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INVESTING IN THE GAME INDUSTRY

Data analysis project based on data from Steam

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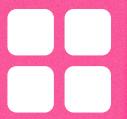
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Amir, Owen, Ceci, Aurélie



INTRODUCTION

Video gaming, once considered a simple pastime, has now established itself as a major economic sector. The extreme growth in the number of players, coupled with technological advancements and the emergence of new business models, has transformed the investment landscape. From digital giants to innovative startups, many economic players are positioning themselves in this rapidly expanding market. Investors are attracted by the sector's growth potential.



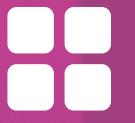
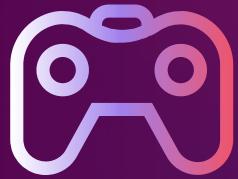


BUSINESS CASE

Putting ourselves in the place of an investment company exploring the gaming industry, our goal is to identify key factors driving revenue to guide profitable investments in high-growth game segments.

By analyzing a dataset of games released on Steam in 2024, we aimed to provide insights into market trends, popular genres, and growth areas to guide strategic investment decisions in the gaming industry.





HYPOTHESES

1. Games released during **peak seasons** generate higher revenue.
2. Certain **genres** drive higher average revenue than others.
3. **Higher-priced games** have more revenue potential.
4. High **review scores** and positive sentiment correlate with higher revenue.
5. **Multiplayer** and **in-app purchases** increase revenue potential.

PROCESS SUMMARY



SOURCING DATA

- We started with a data set from Kaggle, comprised of the top 1500 games on Steam released this year (Jan-Sep 2024)
- We supplemented this using an API and web scraping to loop through these game IDs and produce additional columns such as genre, ratings, multi-player, free-to-play, languages, play time, etc.

