

# GAME START



PLAY

MENU

EXIT



# STEAM & IMDB

## GAME DATA INSIGHTS

GROUP 7 JOR  
JUD  
KAM  
MUH

# CHOOSE YOUR GAME



EXECUTIVE  
SUMMARY



EDA



RESULTS &  
CONCLUSIONS



Q&A

EXIT

# EXECUTIVE SUMMARY

VS

EXIT

## OVERVIEW OF THE GAMING INDUSTRY

- RAPID GROWTH DRIVEN BY TECHNOLOGY AND PANDEMIC LOCKDOWNS
- EXPECTED TO EXCEED \$320 BILLION BY 2026 (PWC)

## PROJECT GOALS

- PROVIDE DATA-DRIVEN INSIGHTS FOR GAME STUDIOS
- NAVIGATE THE DYNAMIC GAMING LANDSCAPE THROUGH EDA

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## INDUSTRY RELEVANCE

- IMPACT OF DATA IN THE GAMING INDUSTRY
  - DATA-DRIVEN DECISIONS CRUCIAL FOR STUDIOS
- CHALLENGES IN THE INDUSTRY
  - HIGH COMPETITION, VARIETY OF GAMING OPTIONS
- HOW OUR PROJECT HELPS
  - PROVIDES RELIABLE DATA FOR INFORMED DECISIONS

EXIT



# EOA



EXIT



# DATA COLLECTION

## STEAM GAME DATASET

- PROS: 13,000+ GAMES. INFORMATION ON GAME GENRES, CATEGORIES, SUPPORTED PLATFORMS, RELEASE DATES, RATINGS/POPULARITY, NUMBER OF PLAYERS/OWNERS, PRICES.
- CONS: THE VAST MAJORITY OF GAMES WERE RELEASE AROUND 2015. INSUFFICIENT HISTORICAL DATA.

## IMDB VIDEO GAMES DATASET

- PROS: 20,000+ GAMES, EVENLY DISTRIBUTED ACROSS THE PAST 3+ DECADES. GENRE INFORMATION.
- CONS: INFORMATION LIMITED TO GENRES, RELEASE DATE AND RATINGS/POPULARITY.

EXIT

# DATA CLEANUP

## STEAM GAME DATASET

- THE “RELEASEDATE” COLUMN WAS A FREE ENTRY FIELD WITH ~1,000 DIRTY ENTRIES (“THIS AUTUMN”, “TBA”, “WHEN IT’S DONE”, “WHEN THE WORLD ENDS!”).
- RENAMED FIELDS WITH UNCLEAR NAMES.
- REMOVED ~1,000 ROWS THAT HAD GARBAGE DATES BY CONVERTING THE VALUES TO DATETIME USING THE “`ERRORS = COERCE`” PROPERTY.

```
#Remove the rows with garbage date values

games_data_df['ReleaseDate'] = pd.to_datetime(games_data_df['ReleaseDate'], errors='coerce')
games_data_df['ReleaseDate'].replace('', np.nan, inplace=True)

cleaned_data_df = games_data_df.dropna()
```

EXIT

# DATA EXPLORATION

- CHOSE MAJOR CATEGORIES TO EXPLORE
  - PLATFORMS, GENRES, SINGLE/MULTI-PLAYER, RATINGS, RECOMMENDATIONS.
- GROUPED BY CATEGORIES TO EXPLORE ANY SIGNIFICANT STATISTICAL CORRELATIONS OR TRENDS
  - RELEASE DATE VS. NUMBER OF PLAYERS.
  - GENRE VS. RATINGS.
  - PLATFORM COUNT VS. NUMBER OF OWNERS.
- SOME VISUALIZATIONS SHOWED NO SIGNIFICANT INFORMATION. OTHERS FORMED BASIS FOR ANALYSIS.

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# APPROACH

## HYPOTHESIS TESTING EXAMPLE

ALL TIMES METACRITIC RATING TOP 20 GAMES ARE NOT  
DIFFERENT FROM ALL TIMES RECOMMENDATION COUNT  
TOP 20 GAMES.

```
# One Sample T-Test
t_statistic,p_value=ttest_1samp(data_value,hype_Mean)
p_value

2.893515959425109e-09

#Shapiro Test
t_statistic,p_value=shapiro(data_value)
p_value

8.316843747024905e-08
```

