesales>

Dataset description:

This dataset contains a list of video games with sales greater than 100,000 copies

Attributes include:

- Rank - Ranking of overall sales
- Name - The game's name
- Platform - Platform of the games release (i.e. PC,PS4, etc.)
- Year - Year of the game's release
- Genre - Genre of the game
- Publisher - Publisher of the game
- NA_Sales - Sales in North America (in millions)
- EU_Sales - Sales in Europe (in millions)
- JP_Sales - Sales in Japan (in millions)
- Other_Sales - Sales in the rest of the world (in millions)
- Global_Sales - Total worldwide sales

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Data summary:

Rank	Name	Platform	Year
Min. : 1	Length:16598	Length:16598	Length:16598
1st Qu.: 4151	Class :character	Class :character	Class :character
Median : 8300	Mode :character	Mode :character	Mode :character
Mean : 8301			
3rd Qu.:12450			
Max. :16600			
Genre	Publisher	NA_Sales	EU_Sales
Length:16598	Length:16598	Min. : 0.0000	Min. : 0.0000
Class :character	Class :character	1st Qu.: 0.0000	1st Qu.: 0.0000
Mode :character	Mode :character	Median : 0.0800	Median : 0.0200
		Mean : 0.2647	Mean : 0.1467
		3rd Qu.: 0.2400	3rd Qu.: 0.1100
		Max. :41.4900	Max. :29.0200
JP_Sales	Other_Sales	Global_Sales	
Min. : 0.00000	Min. : 0.00000	Min. : 0.0100	
1st Qu.: 0.00000	1st Qu.: 0.00000	1st Qu.: 0.0600	
Median : 0.00000	Median : 0.01000	Median : 0.1700	
Mean : 0.07778	Mean : 0.04806	Mean : 0.5374	
3rd Qu.: 0.04000	3rd Qu.: 0.04000	3rd Qu.: 0.4700	
Max. :10.22000	Max. :10.57000	Max. :82.7400	

Best Selling Game Globally:

Rank	Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
1	Wii Sports	Wii	2006.0	Sports	Nintendo	41.49	29.02	3.77	8.46	82.74

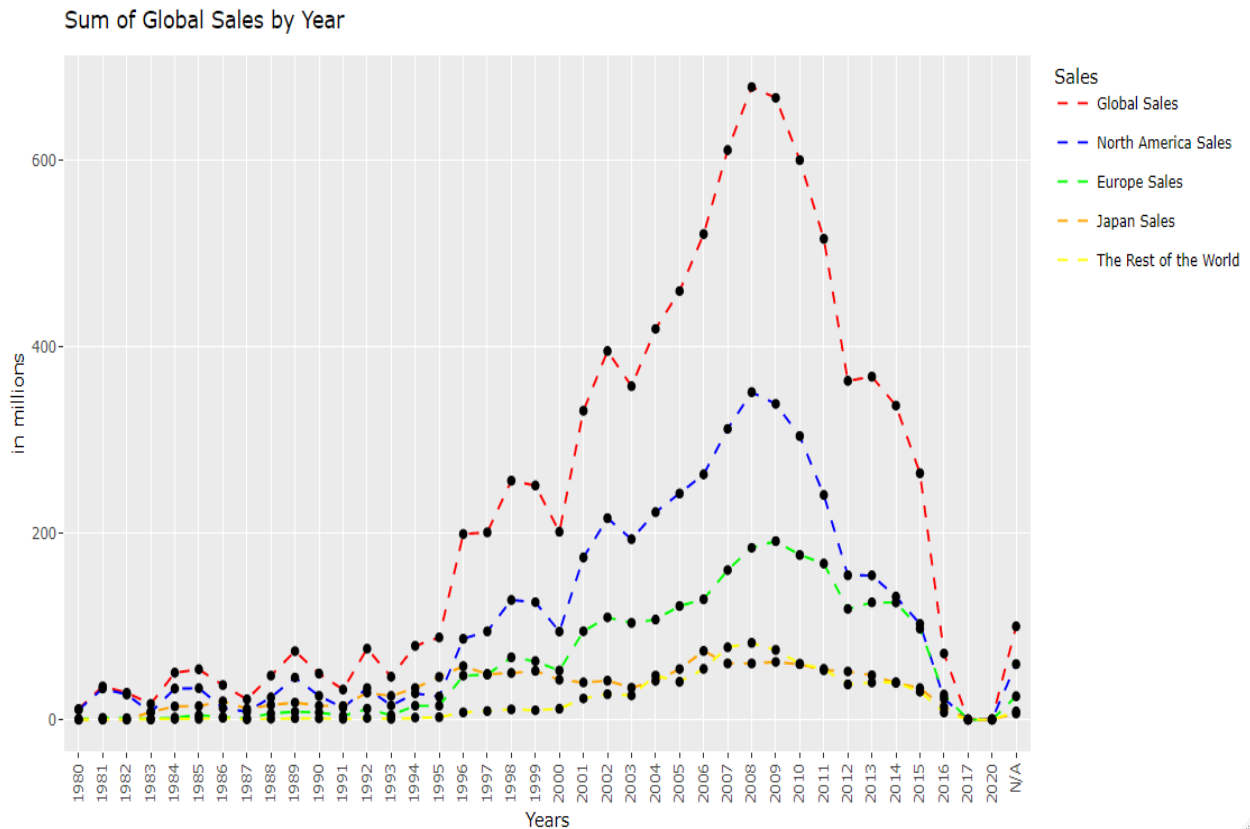
Average Sales for Wii Games Compared To All Other Platforms:

Average Sales for Wii Games: 0.6994037735849035

Average Sales for All Other Platforms: 0.5233896418516678

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Sum of Global Sales by Year:



The sales trend indicates that while the EU sales has increased over the year, there has been a decline in the year 2000. Its peak sales has been reported in the year 2008.

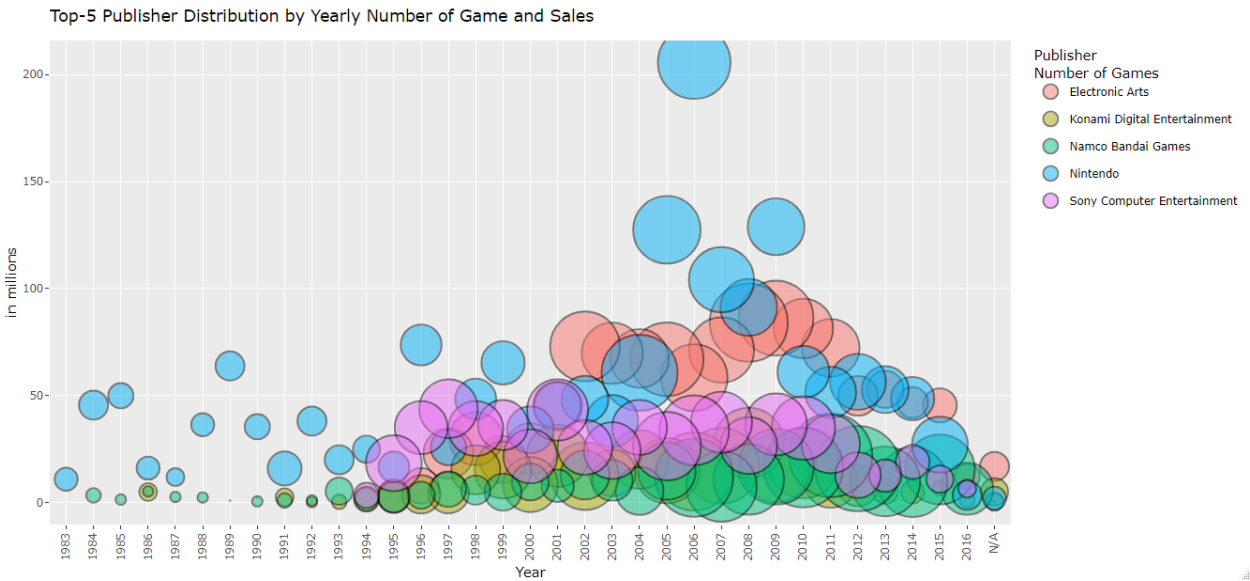
Sales seems to be picked up in Japan from the year 1995 and seems to be peaked in 2008.

It can be seen that the year 2008 year was waters head year for gaming year since the global sale for the industry was at all-time high.