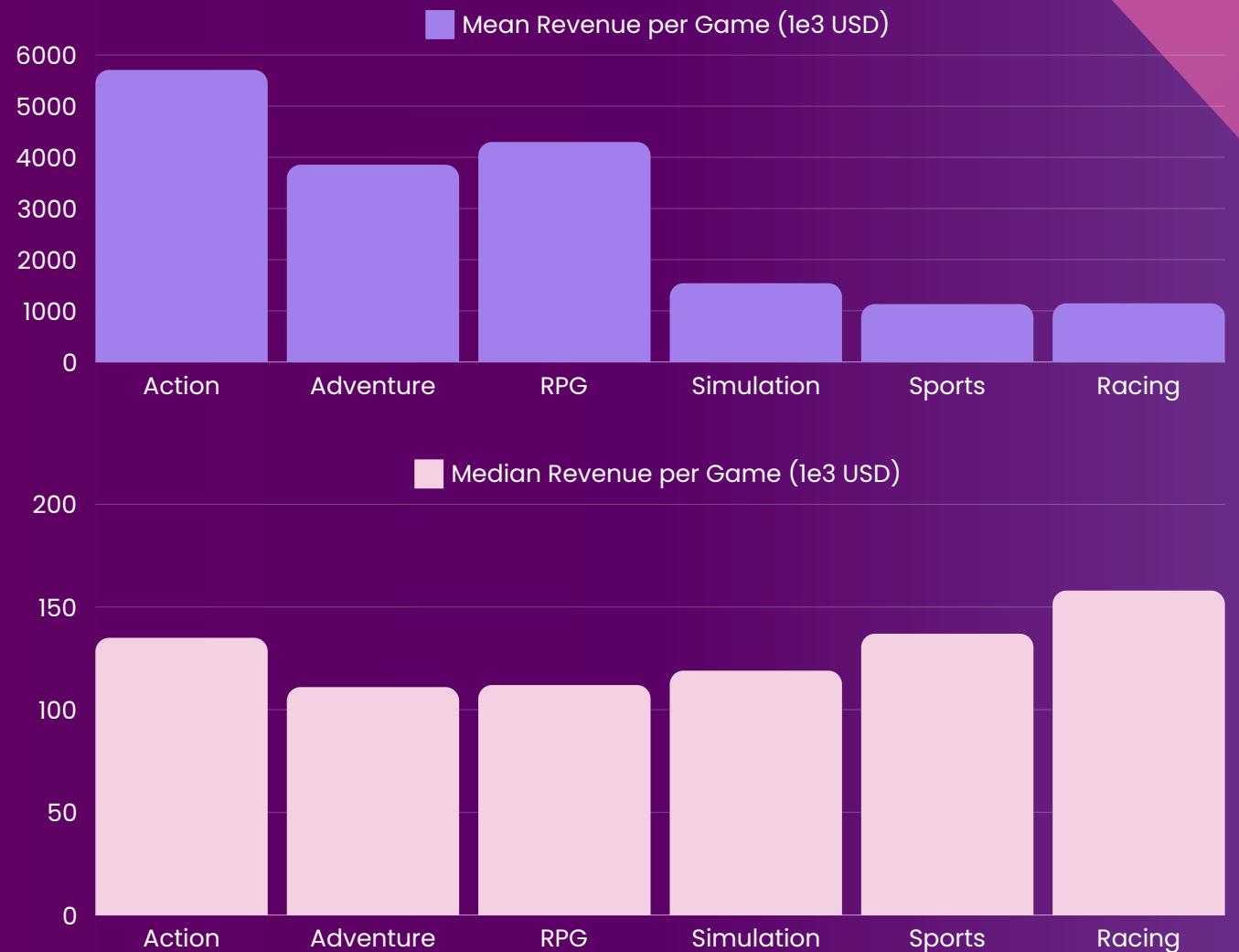
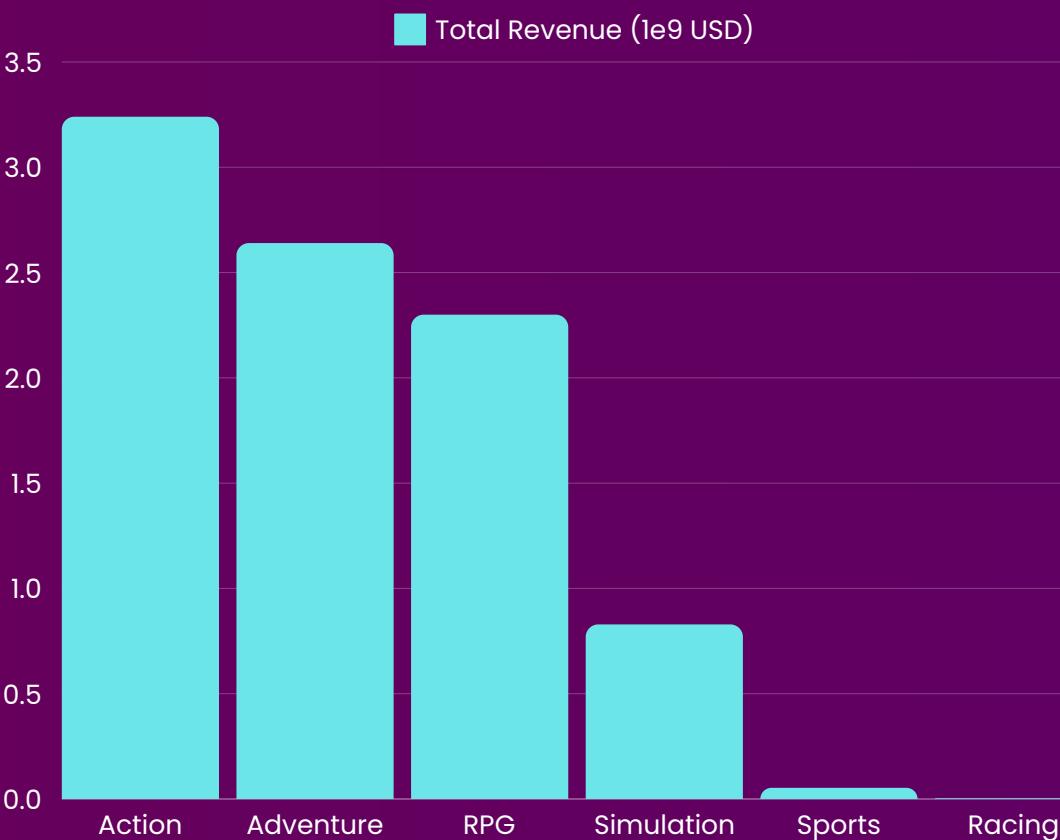
DATA CLEANING

- We merged our datasets into a dataframe, and dropped unnecessary columns, whilst replacing or removing empty values.
- Columns were renamed and re-ordered for ease of use and converted to appropriate data types.
- Boolean columns were added from columns of list for easier filtering and manipulation.

