




Video Game Analysis: What Makes a Game Good?

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Overview

- Gaming is approximately a 138 billion dollar industry per CNBC
- It is a very significant pastime in the lives of many people (Some have even built careers off of it)
- The industry encompasses many different parts from Publishers, Game Reviewing Companies, Commentators, etc.



Motivation

- Help companies better understand what games players on Steam prefer based off of customer feedback
- Say if someone is interested in searching through Steams catalogue for the first time, what type of games might they want to seek out for the best experience?



Objective

Rank data in dataset based off of user reviews and analyze features of the top ranked games to gain a visual on what the plurality or majority of those features are

Dataset

- Our dataset was scraped from Steams Gaming library using an open source Scraper with our own modification from github
- We got more than 39,000 games, software and DLC
- Customers comments also matter, we collected more than 7,000,000 comments from Steam
- Processed .JL file output into a CSV file which we then parsed into multiple Data Frames to best suit our analysis
- Targeted attributes such as Gaming Platform, Reviews, Game Publisher, etc.

Methodology

- Parsed the all_ratio feature of a game (contains general number of reviews and the ratio of positive reviews) and sorted the data frame based on the number of positive reviews
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- Positive ratio of course shows the percentage of positive reviews of the game while number of comments shows the amount of attention the game has received from players
- Games were then ranked in descending order based on their assigned number
- By default Games with no user score or comments would be placed at the bottom of our ranking
- Targeted the scope of our dataset on the top 1000 of this list to get a reference of what attributes are prominent in well recieved games

Comparison of ranking

Positive_Review	Positive_Review_Rank	Top_Played_Rank
373159	2	1
808058	1	2
105096	12	6
22615	66	9
271893	4	14
106896	11	20
13784	123	21
284658	3	23
171840	5	26
58775	23	27
2642	619	28
55248	25	30 □
56694	24	32
11126	155	33
18472	84	34
76267	18	35
49594	27	36
22848	64	37
43852	32	40

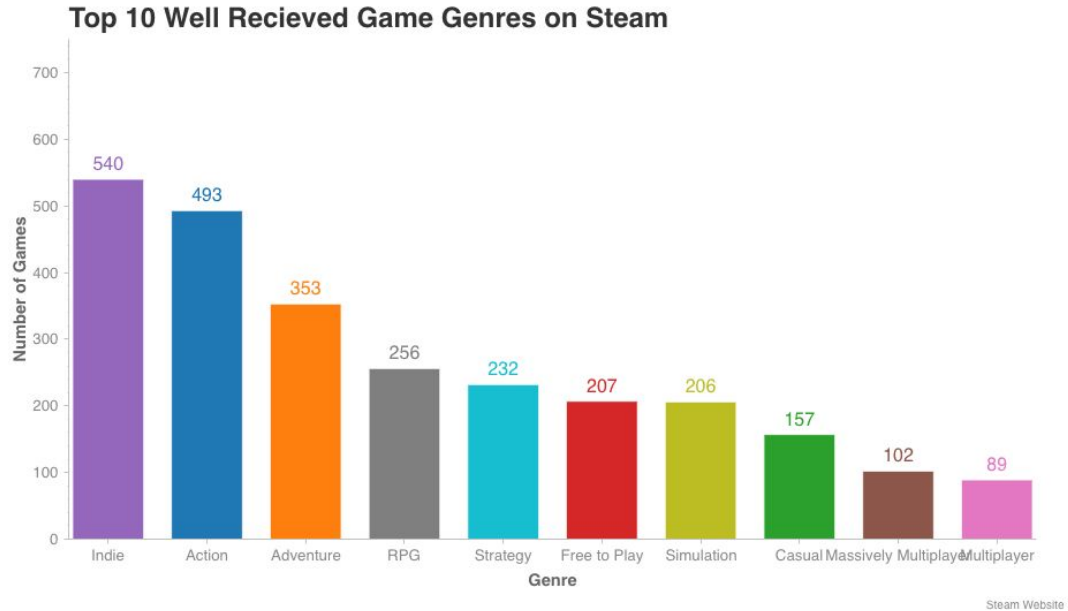
Among the total 39k apps, there are about 17k apps having positive reviews.

