

Predicting Success of Steam Games

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Task

Investigate how well can be post-release success of games predicted from basic information about games (available before release)

No data regarding previews, early reviews, user activity on social networks...

Steam

Largest platform for selling PC games

Since 2004

Over 10,000 games in total



The screenshot shows the Steam website interface for the game Rocket League. At the top, the Steam logo is on the left, and navigation links for STORE, COMMUNITY, ABOUT, and SUPPORT are on the right. Below the navigation is a search bar and a menu with categories like Featured Items, Games, Software, Hardware, Videos, News, and For You. The main content area is for the game Rocket League, with a breadcrumb trail: All Games > Sports Games > Rocket League. A large image shows a Rocket League match in progress. To the right of the image is a description of the game, user reviews (Very Positive, 29,911 reviews), and release date (7 Jul, 2015). Below the description are popular user-defined tags: Racing, Multiplayer, Soccer, Sports, Football, and a plus sign. At the bottom, there are two purchase options: Buy Rocket League for 19,99€ and Buy Rocket League 4-Pack for 54,99€. To the right of the purchase options is a list of game features: Single-player, Multi-player, Cross-Platform Multiplayer, Co-op, Local Co-op, and Steam Achievements.

Install Steam login | language

Featured Items Games Software Hardware Videos News For You search the store

All Games > Sports Games > Rocket League

Rocket League Community Hub

Soccer meets driving once again in the long-awaited, physics-based multiplayer-focused sequel to Supersonic Acrobatic Rocket-Powered Battle-Cars! Choose a variety of high-flying vehicles equipped with huge rocket boosters to score amazing aerial goals and pull-off incredible game-changing saves!

User reviews: **Very Positive** (29,911 reviews)

Release Date: 7 Jul, 2015

Popular user-defined tags for this product:

Racing Multiplayer Soccer Sports Football +

Sign in to add this item to your wishlist, follow it, or mark it as not interested

Buy Rocket League 19,99€ Add to Cart

Buy Rocket League 4-Pack 54,99€ Add to Cart

Single-player
Multi-player
Cross-Platform Multiplayer
Co-op
Local Co-op
Steam Achievements

Steam Charts

Tracks how many players are in game every hour

Monthly statistics

Since July 2012

Not very accurate measure of success (?)

(however, Steam Charts is the best source with sufficient history)

Rocket League



16,083
playing 43 min ago

34,726
24-hour peak

37,300
all-time peak



Compare with others...

Month	Avg. Players	Gain	% Gain	Peak Players
Last 30 Days	16,942.3	+665.9	+4.09%	37,300
November 2015	16,276.4	-432.9	-2.59%	37,175
October 2015	16,709.3	-730.6	-4.19%	32,204
September 2015	17,439.9	-1,704.5	-8.90%	34,391
August 2015	19,144.3	+8,354.7	+77.43%	35,686
July 2015	10,789.6	+10,787.7	+56151.27%	29,027
June 2015	1.9	-	-	25

SteamSpy

Tracks number of owners

Since April, 2015

No access to history

Manually collected data for about 1,400 games

Still not a good measure of success?

steamspy

Rocket League



Store | Hub | SteamDB | Site

Developer: Psyonix, Inc. **Publisher:** Psyonix, Inc.

Genre: Action, Indie, Racing, Sports

Languages: English, French, Italian, German, Spanish, Dutch, Portuguese, Japanese, Korean, Russian, Turkish

Tags: Multiplayer (1476), Racing (1430), Soccer (1229), Sports (1142), Competitive (974), Team-Based (943), Football (847), Online Co-Op (800), Action (694), Co-op (620), Funny (593), Fast-Paced (585), Local Multiplayer (534), Local Co-Op (530), Great Soundtrack (519), Split Screen (502), 4 Player Local (473), Singleplayer (467), Indie (362), Casual (343)

Category: Single-player, Multi-player, Co-op, Shared/Split Screen, Cross-Platform Multiplayer, Steam Achievements, Full controller support, Steam Trading Cards, Steam Cloud, Stats

Release date: Jul 7, 2015

Price: \$19.99

Score rank: 87% **Userscore:** 93% **Old userscore:** 93% **Metascore:** 86%

Owners: 4,327,767 ± 53,251 🔴2016-04-21

Players in the last 2 weeks: 1,239,904 ± 28,629 (28.65%)

Players total: 4,153,044 ± 52,178 (95.96%)

Peak concurrent players yesterday: 56,289

YouTube stats: 3,998,144 views and 28,875 comments for videos uploaded last week, over 50 new videos uploaded yesterday

Playtime in the last 2 weeks: 08:32 (average) 03:23 (median)

Playtime total: 62:51 (average) 18:20 (median)