DATA ANALYSIS

- Data filtering and grouping to compare specific publisher classes and seasons.
- Creating statistical summaries by genre
- Data visualisation using seaborn and matplotlib, producing histograms and scatter plots.
- Comparative analysis by between features such as In-app purchases and multiplayer capability

DATA ANALYSIS GENRE

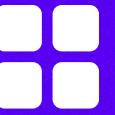


INSIGHTS

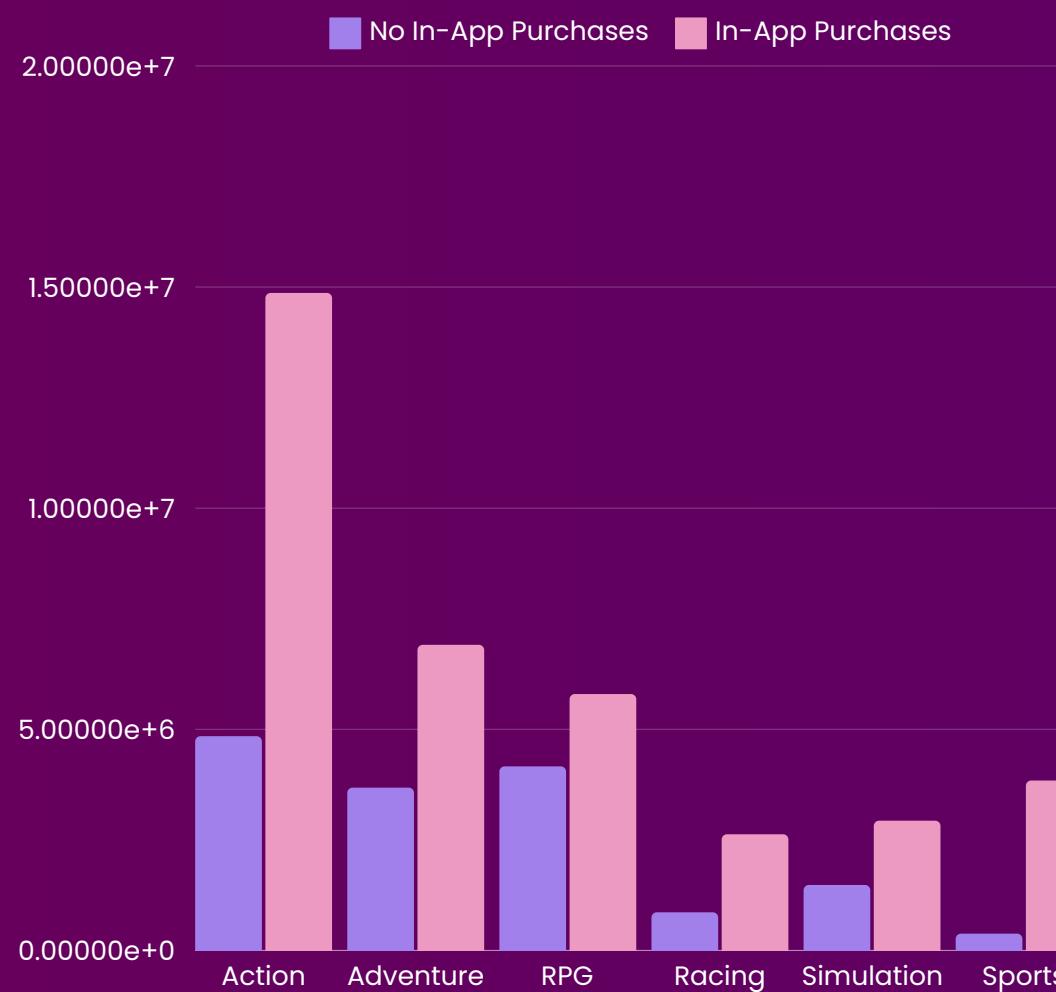
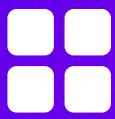
Action and Adventure games lead in total revenue, largely due to the high number of titles in these genres.

Each genre's mean revenue was massively skewed by a handful of top performing titles, whereas the medians were more consistent.

Sports and Racing, as more niche genres, generate lower total revenue, but with greater medians, suggesting they could deliver more stable return for mid-tier games, whereas Action and Adventure have the potential to deliver massive revenue, there is more competition and greater risk.



DATA ANALYSIS IN-APP PURCHASES AND MULTIPLAYER



INSIGHTS

Multiplayer games and games with in-app purchases deliver greater revenue consistently by genre.

Games with In-App purchases delivered 4x the average revenue. The difference was less extreme for AAA titles, at 20% greater revenue, compared to 4.5x revenue for Indie games