We selected the top 1000 apps and made a cross comparison with those top 100 played apps provided by steam per 48 hour period.

And there is a pretty good match between these two rankings. (Why some apps are missing? App names may change)

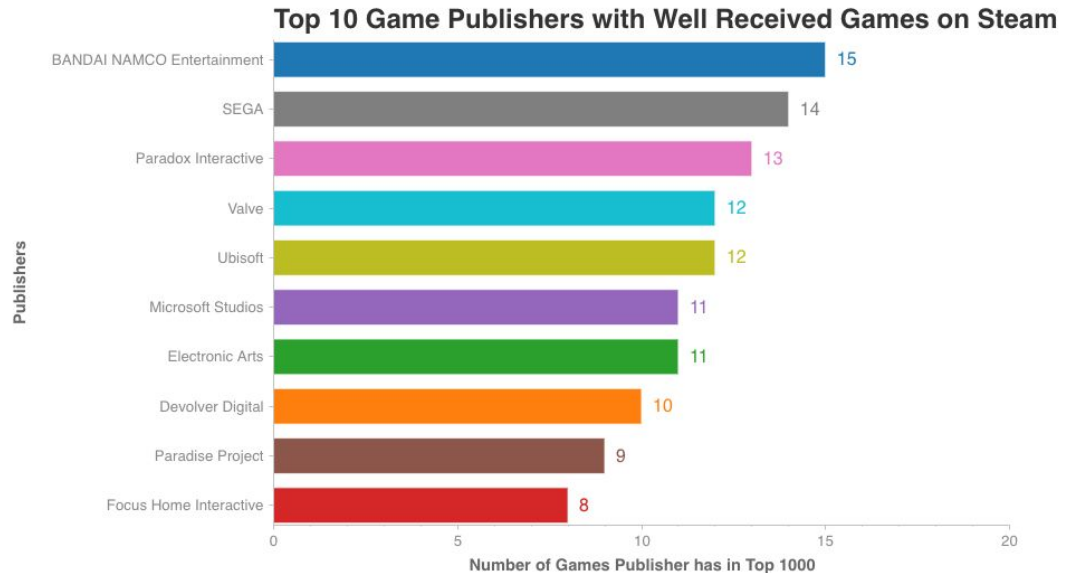
Genres for well received games

- Indie, action, and adventure titles rank high on our list
- In recent years there has been a trend of indie developers being financially successful with games such as minecraft, undertale, World of Goo, etc.
- Data reflects reality showing that these genres generally liked among users on steam