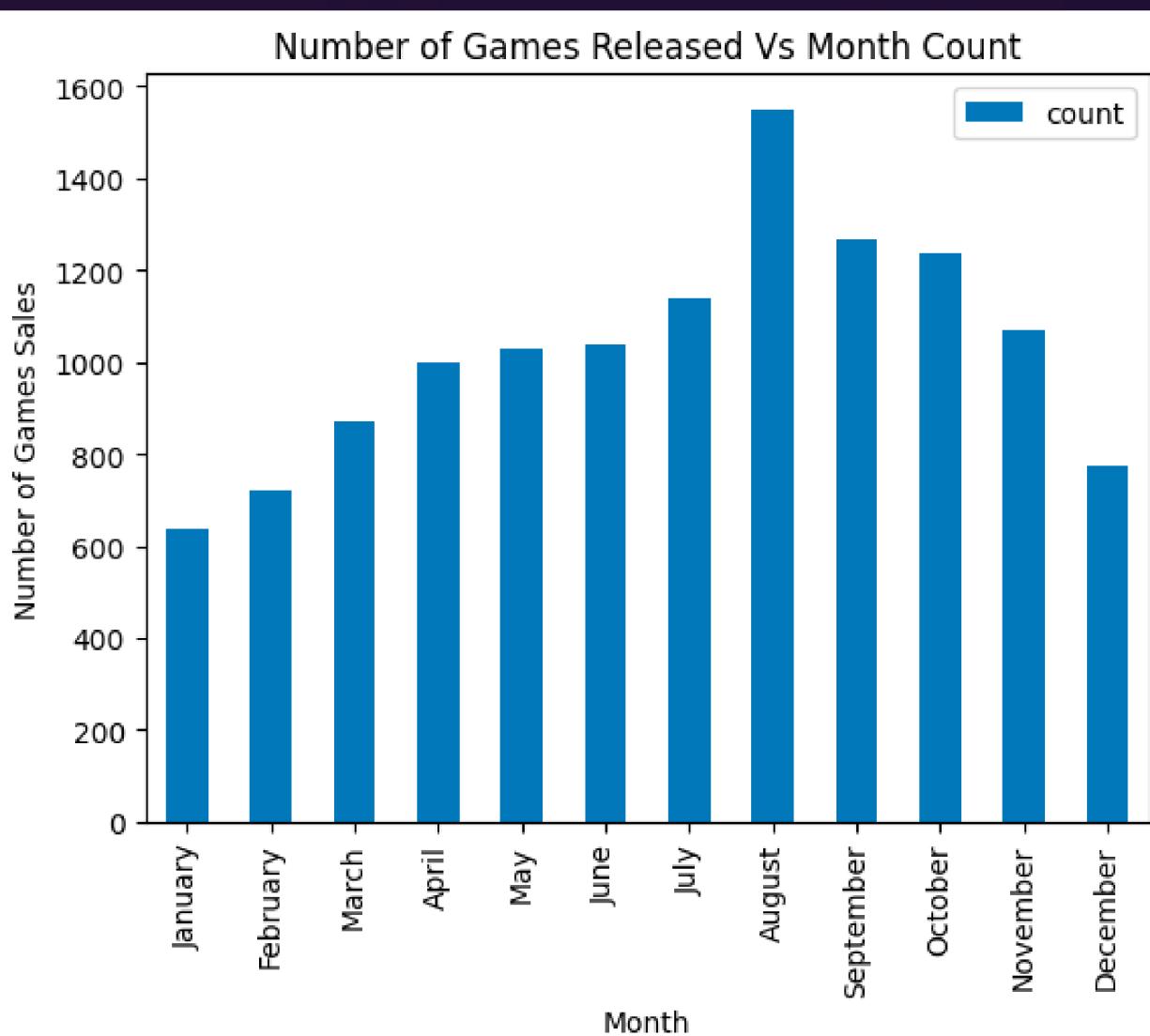
EXIT

# RESULTS & CONCLUSIONS

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# RELEASE DATE & PRICE

