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Project Title:

Video Game Sales & Engagement Analysis

The Tools Which Were Used:

Python, Pandas, Matplotlib, Seaborn, PostgreSQL, Power BI

Step-by-Step Summary:

Step	Description
1. Data Collection	Loaded games.csv and vgsales.csv
2. Cleaning	# Dropped rows with missing Rating # Filled missing Team with ['Unknown'] # Filled missing Summary with default text # Convert Release Date to datetime & Dropped 2 NaT rows # Cleaned “21K” style columns (Plays, Wishlist...) # Cleaned Genres and Team from ['...'] to readable strings # left Reviews untouched # dropped unnamed column
3. Merging	Combined datasets on Title and Name for games & vgsales csvs
4. EDA (Python)	Answered 30 questions using matplotlib and seaborn
5. SQL Migration	Created 3 tables and inserted cleaned CSVs using psycopg
6. Power BI	Built dashboards to visualize all 30 insights interactively

Key Insights from the Project:

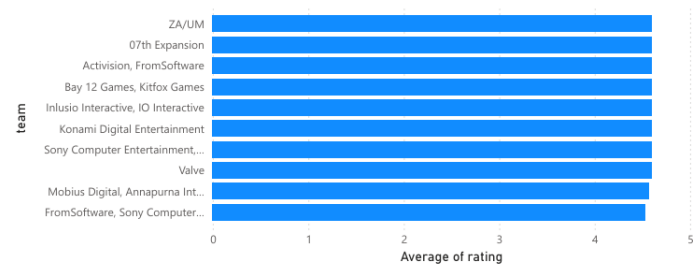
1. **Adventure, RPG, and Action** are the most engaging genres based on user plays, wishlists, and active sessions.
2. **Disco Elysium** and **Outer Wilds** consistently appear in the top-rated games, showing strong user reception.
3. **PlayStation 2 (PS2), Xbox 360, and Wii** are the top 3 platforms with the highest global sales — showing their dominance in the 2000s.
4. **North America** leads in overall game sales, followed by Europe. Japan shows distinct genre preferences (e.g., RPG-heavy market).
5. The number of games released and overall sales peaked around **2008–2010**, then gradually declined in the following years.
6. **Highly wishlisted games** generally have higher ratings, suggesting wishlist count can reflect user excitement and trust.
7. Some genres like **Puzzle and Simulation** show high user engagement but relatively **low global sales**, pointing to a niche but loyal audience.
8. Developer studios like **FromSoftware** and **ZA/UM** have some of the **highest-rated games** despite producing fewer titles.

• Screen Shots from PowerBI:

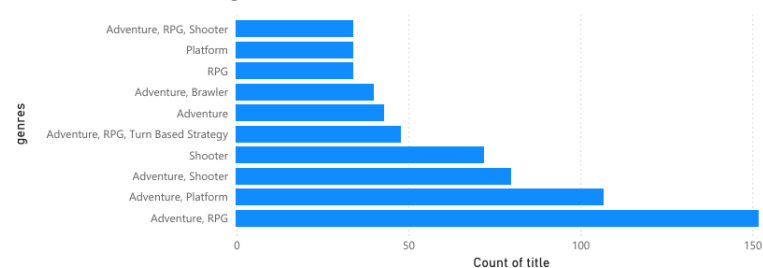
#1 What are the top-rated games by user reviews?



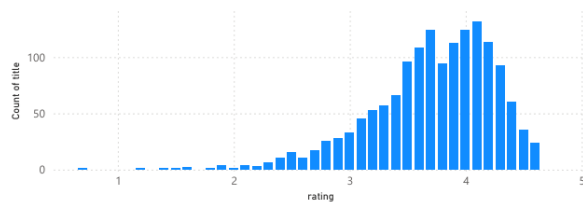
#2 Which developers (Teams) have the highest average ratings?