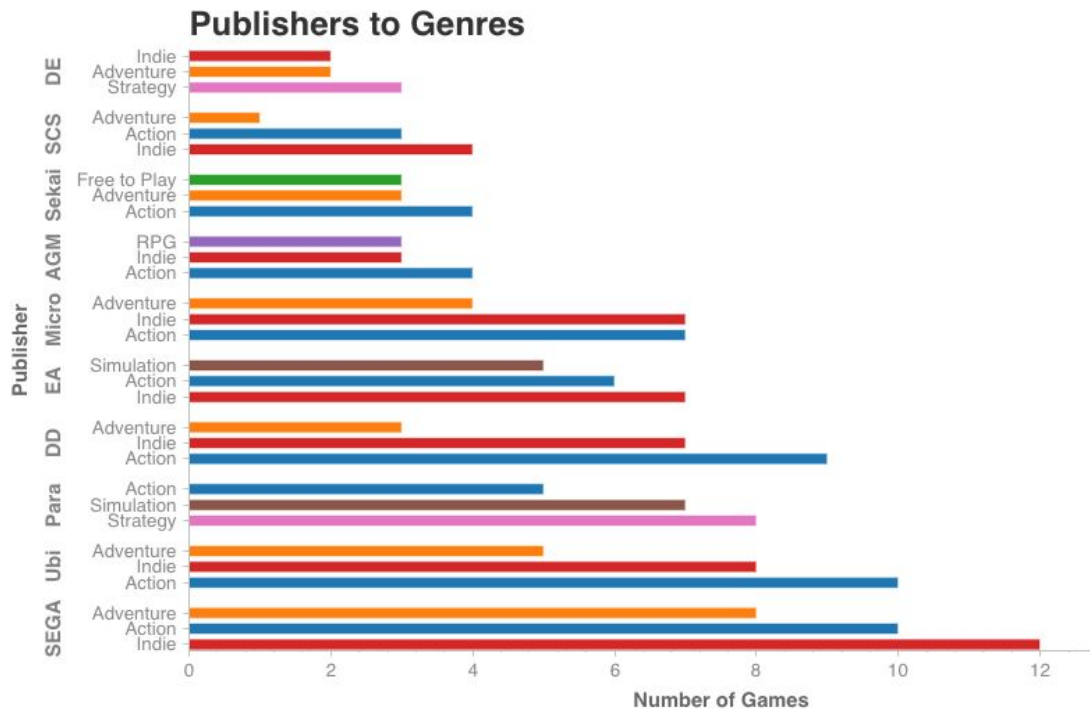
Publishers with Well Received Games

- Companies such as Paradox Interactive, Daedalic Entertainment, and SCS Software are companies that specialize in making single player
- Devolver Digital is the only indie developer studio in top 10
 - Possible due to the vast amounts of indie titles so it would be difficult for one indie developer to have multiple successful titles
- SEGA, Electronic Arts, and Ubisoft are large corporate game publishers well known for producing triple A titles



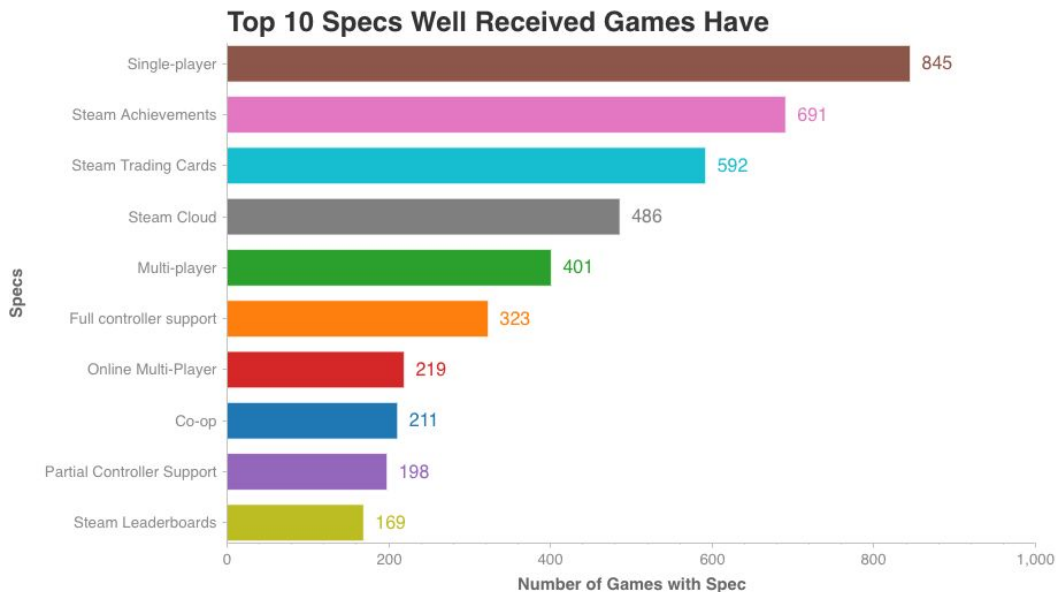
Genres in top publishers with well received games

- The number of genres for games the top ten publishers have published within our top 1000 data set
- EA, Ubisoft and Devolver Digital have top ranked action games. Paradox interactive is good at putting out strategy games.
- Most of the top publishers pay attention to producing indie games.