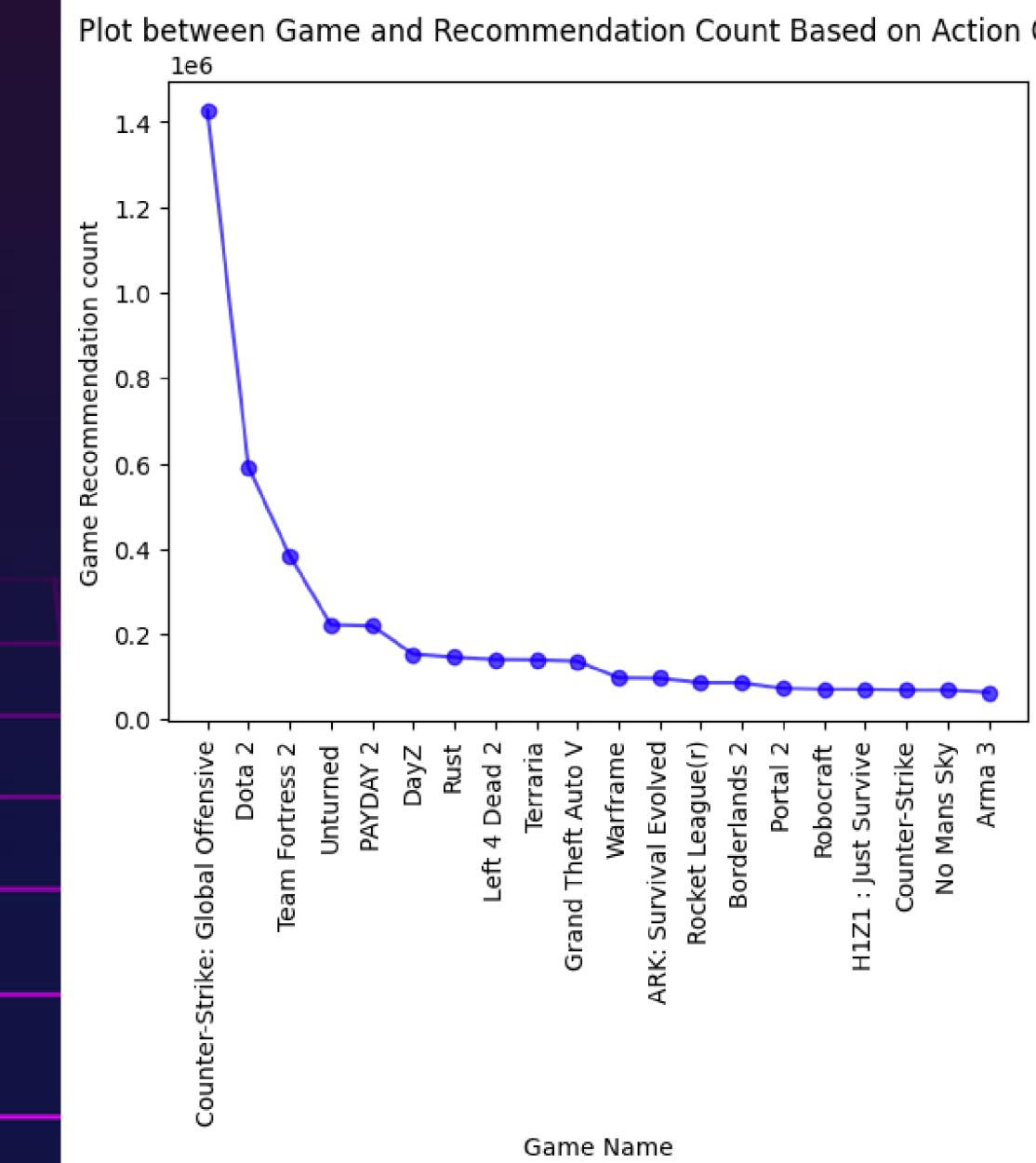
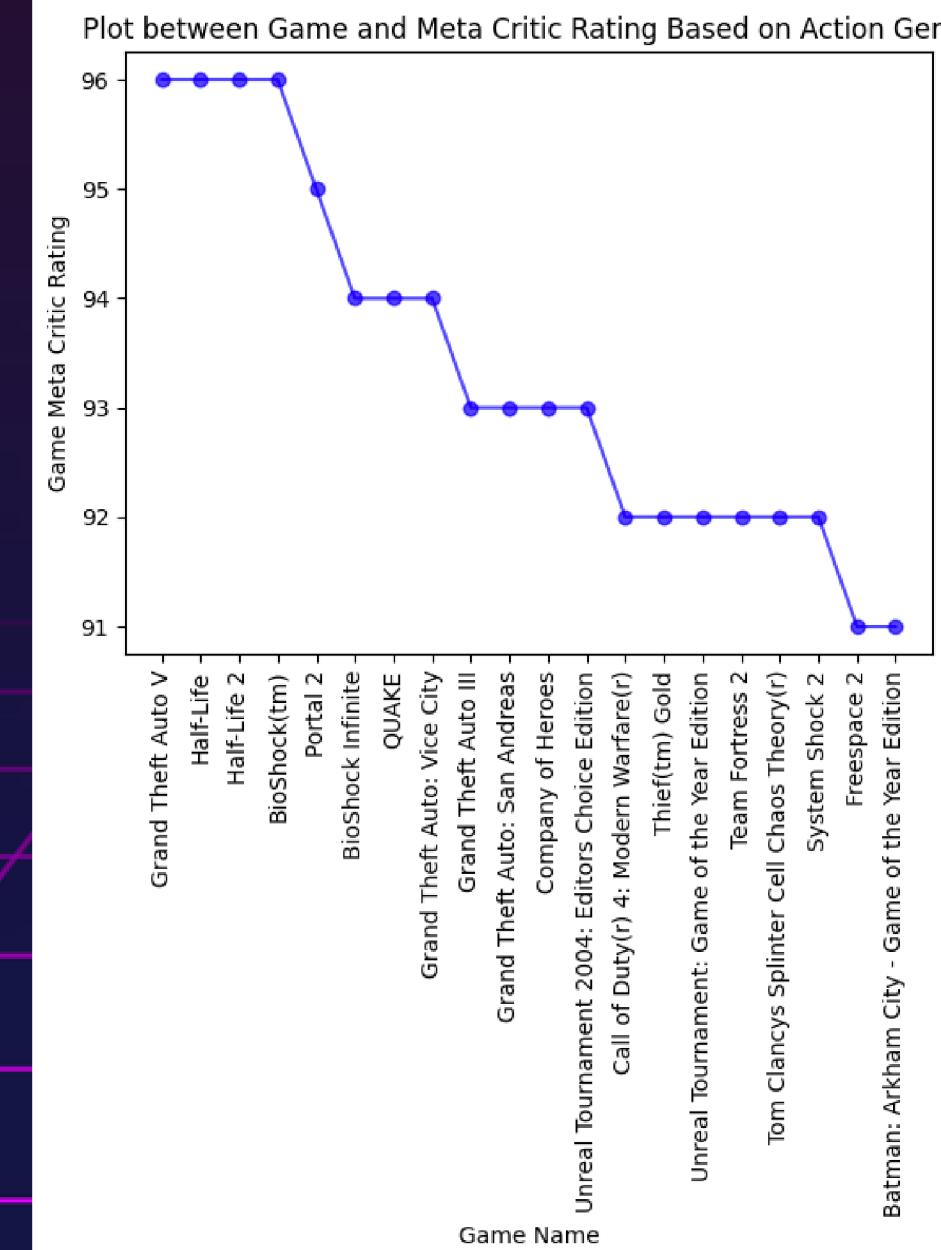
WHICH MONTH HAS THE HIGHEST NUMBER OF RELEASED GAMES?