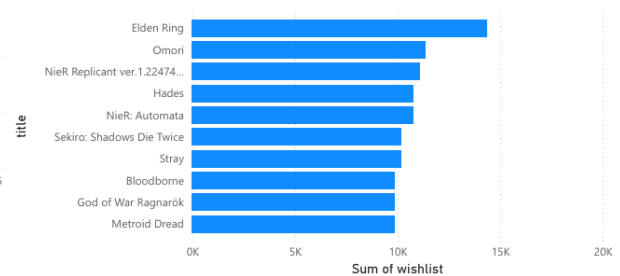
#3 What are the most common genres in the dataset?



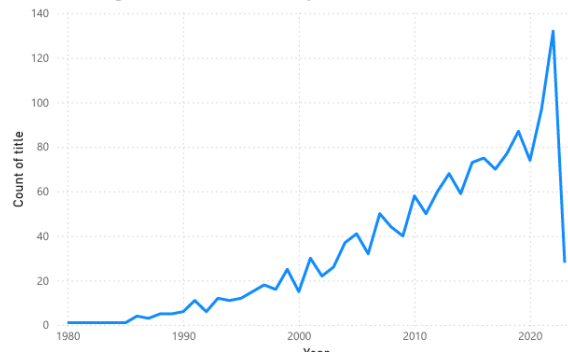
#6 What is the distribution of user ratings?



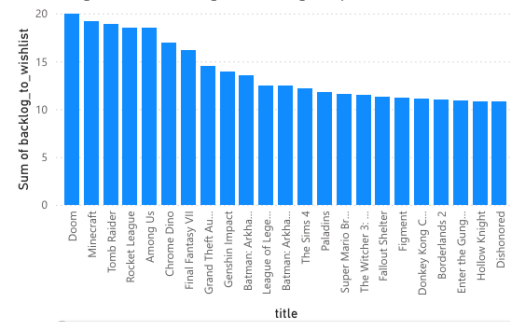
#7 What are the top 10 most wishlisted games?



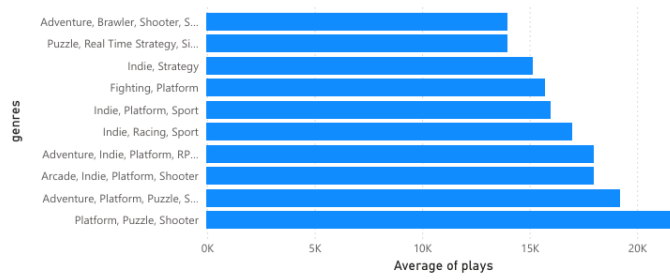
#5 What is the game release trend across years?



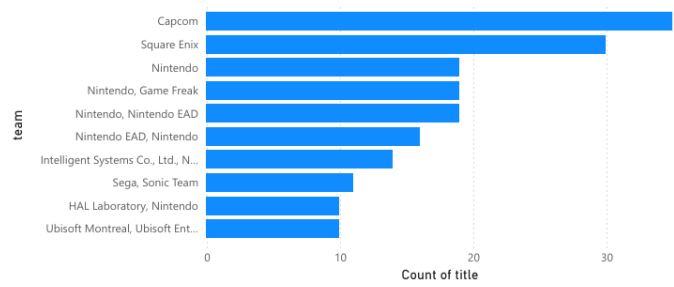
#4 Which games have the highest backlog compared to wishlist?



#8 What's the average number of plays per genre?

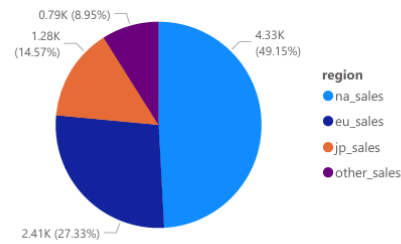


#9 Which developer studios are the most productive and impactful?