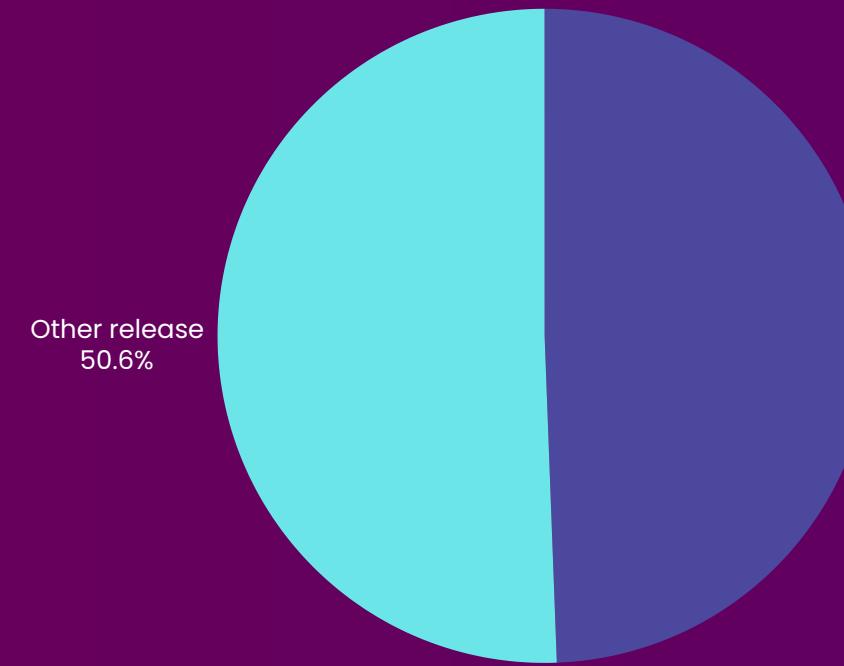


DATA ANALYSIS

RELEASE DATE

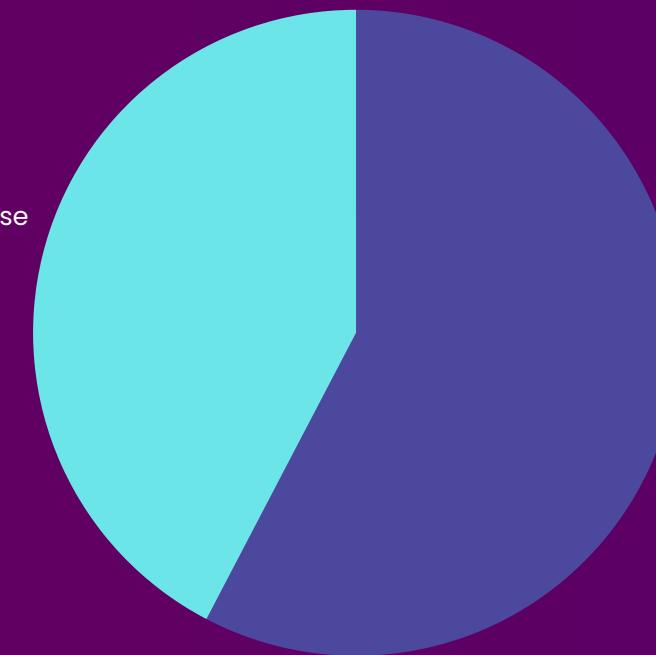
SHARE OF GAMES

RELEASED



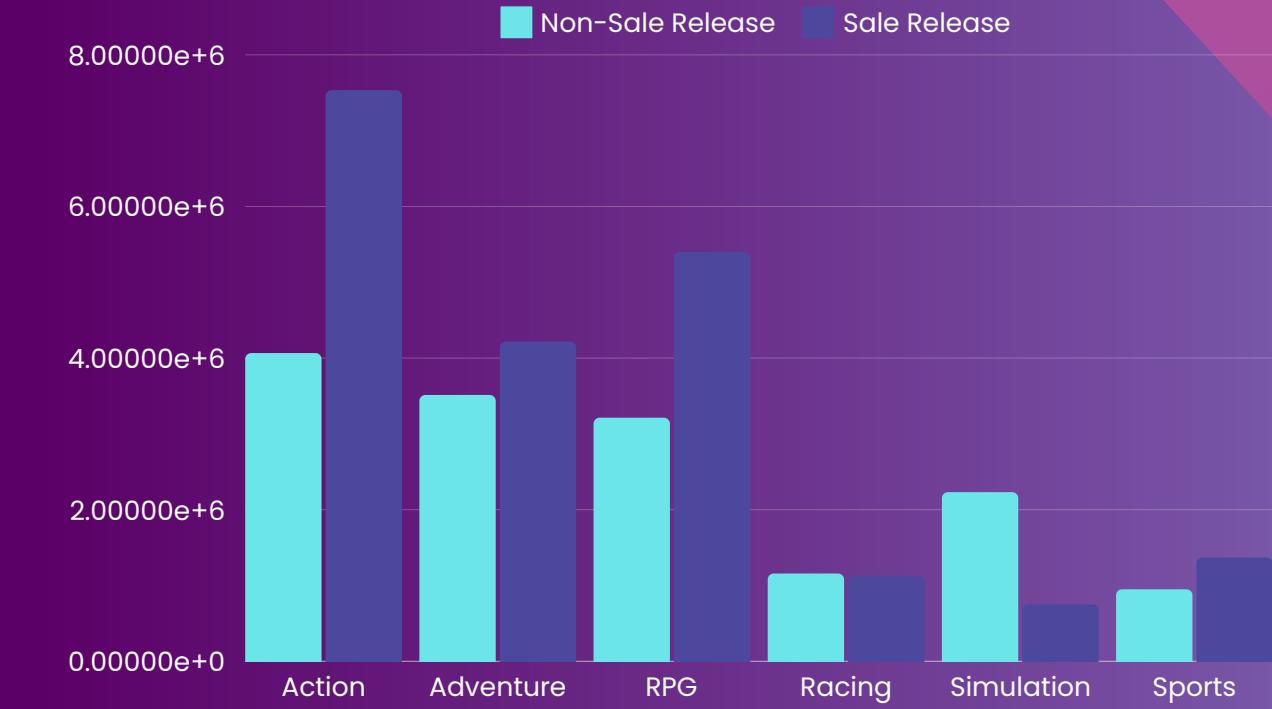
SHARE OF REVENUE

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AVE GAME REVENUE

BY GENRE