EXIT

# TOP PERFORMERS

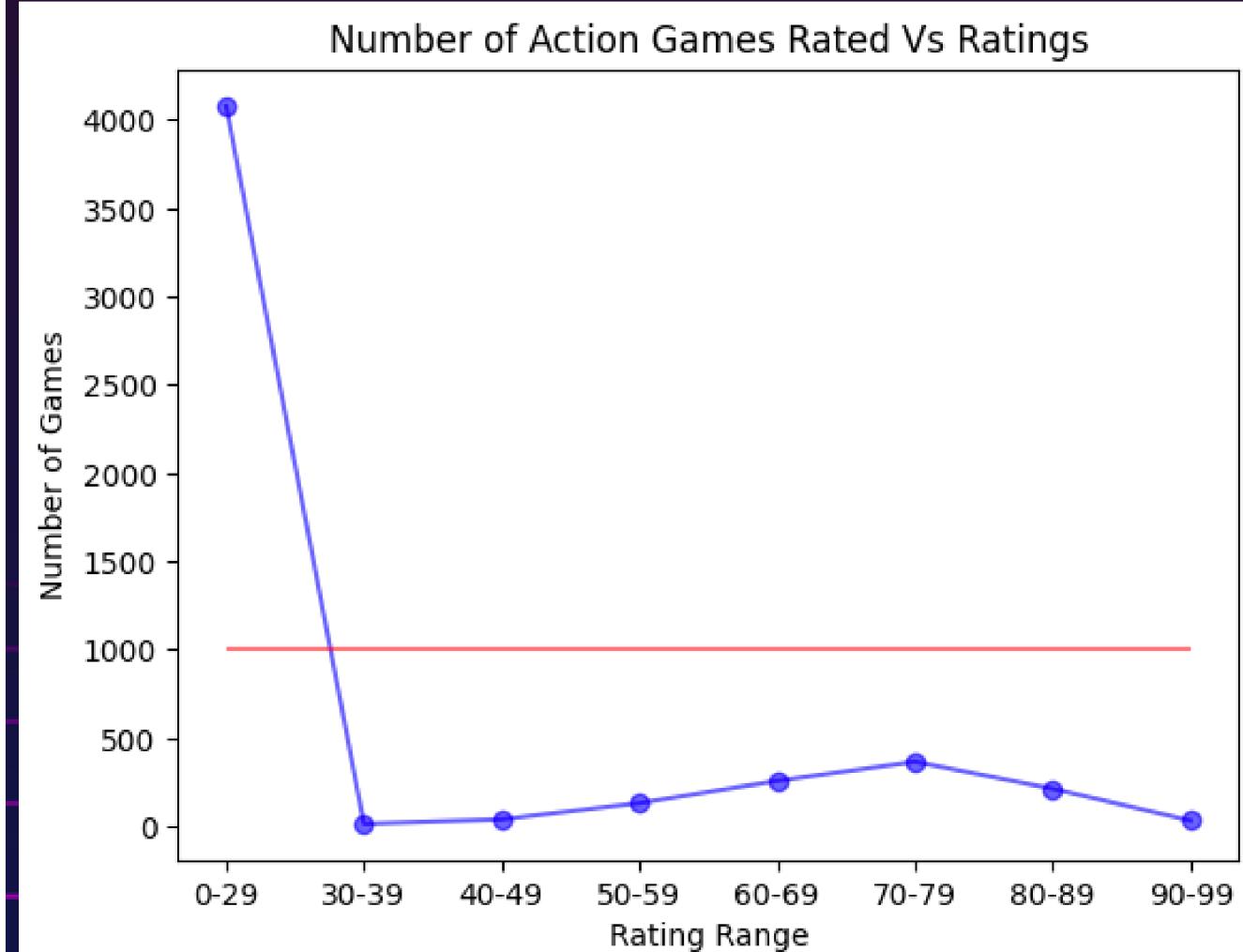
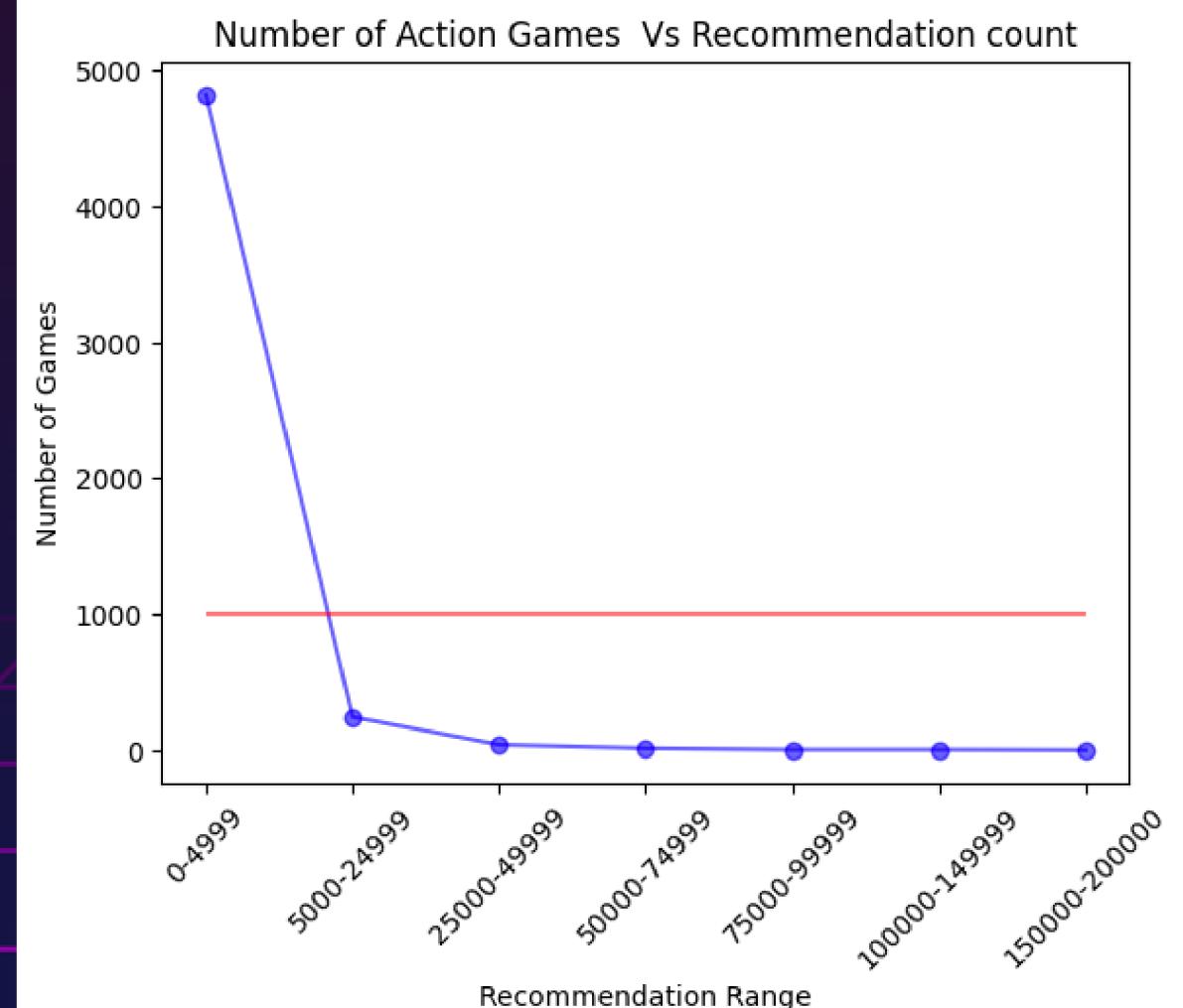
## TOP 20 GAMES?



EXIT

# TOP PERFORMERS

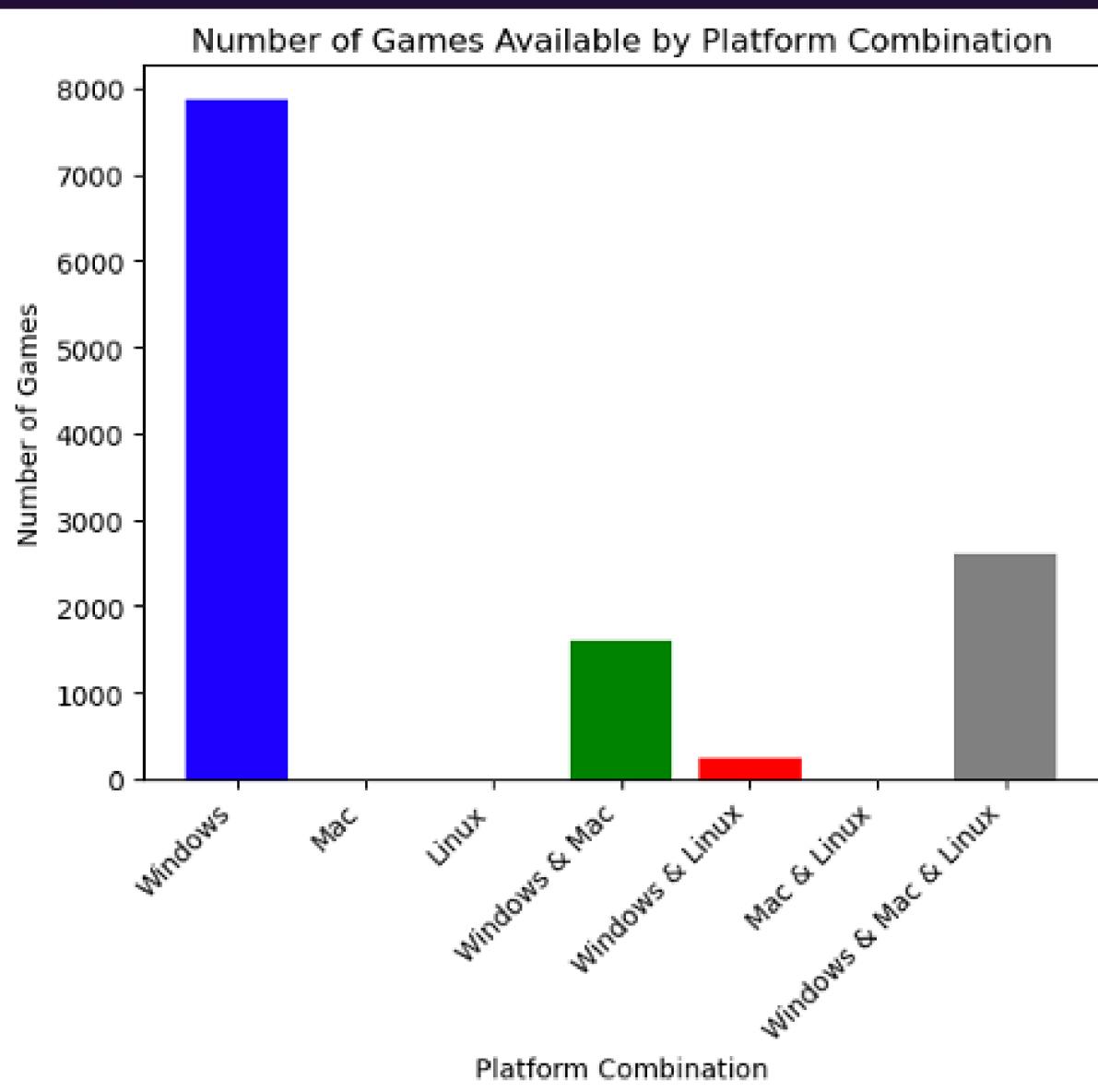
## TOP 20 GAMES?