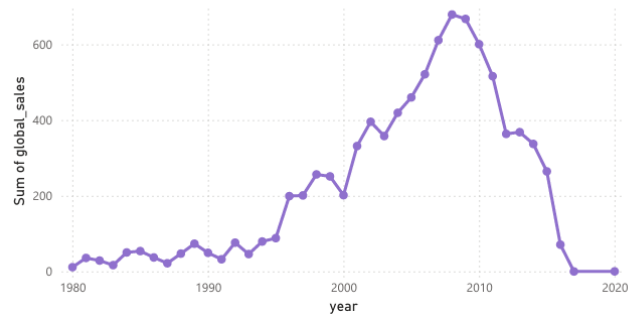


VGSales

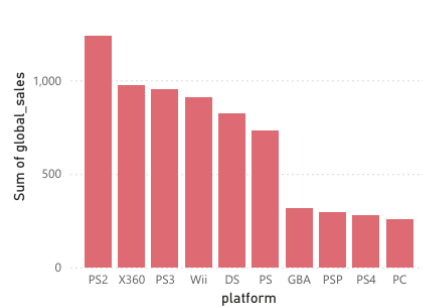
10 Which region generates the most game sales?



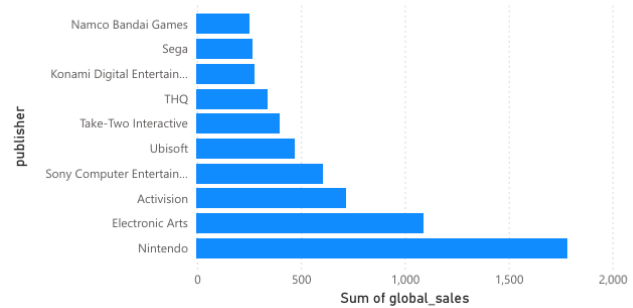
12 What's the trend of game releases and sales over years?



11 What are the best-selling platforms?

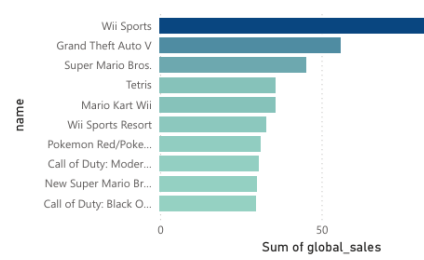


13 Who are the top publishers by sales?



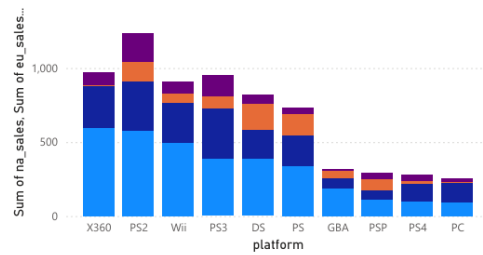
14 Which games are the top 10 best-sellers globally?

Sum of global_sales 29.72 82.74



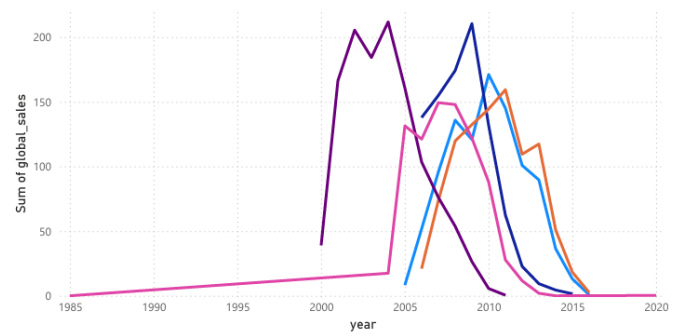
15 How do regional sales compare for specific platforms?

Sum of na_sales Sum of eu_sales Sum of jp_sales Sum of other_sales



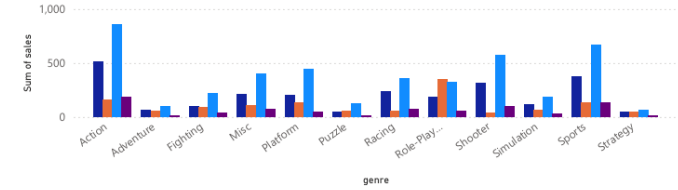
16 How has the market evolved by platform over time?