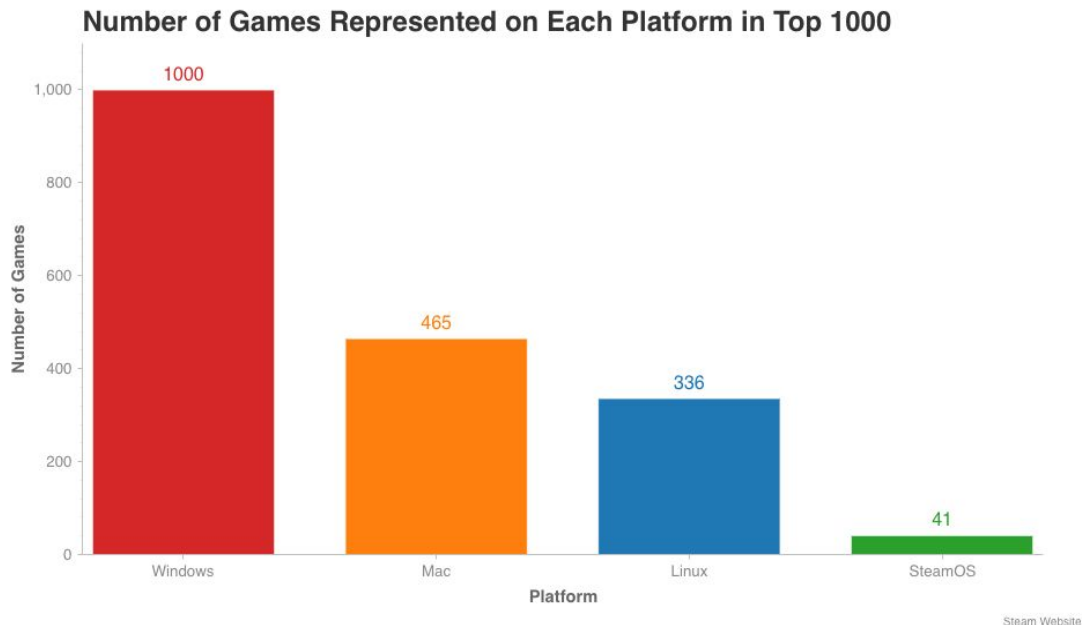
Specs of Well recieved games

- Single player games take the plurality of our top ranked games
- Could be that players on steam are typically more satisfied with a game with a good story and can play on their own
- Steam Achievements come in second. Potentially a good feature to pay attention to as there offer replayability and longevity to games
- Interesting to note that multiplayer/Online multiplayer did not come in higher numbers, a genre that many triple A Publishers push for



Gaming Platforms

- Wanted to see what the general consensus was for what platform gamers prefer to game on
- All games within the top 1000 of our ranked dataset were supported by Windows
- Most likely because gamers prefer to play on PC to compensate for the high graphical demand Mac computers are unable to handle efficiently and the configurability offered by Windows machines



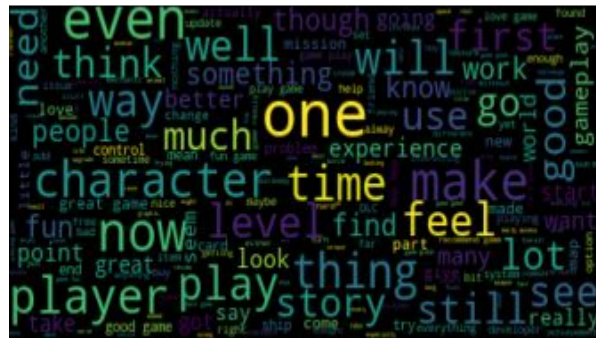
Text Cloud of Well Received Games

Generated a simple text cloud to visualize the difference between words used to describe well recieved games in reviews compared to other games

Comments from Top 10 of ranked data set



Comments Everywhere else



Challenges/Final Thoughts

- In conclusion: Forget multiplayer games. Single player indie games played on the pc is the way to go!
- Lots of time spent parsing raw data into dataframes for our analysis
 - Data Extraction for games on steam took a couple of days while reviews alone took more than a week
 - Data was distributed over several separate file in the Megabytes range
- Had to make decisions on what features could be an indication of a good game to avoid wasting time on unimportant ones

Thank You!