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# PLATFORM & MARKETING

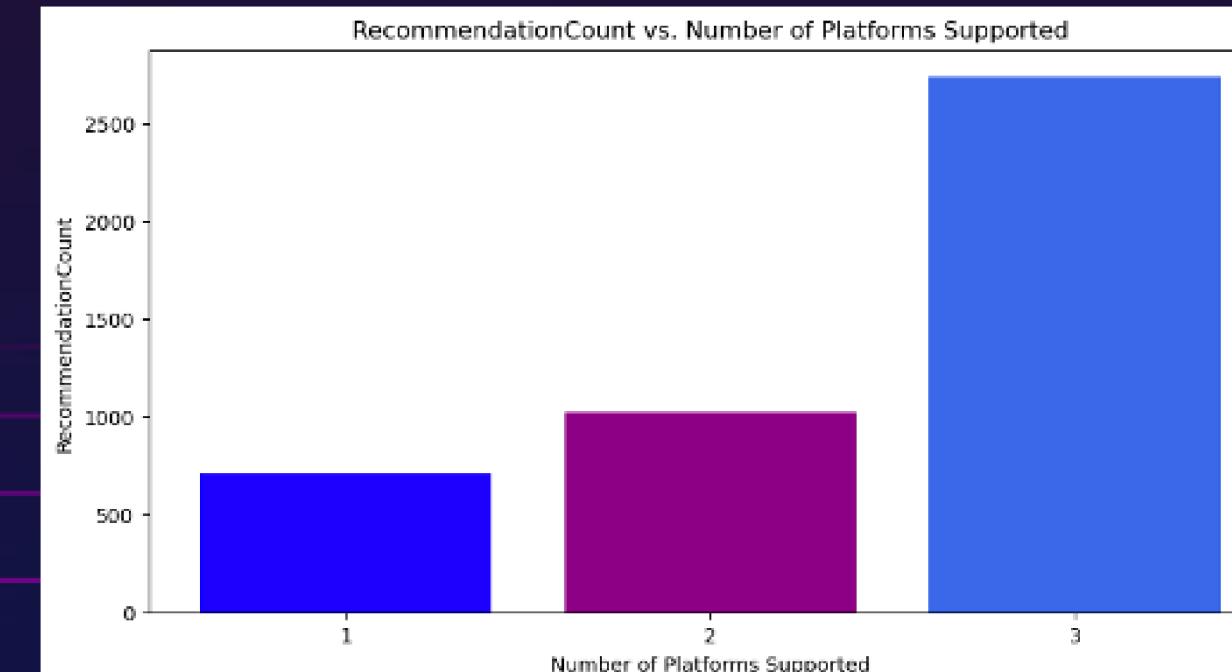
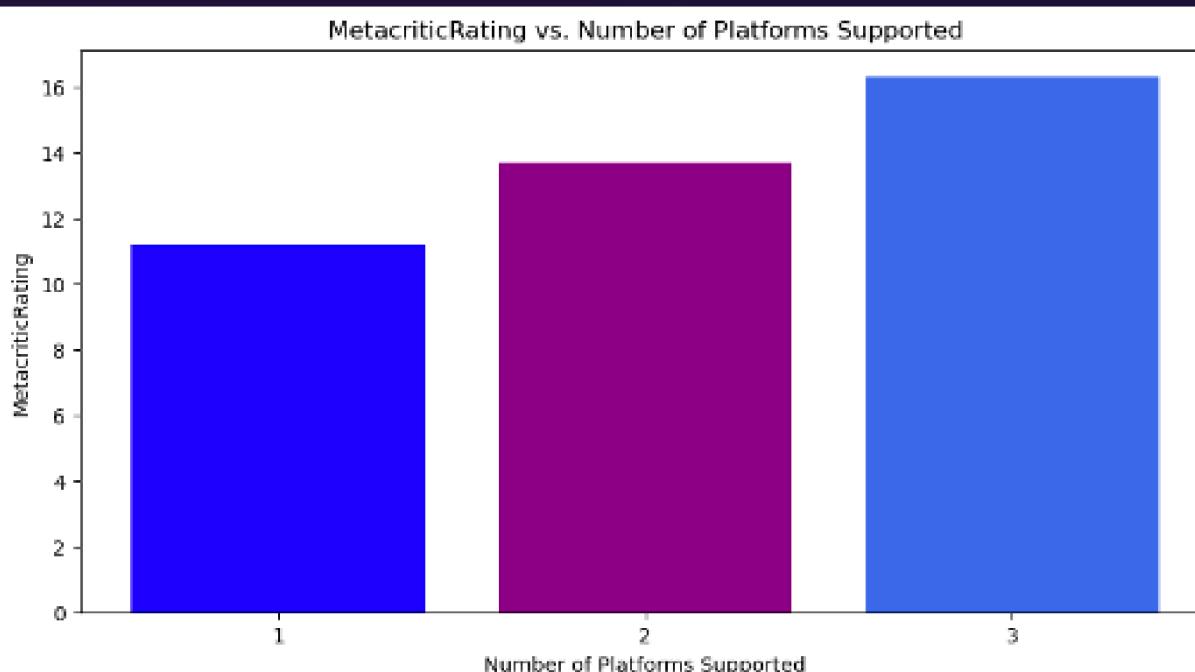
WHICH PLATFORM HAS THE HIGHEST AVERAGE GAME COUNT?