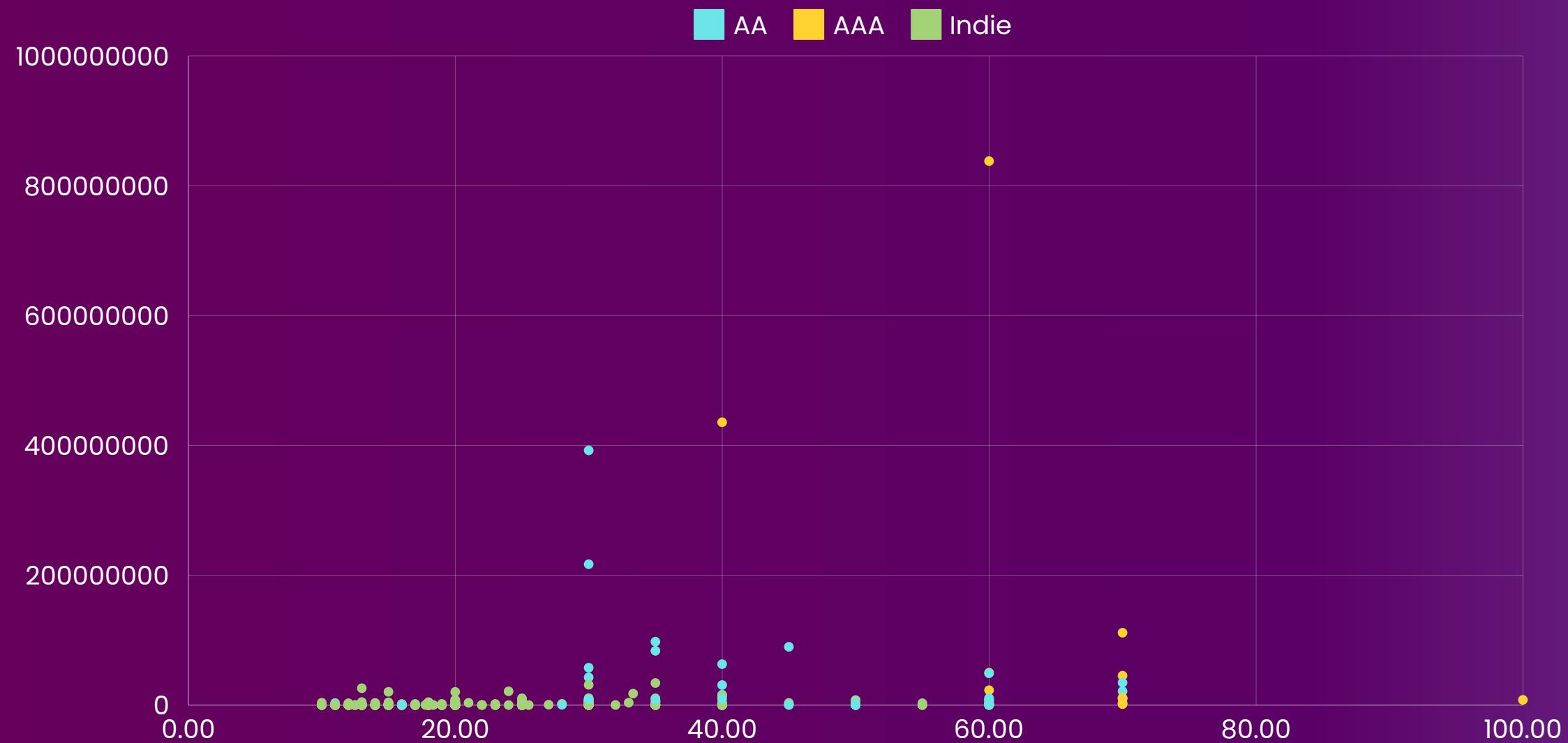
INSIGHTS

Games relaunched during Steam events such as Steam Sales, see a moderate, but significant, increase in the revenue they deliver. Likely due to more people engaging in the platform and looking for games. - NB. This trend is not the case for Simulation games