platform X360 Wii PS3 PS2 DS



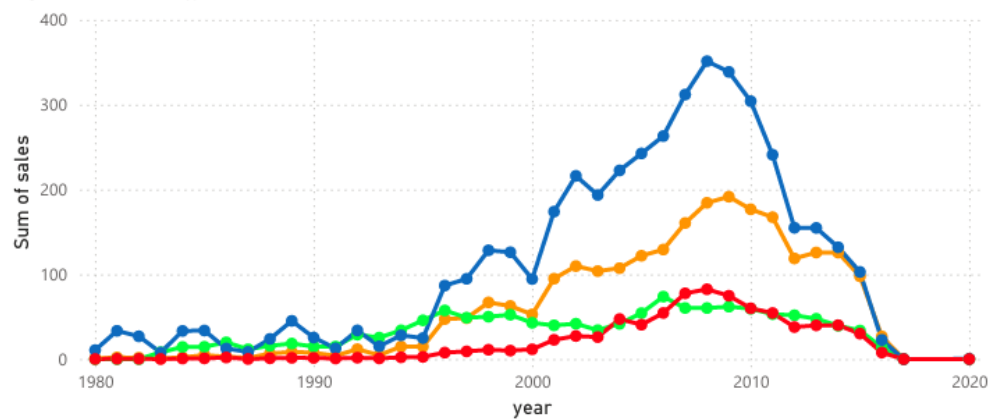
17 What are the regional genre preferences?