EXIT

# PLATFORM & MARKETING

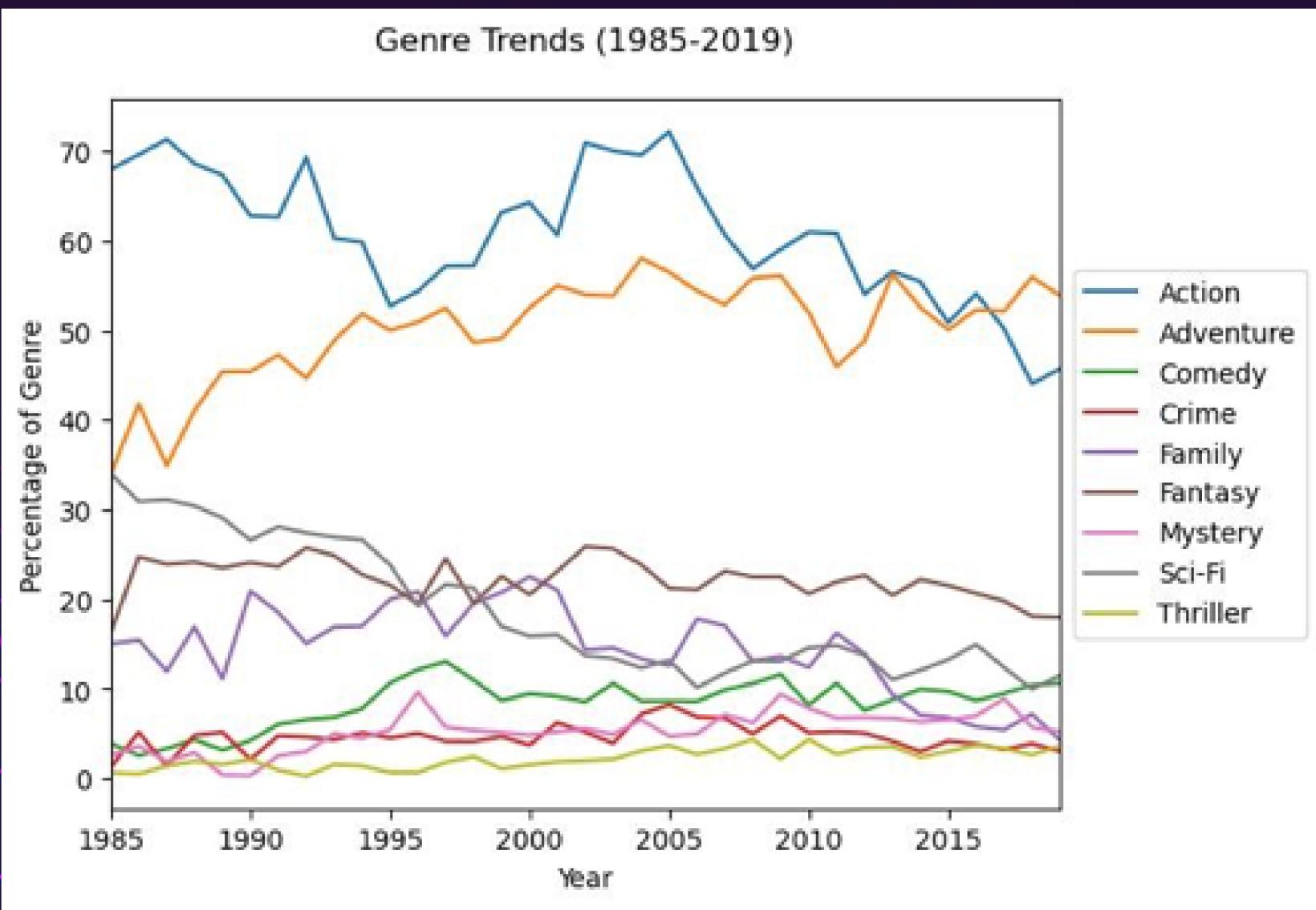
ARE GAMES WITH BROADER PLATFORM AVAILABILITY MORE POPULAR?