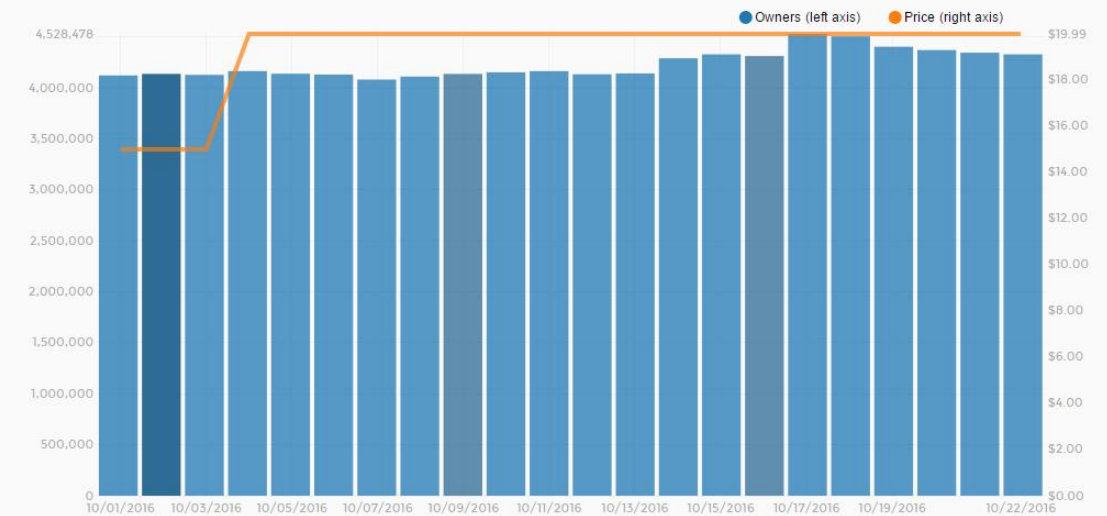
Search

OWNERS CHANGES AUDIENCE (2 WEEKS) AUDIENCE TOTAL CCU (DAILY) CCU (HOURLY) TWITCH (DAILY)

TWITCH (HOURLY) YOUTUBE REVIEWS MORE LIKE THIS RELATED GEOGRAPHY PLAYTIME (TOTAL)

PLAYTIME (2 WEEKS)

Owners data:



Data

About 4,700 games from July, 2012 – July, 2016

Completely omitted Early Access titles and Free-to-play titles

Info such as genres, price, release date, descriptions, languages, features

+ Thumbnail and screenshots of every game

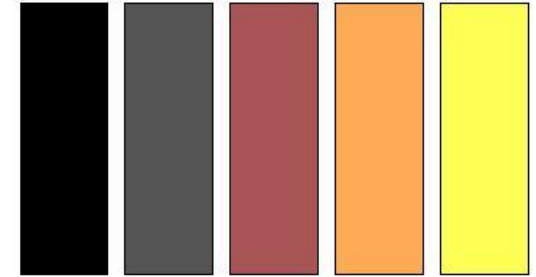
Screenshots

K-means used to extract 5 most dominant colors

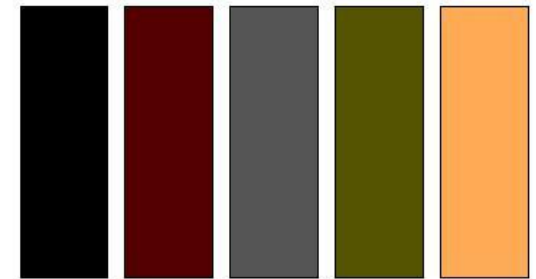
First screenshot and thumbnail



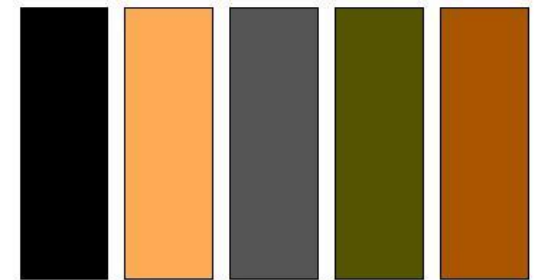
Full image, rPlotter



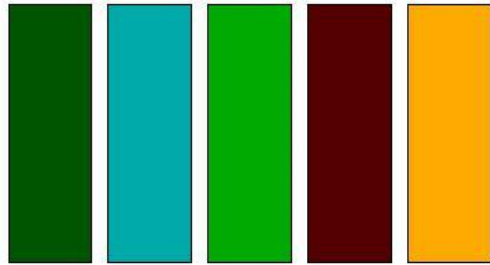
Reduced image, rPlotter



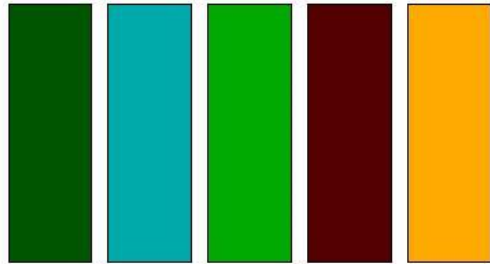
Reduced image, frequent



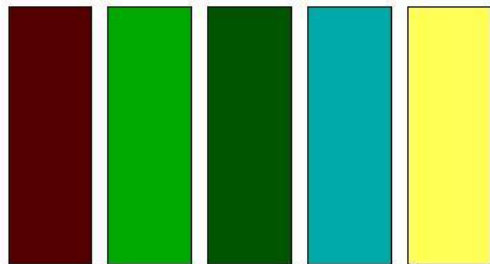
Full image, rPlotter



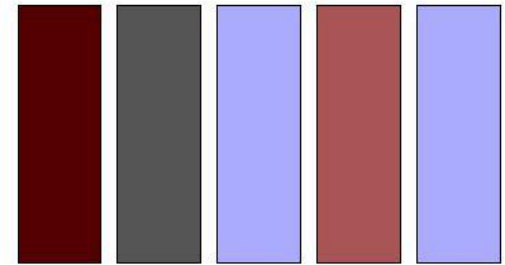
Reduced image, rPlotter



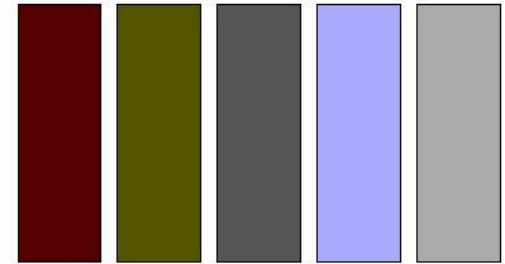
Reduced image, frequent



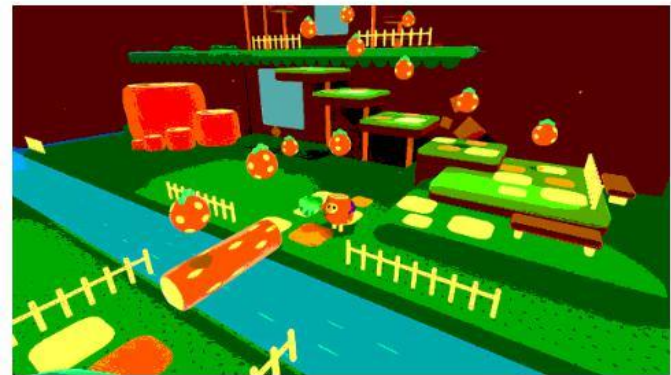
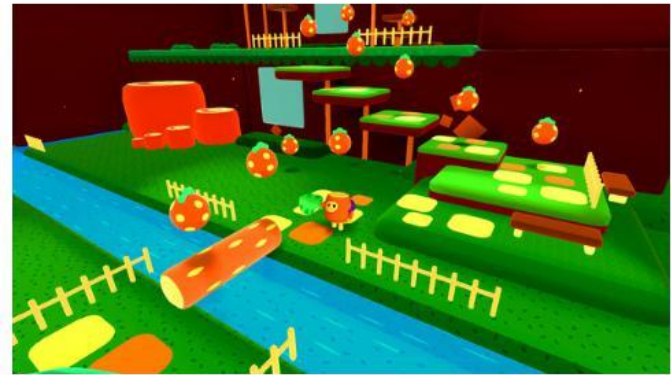
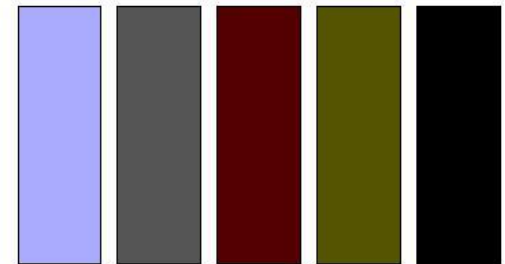
Full image, rPlotter



Reduced image, rPlotter



Reduced image, frequent



Subsetting

Pick only games whose publisher has a history of at least 2 games

Covers 30-40 % games

Notable attributes

Previous games: how many, max and min players of any game, Gini index

Developer, Publisher (limited to max 53, rest is “other”)

text descriptions

Price

HW requirements: disk space, RAM, GPU

Languages

Number of colors on thumbnail and first screenshot + dominant thumbnail color

Results

Training, validation, test set (60 %, 20 %, 20 %)

Classification (10 classes)	Random Forest	Regression (values 0-15)	SVM
		Correlation coefficient	0.80
		MAE	1.24
		RMSE	1.67
Accuracy	46 % / 44 %	within +-1 from actual	53 % / 52 %
within +-1 from actual	87 % / 84 %	within +-2 from actual	82 % / 77 %

Classification

	Reference									
Prediction	1	2	3	4	5	6	7	8	9	10
1	79	32	8	4	0	0	0	0	0	0
2	42	43	21	5	3	0	0	1	0	0
3	0	2	1	0	1	0	0	0	0	0
4	1	0	4	3	5	0	1	1	0	0
5	1	0	3	1	2	0	0	0	2	0
6	1	1	0	1	3	2	2	0	0	0
7	0	0	0	1	1	2	0	0	1	1
8	0	0	0	0	0	0	0	1	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0