region eu_sales jp_sales na_sales other_sales

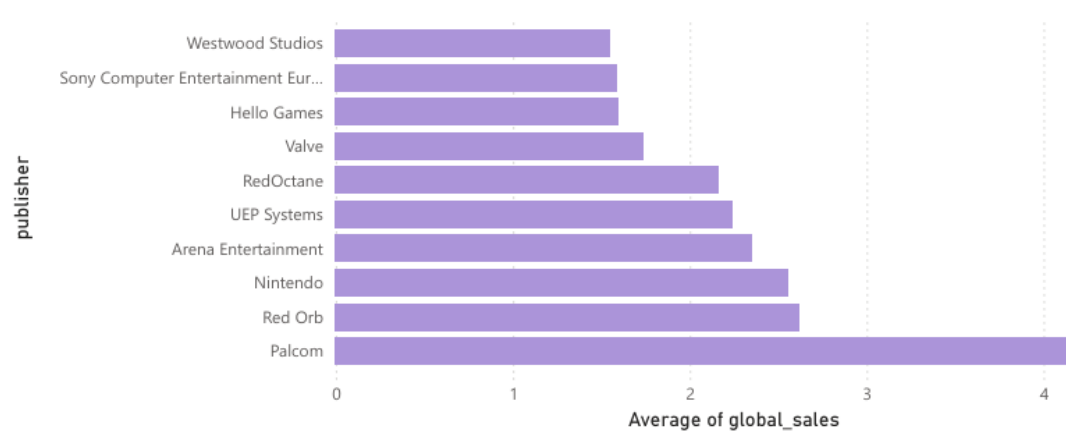


18 What's the yearly sales change per region?

region eu_sales jp_sales na_sales other_sales

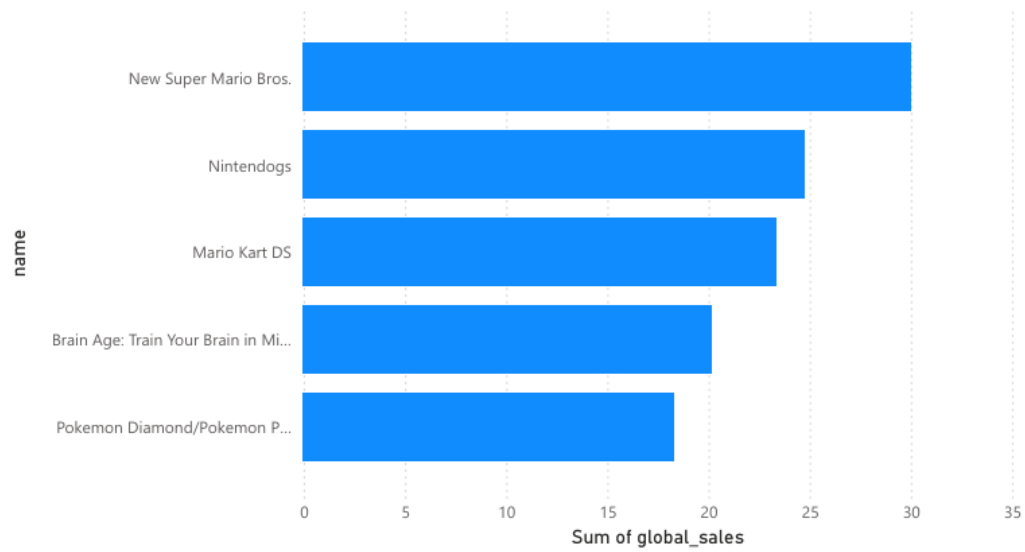


19 What is the average sales per publisher?



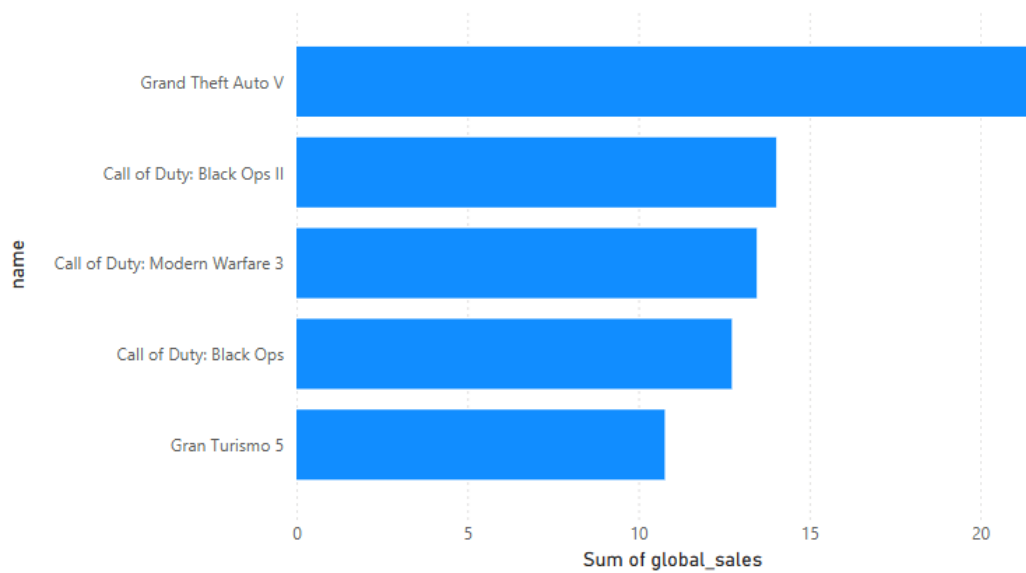
platform

20 What are the top 5 best-selling games per platform?



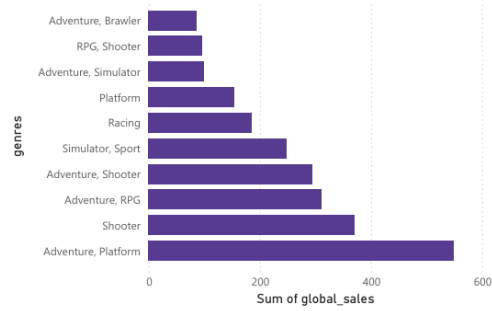
platform

20 What are the top 5 best-selling games per platform?

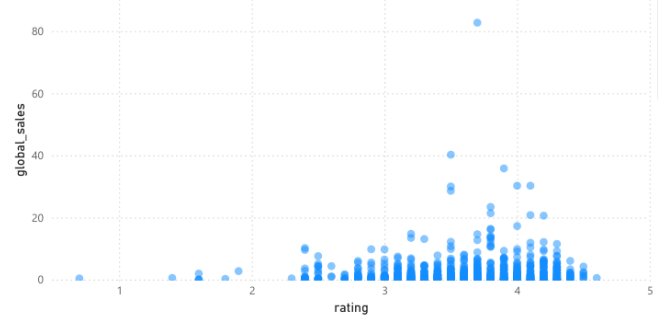


Merged_DataSet

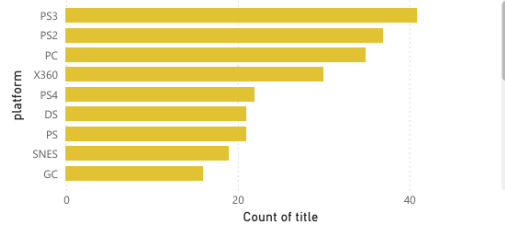
21 Which game genres generate the most global sales?