However, other factors such as content quality, marketing strategy and player loyalty also play an important role in a title's commercial success.

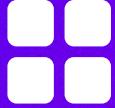
DATA ANALYSIS

GAME PRICE



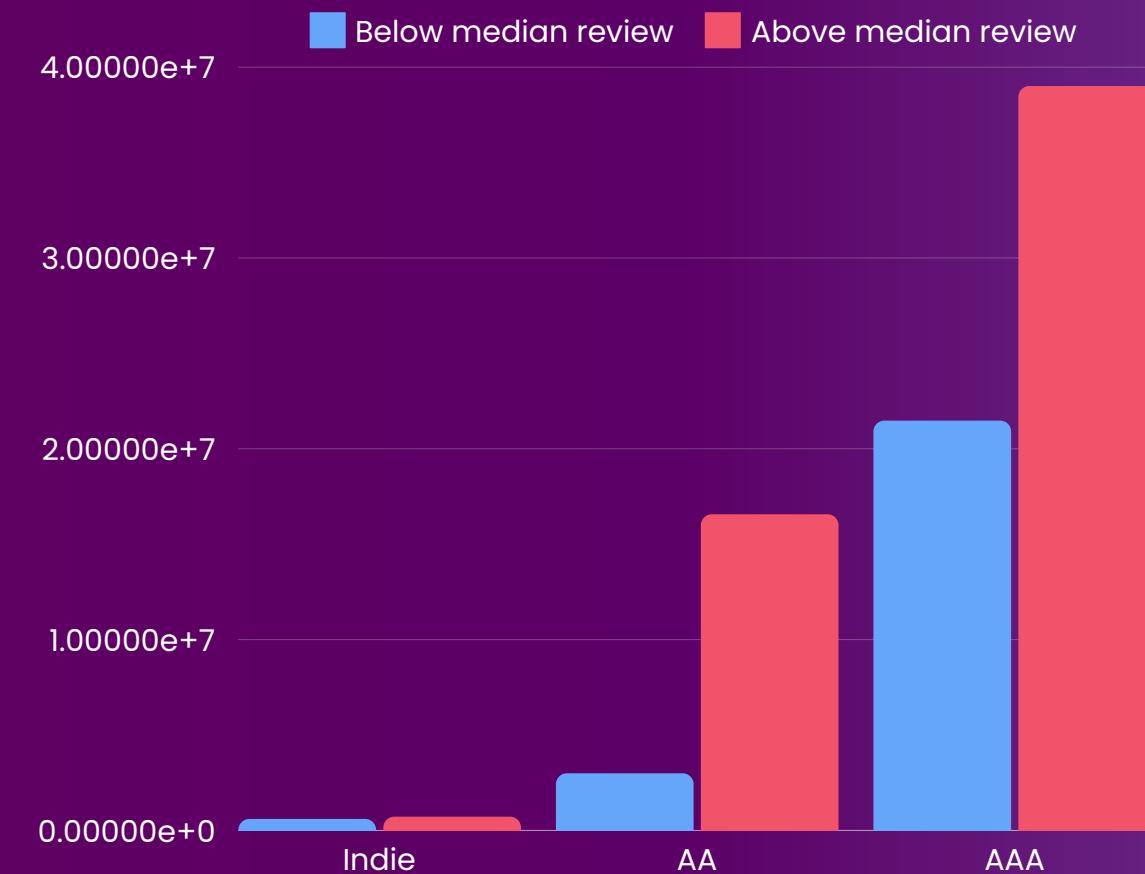
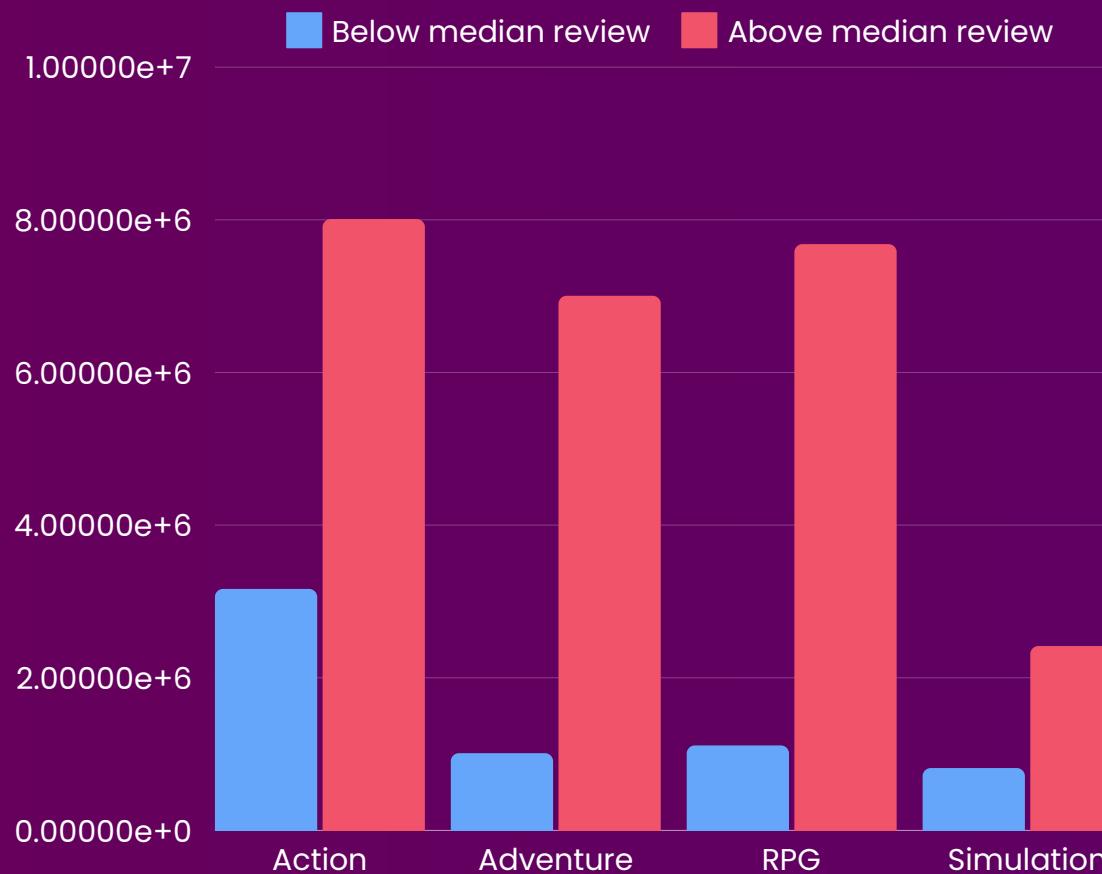
INSIGHTS