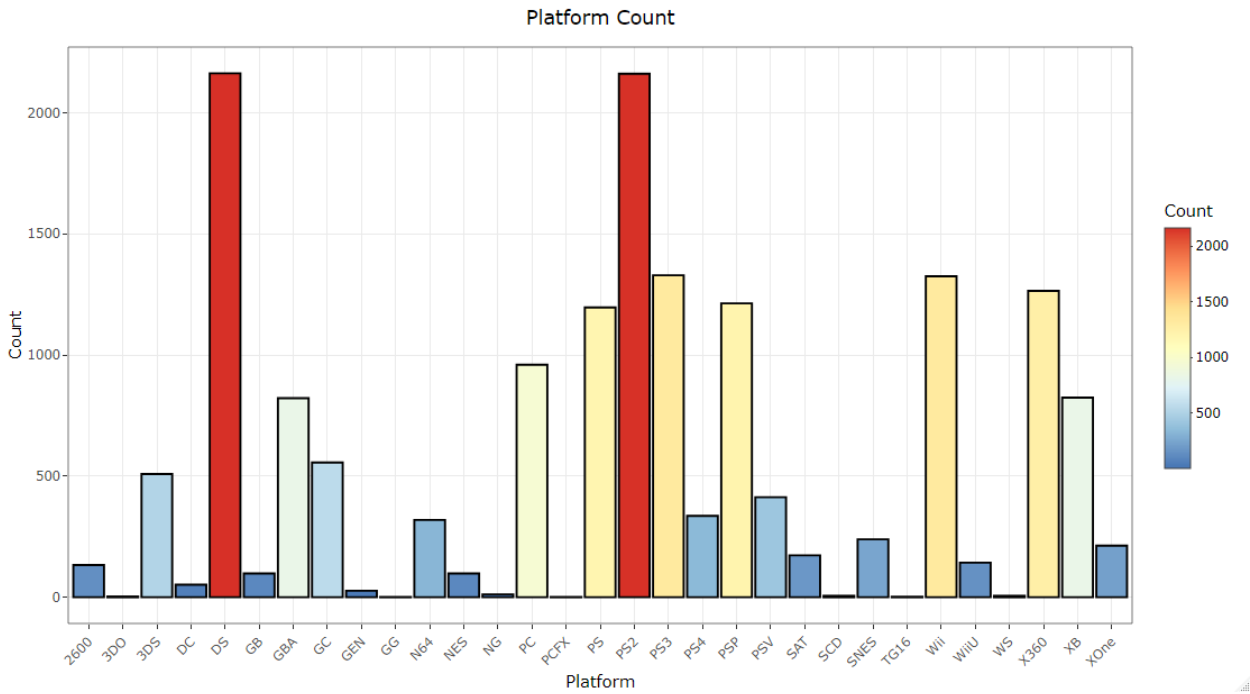
Sales seems to be in the downward trend after 2008 and the trend is continuing till 2015.

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Top-5 Publisher Distribution by Yearly Number of Game and Sales