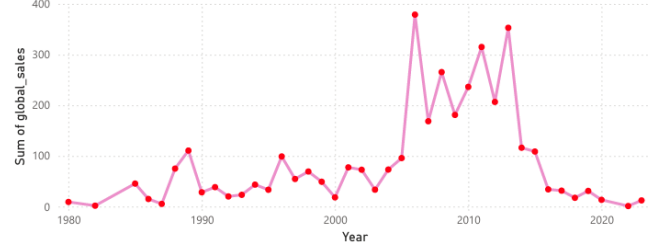
22 How does user rating affect global sales?



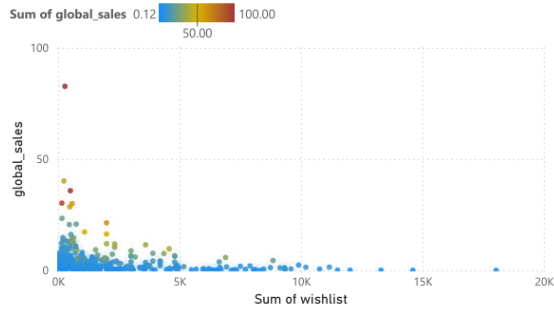
23 Which platforms have the most games with high ratings (e.g., above 4)?



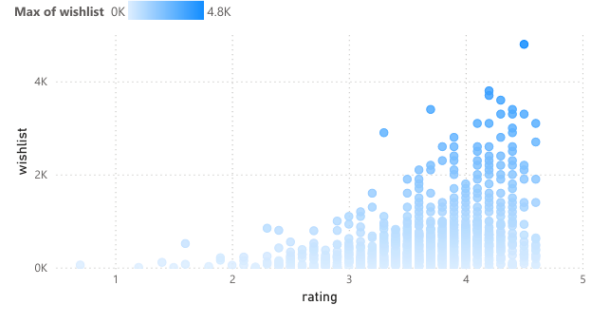
24 What's the trend of releases and sales over time?



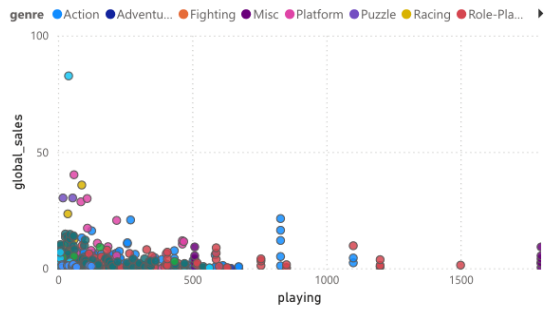
25 Do highly wishlisted games lead to more sales?



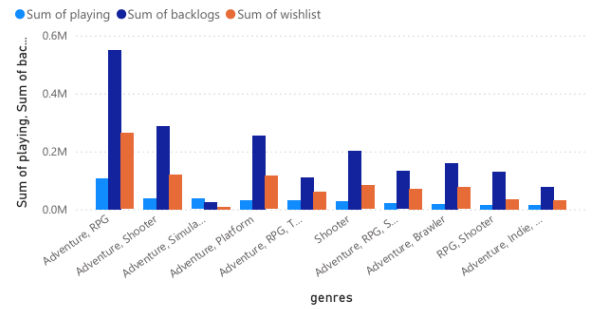
27 Do highly listed games (wishlist/backlogs) correlate with better ratings?