EXIT

# CATEGORY 8 TRENDS

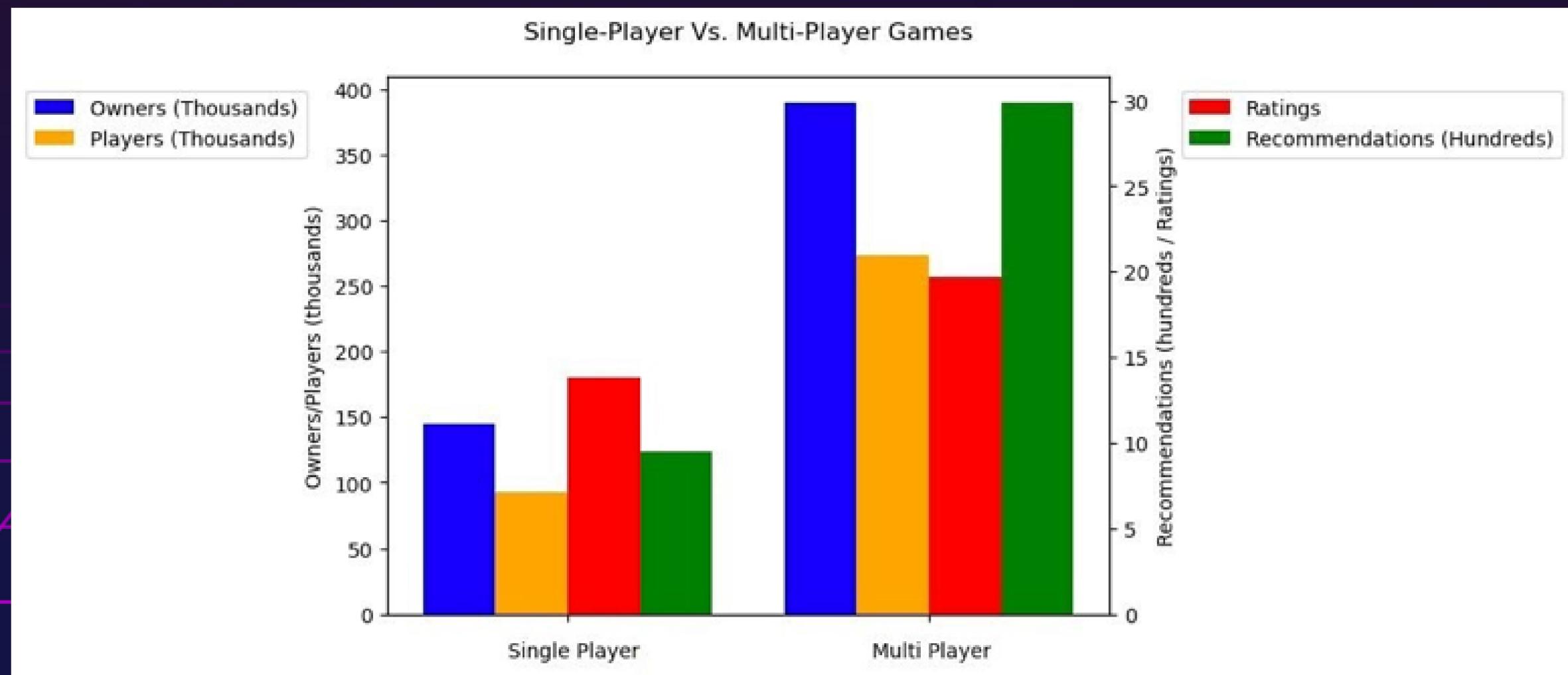
ARE THERE ANY APPARENT GENRE  
TRENDS ACROSS THE PAST 3 DECADES?



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# CATEGORY & TRENDS

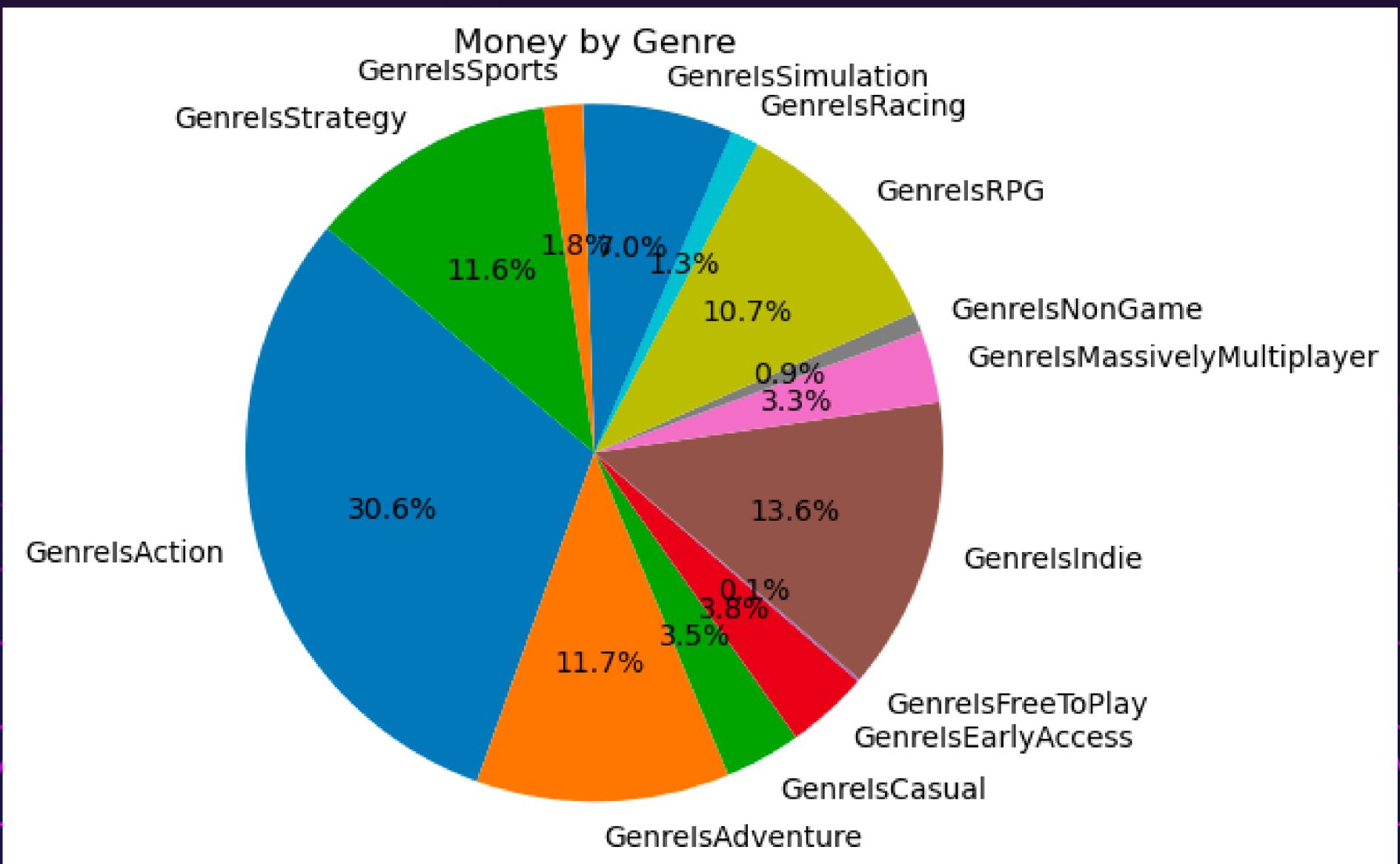
IS THERE AN ADVANTAGE TO SINGLE-PLAYER OR MULTIPLAYER GAMES?