We found that overall there is minimal correlation between game price and revenue, with a 0.16 correlation coefficient



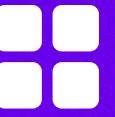
DATA ANALYSIS

AUDIENCE REVIEWS

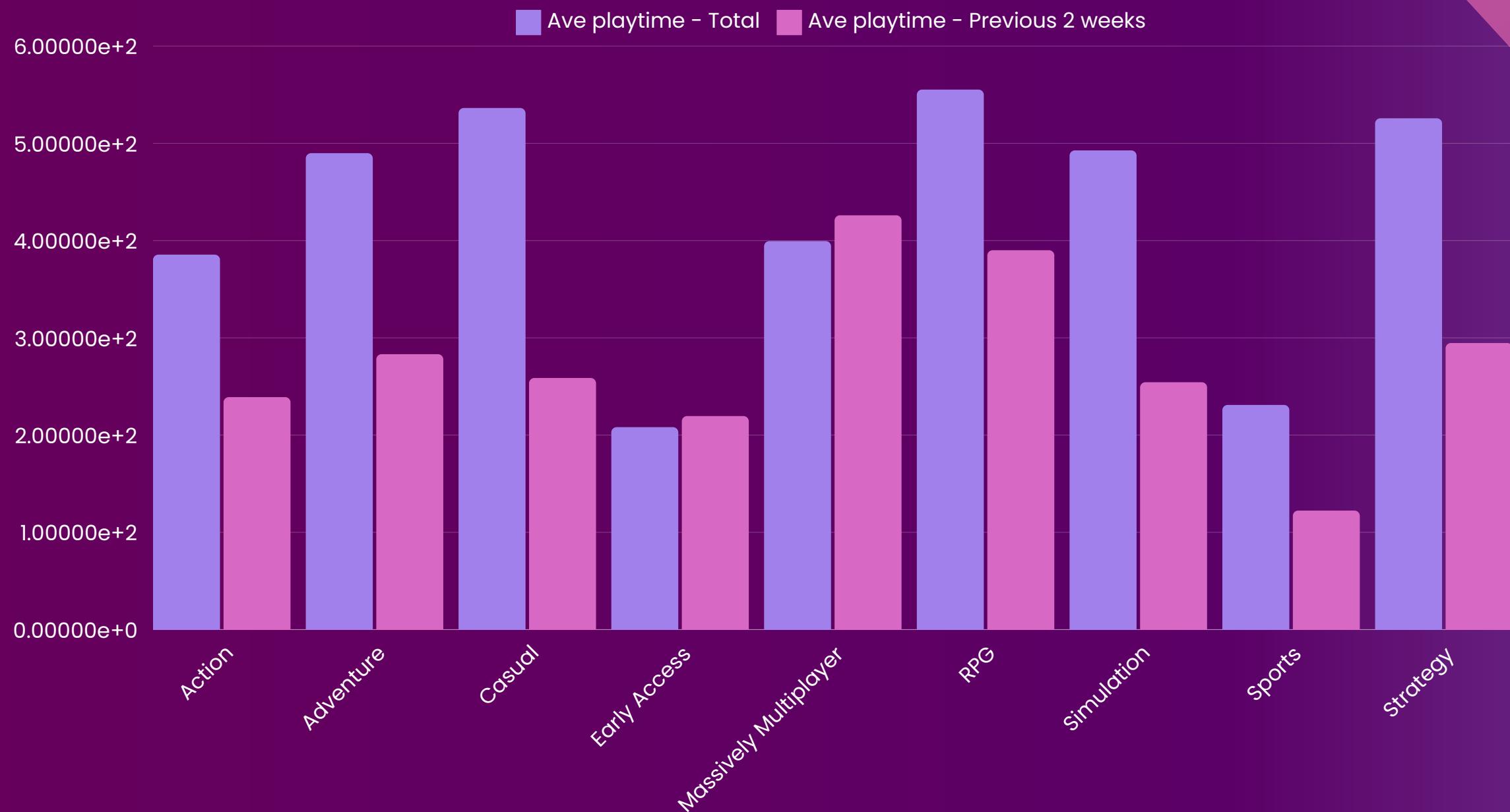
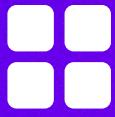


INSIGHTS

Higher review score has a strong effect on total revenue and deliver average revenue over double (2.3x) games with lower
This is especially true for AA/AAA games, but Indie games also see 20% increased revenue



DATA ANALYSIS INDIE GAMES PLAYTIME DATA

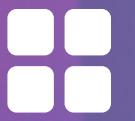


INSIGHTS

Massive Multiplayers and RPGs have very high average playtimes, especially in recent weeks, suggesting multiple returning players. This provides opportunities for In-App purchases as a continued source of revenue.



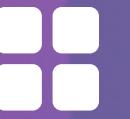
CONCLUSIONS



- **Action and Adventure** games dominate in total revenue and the share of top releases, but revenue is skewed by top performers.
- **In-app purchases** and **Multiplayer** significantly boost a game's revenue potential.
- **Steam event releases** yield moderate revenue gains due to increased platform traffic
- Higher **review scores** drive revenue, with high-rated games earning 2.3x more on average.

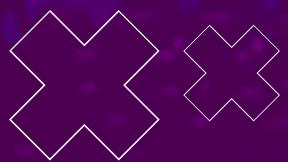
INVESTOR STRATEGY

With a focus on Indie games, which are more likely to require funding, those with multiplayer features and in-app purchase models, show stronger revenue potential. Plan releases around Steam events for optimal visibility and revenue impact. For stable returns, more niche genres like Sports and Racing may be more reliable in the mid-tier market. Emphasize quality, positive reviews, and player loyalty to drive success across all titles.



FUTURE CONSIDERATIONS

- To produce further analysis, we could supplement our data with additional datasets, with splits by geography, data for other platforms/consoles, and tracking over time.
- This would allow us to see which countries present growing opportunities or have different behaviours that could be utilised.
- Furthermore, we could try to spot trends in the industry to capitalise on how things are shifting.
- The dataset can be merged with other gaming platforms to have a better overall view of game industry.





PROJECT MGMT

1

GIT = HELL

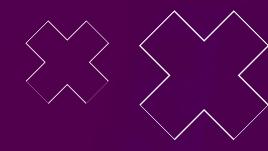
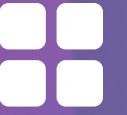
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Communication via slack and zoom to give visible updates and also request updates

3

We tried to plan our objectives for each day, but even despite this there could still be frustration and feeling lost within the project structure.





THANK YOU

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