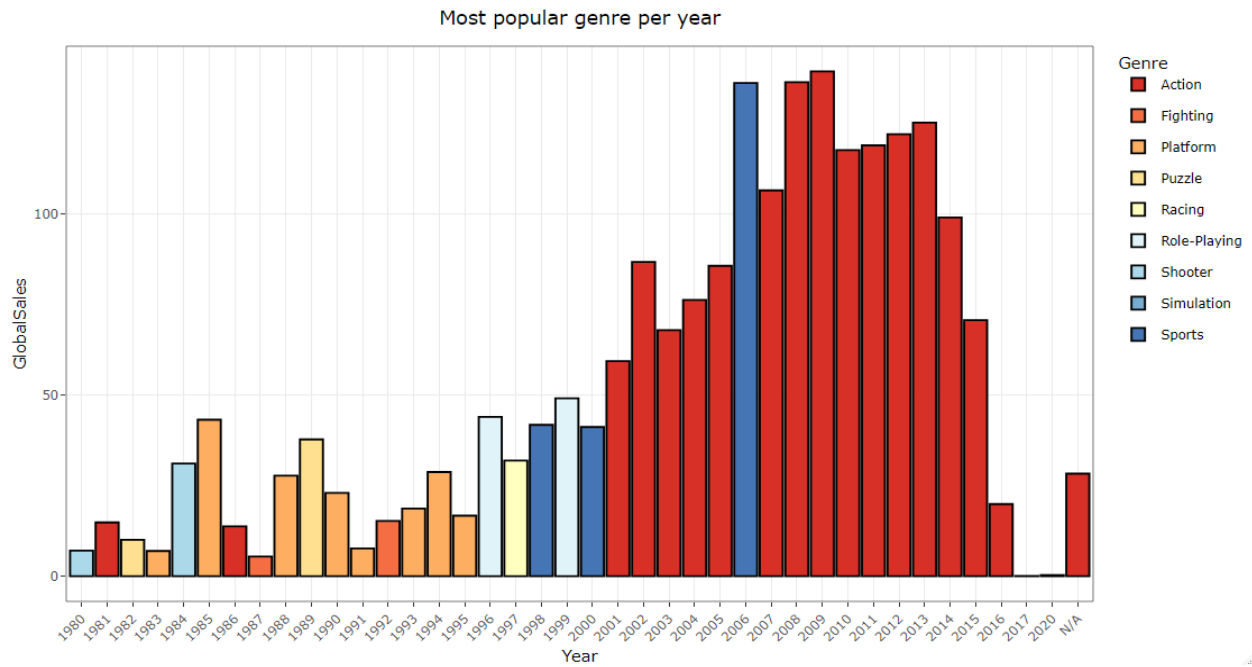


Platform count:

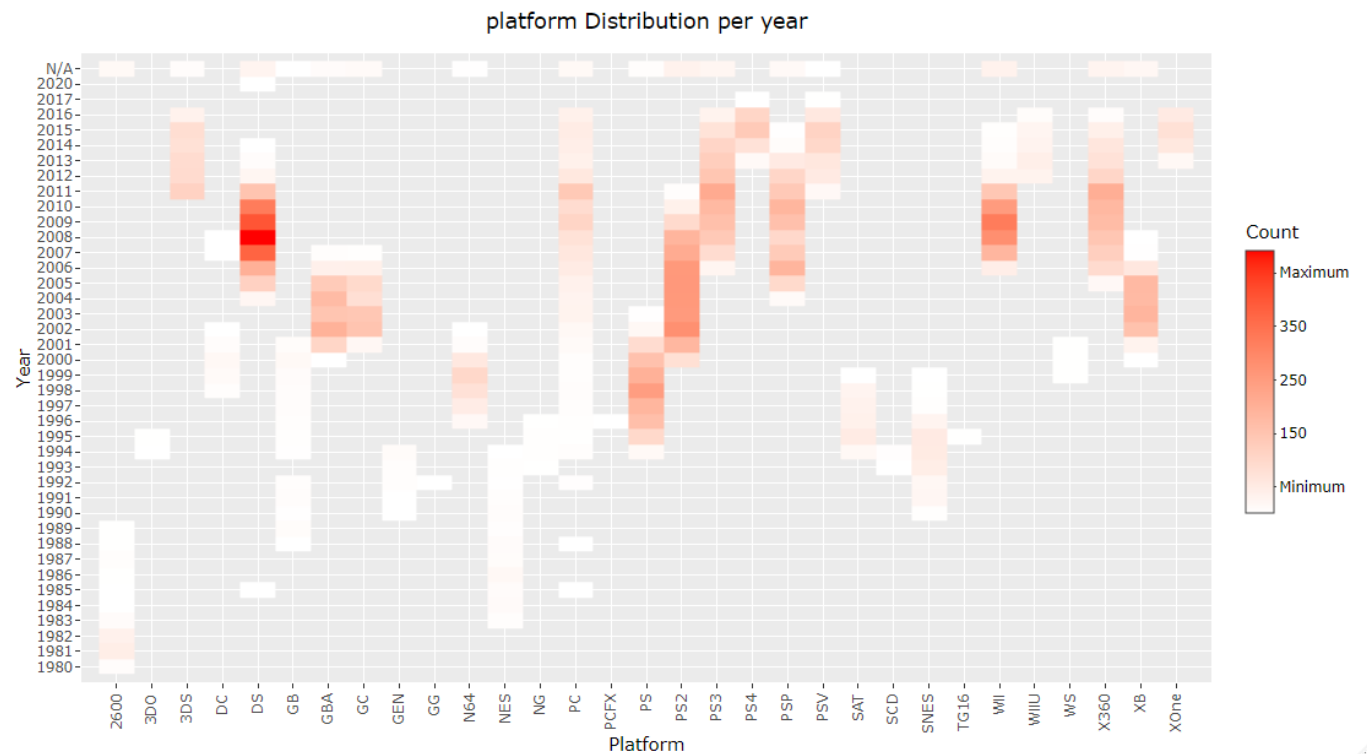


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Most popular genre per year:



Genre Distribution per year:



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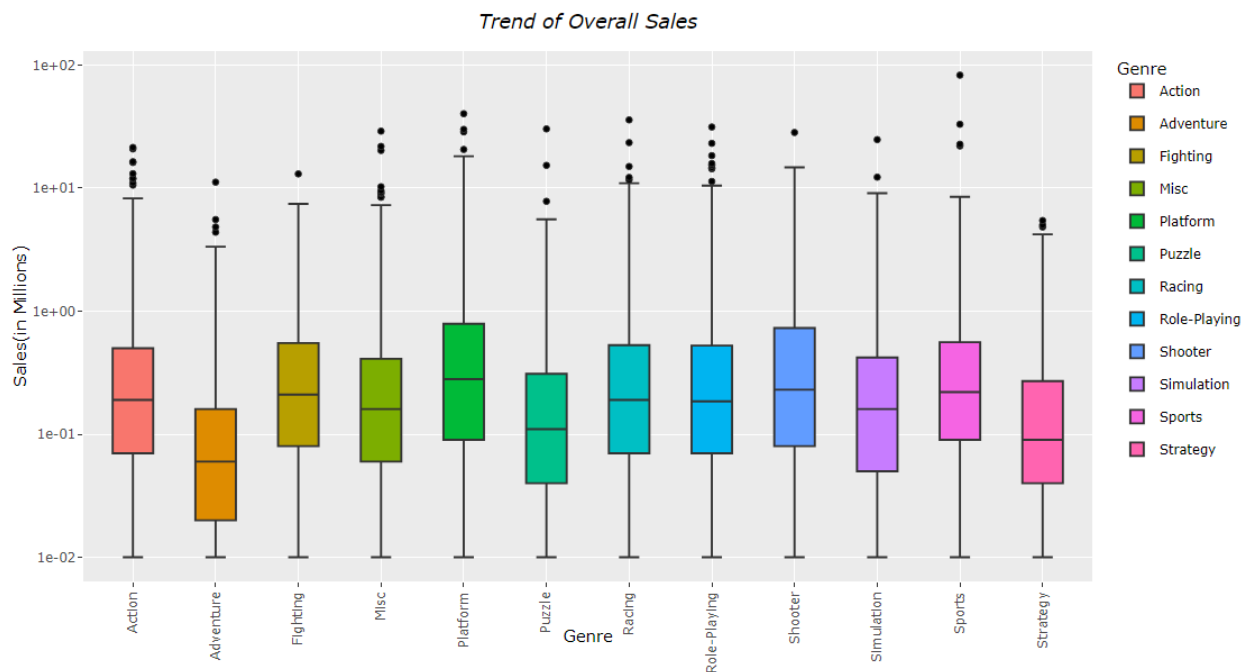
Action games seem to have increased only after 1997. There is an upward trend till 2013 after which there is a fall. An interesting thing to note here is the dominance of the Action games in the year 2012 where other genre releases have shown a downward trend compared to previous year. Action games seem to have a spike from previous year.

There were no games released under Strategy genre till the year 1991.

The year 2003 seems to have been dominated by Racing genre and there is a big fall in Adventure games that year.