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# GENRE & POPULARITY

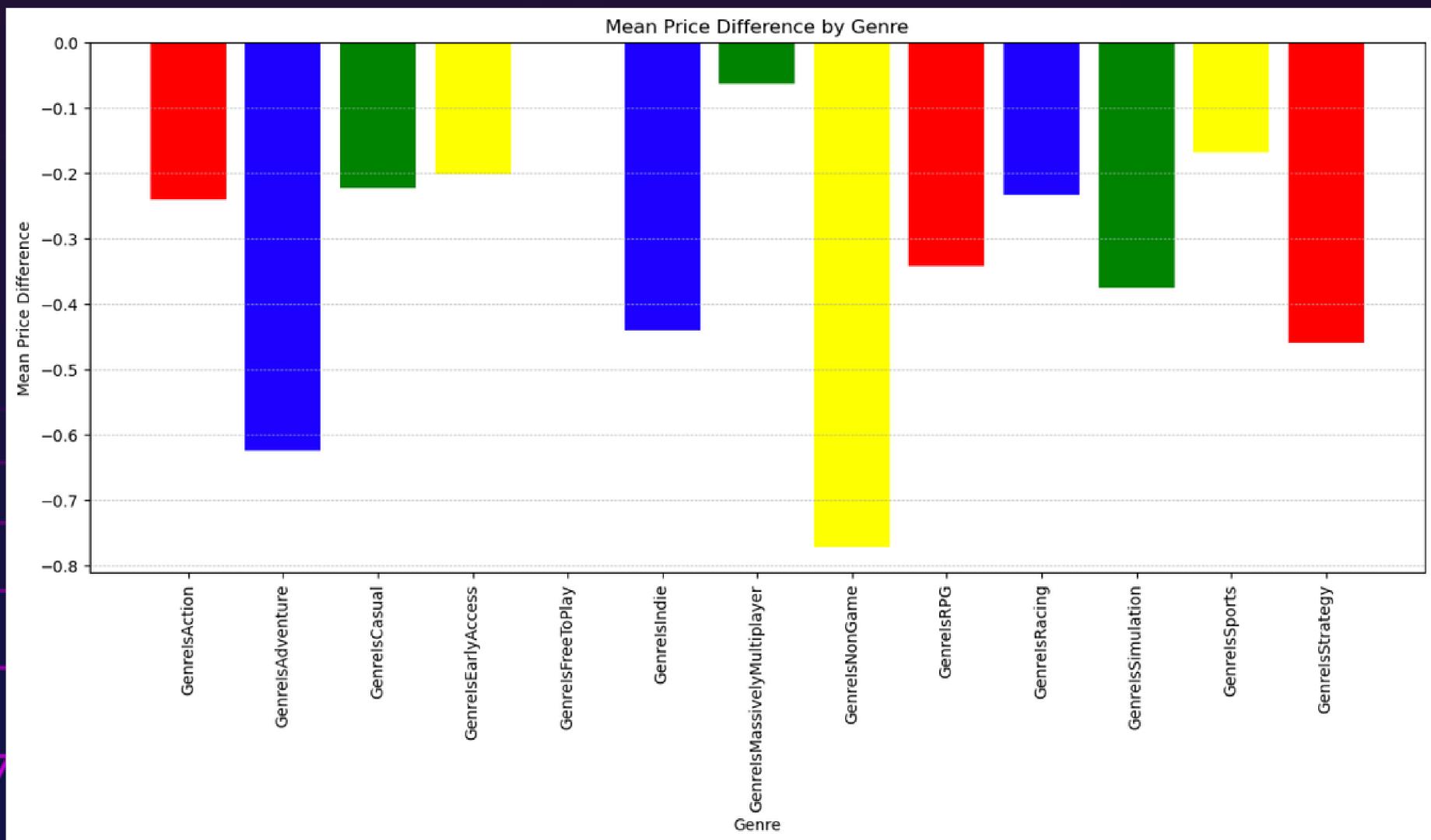
WHICH GENRES HAVE THE HIGHEST REVENUE?



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# GENRE & POPULARITY

WHICH GENRES HAS THE MOST CHANGES  
IN DISCOUNTS?



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# CHALLENGES

DATA CLEANING

OUTLIERS

DATA INTEGRATION

INTERPRETING TRENDS

VISUALIZATION COMPLEXITY

LIMITED DATA

EXIT

# ACHIEVED GOALS

THE PROJECT SUCCESSFULLY EXPLORED AND ANALYZED DATA FROM THE IMDB VIDEO GAMES AND STEAM GAME DATA DATASETS TO GAIN INSIGHTS INTO VARIOUS ASPECTS OF THE GAMING INDUSTRY.

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# NEXT STEPS

- CONDUCTING MORE IN-DEPTH ANALYSES ON SPECIFIC ASPECTS OF THE GAMING INDUSTRY.
- INCORPORATING ADDITIONAL DATASETS TO GAIN A MORE COMPREHENSIVE UNDERSTANDING OF THE MARKET.
- DEVELOPING PREDICTIVE MODELS TO FORECAST GAMING TRENDS AND SUCCESS FACTORS.

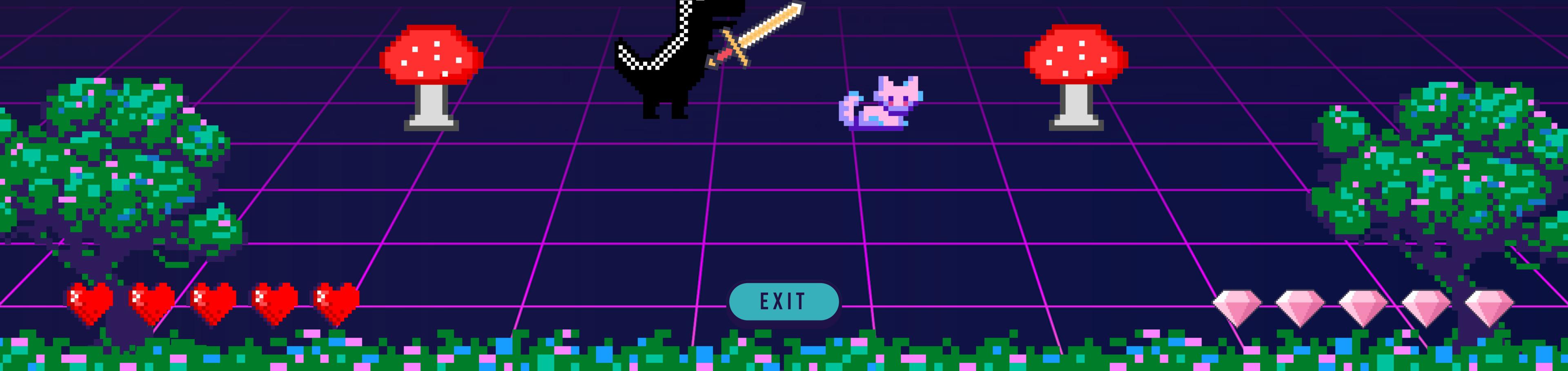
EXIT



QSEA



EXIT





THANK YOU FOR  
PLAYING WITH US!

EXIT