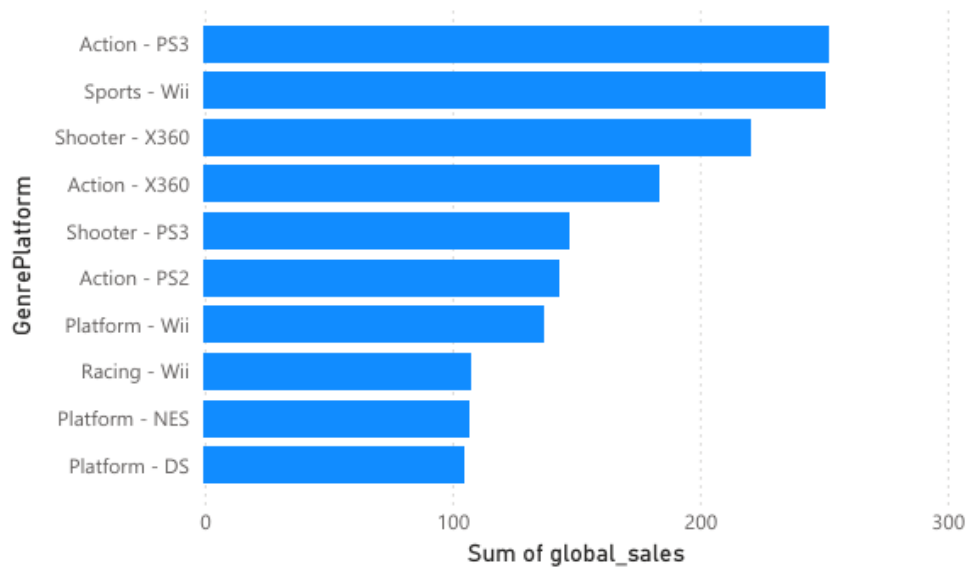
26 Which genres have the highest engagement but lowest sales?



28 How does user engagement differ across genres?



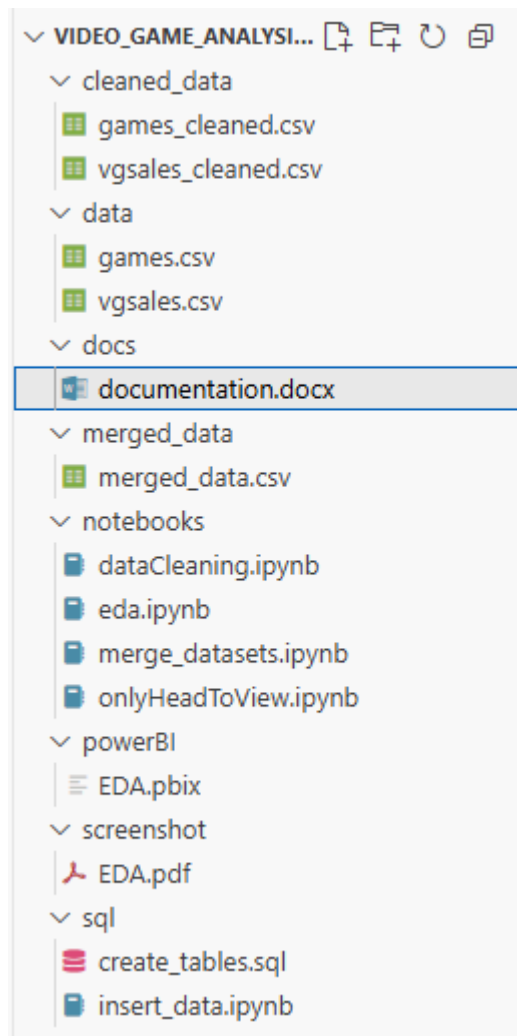
29 What are the top-performing combinations of Genre + Platform?



30 What does a regional sales heatmap by genre reveal?

genre	eu_sales	jp_sales	na_sales	other_sales
Action	328.47	70.99	478.32	128.45
Adventure	21.05	8.31	29.61	7.01
Fighting	21.59	16.39	50.23	9.63
Misc	41.27	9.09	67.19	16.20
Platform	159.03	109.59	343.59	39.98
Puzzle	15.70	22.61	94.13	3.72
Racing	66.88	24.49	90.87	15.84
Role-Playing	114.61	82.94	170.02	35.68
Shooter	177.13	12.49	288.60	58.23
Simulation	9.77	11.20	12.05	2.08
Sports	101.85	12.26	135.94	29.59
Strategy	4.59	2.13	5.75	0.78

- **Directories ScreenShot:**



The screenshots in full clear HD are also attached.