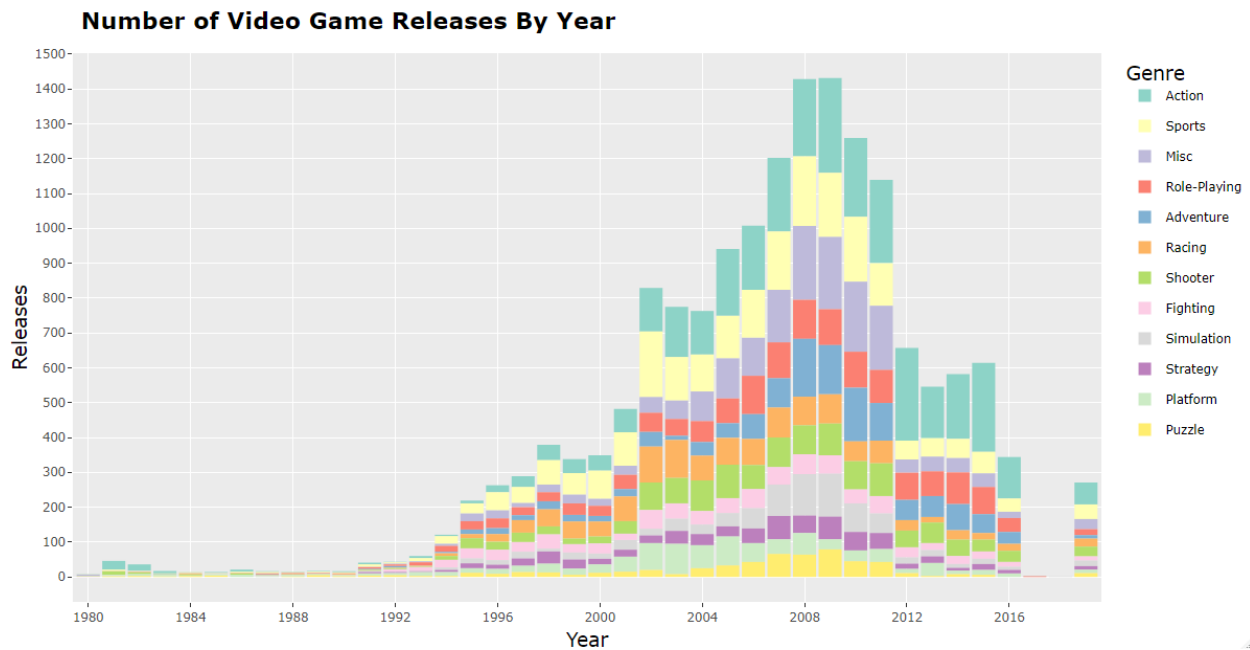
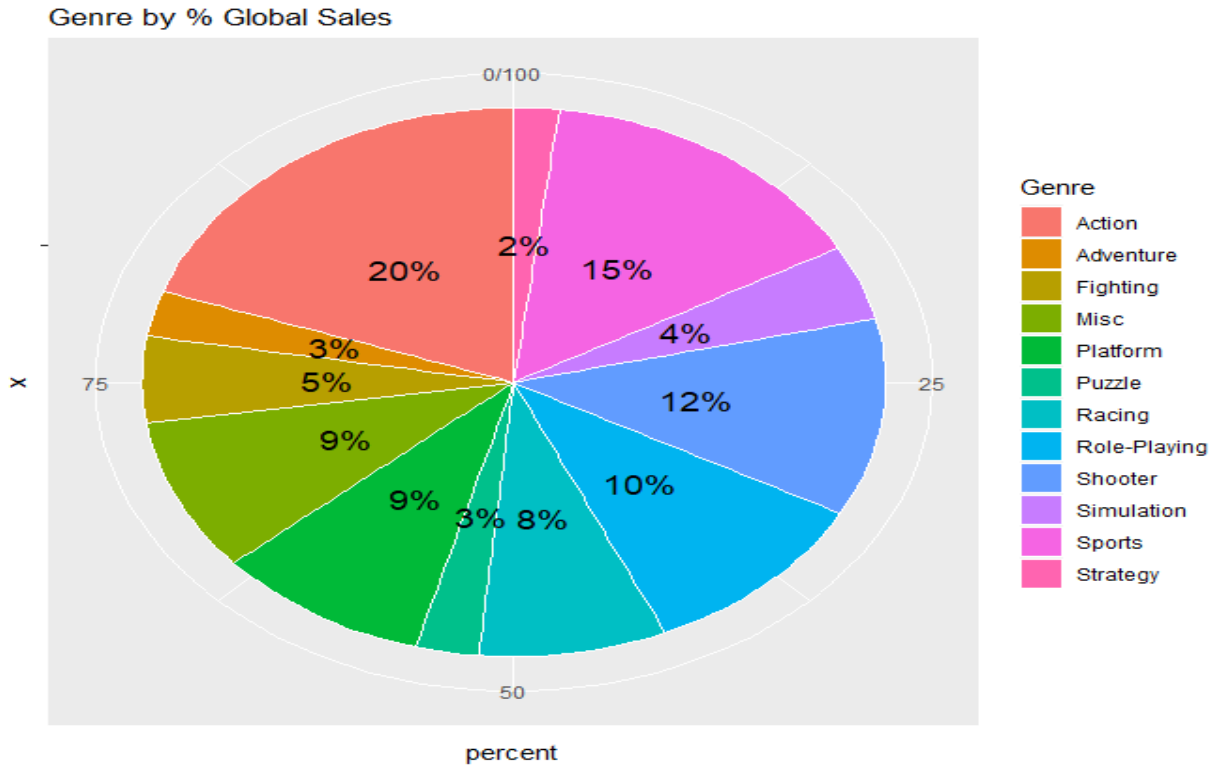
Between the year 2008 and 2009, Simulation games were released more which was joined by Fighting games.

Which has been the most profitable genre?



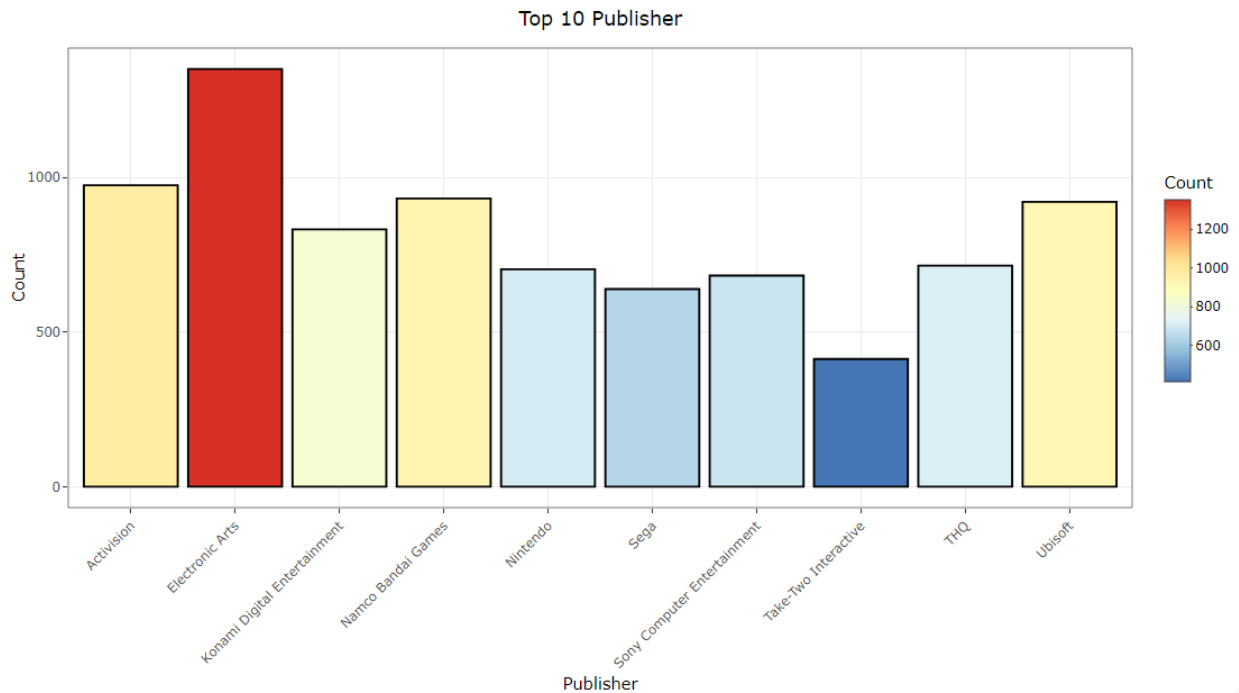
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Genre by % Global Sales:



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Top 10 Publisher:



Conclusion

Below is the gist of all the insights gathered from the dataset:

- Electronic Arts is the top gaming release platform followed by Activision and Namco Bandai Games.
- Sales seems to be in the downward trend after 2008 and the trend is continuing till 2015
- 19.9 % of the total games released were from Action genre followed by Sports contributing to 14.12% of the games.
- The dominance of the Action games in the year 2012 where other genre releases have shown a downward trend compared to previous year ,Action games seem to have a spike from previous year.
- Sports is dominating the Global Sales. Individually , it has minted out higher in Europe, and North America. In Japan, Role Playing games have more value for money. While, racing games come second in Europe, in North America, Platform games occupy the second slot.
- Nintendo dominates the market with 17 of the 20 top games released.
- There exists no correlation between the total sales and number of games released.