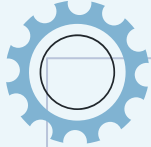


Steam Database:

What variable affects user rating?

By: Menelik Israel, Cameron Poe, Isuru G., Jacob You, and
Nestor Nshyimiye



Research Question

➤ Research Question

- What factors affect the Steam user ratings?
- Steam games from 2012-2022

➤ What

- Data from Steam page
- Online user ratings of different factors

➤ Why

- For game developers to enhance their products,
- Provides insights into player preferences
- Overall interest



Our Data

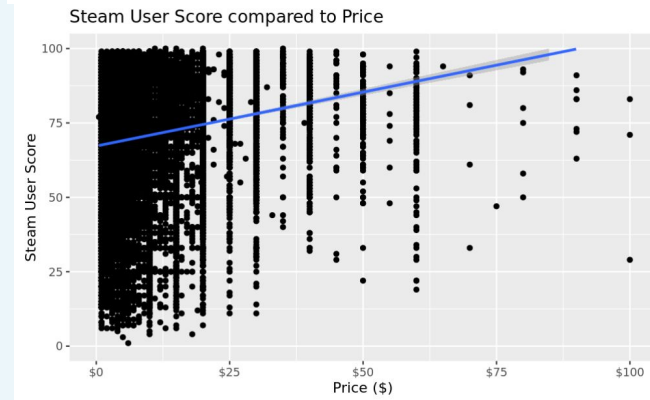
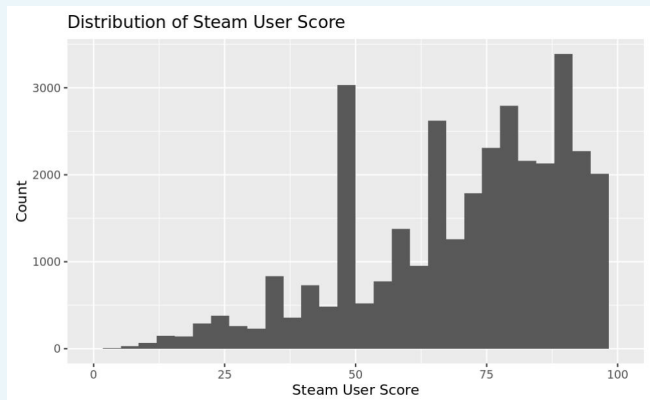
- ❖ Source:
 - Steam API
 - Various rating websites
 - 2012 to 2022
- ❖ Variables
 - Steam User Score
 - Name
 - Price
 - Platforms
 - Categories
 - Genres
 - GFQ factors





Highlights From EDA

- 53,981 Games in the Dataset
- Left-skewed
- Mean Steam-user score of 70.5, Median of 75



EDA continued

- Score increases with price and decreases with difficulty
- Certain genres affect the score
 - Indie, Early Access had noticeable effects

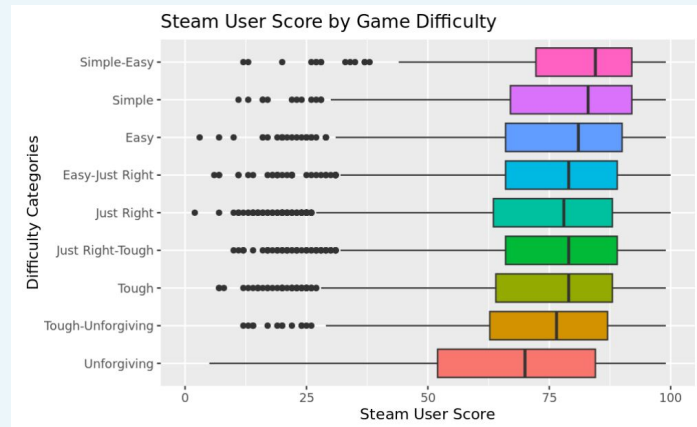


Figure 5: Steam User Score Based On Early Access

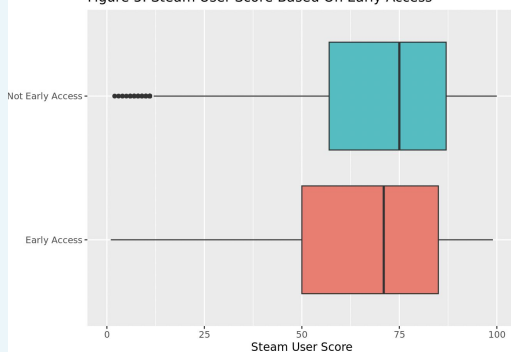
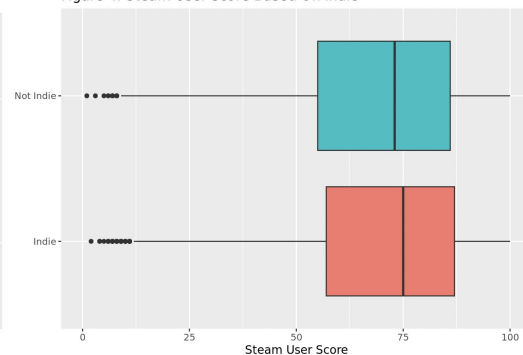


Figure 4: Steam User Score Based On Indie



Inference & Modeling/Other Analysis

- ❖ Used stepAIC to find best model
 - Considering Price & Genre
 - Linear
- ❖ Results of best model:
 - Runtime Issues
- ❖ R-Squared: 0.0384

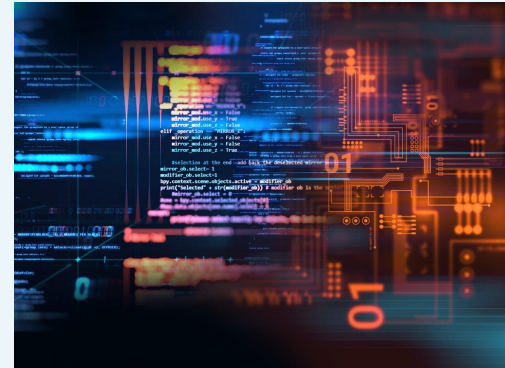
term <chr>	estimate <dbl>	std.error <dbl>	statistic <dbl>	p.value <dbl>
1 (Intercept)	69.5	0.328	212.	0
2 as.double(full_price)	0.00230	0.000106	21.7	4.67e-104
3 Simulation	-4.58	0.306	-15.0	1.64e- 50
4 Violent	-10.9	0.841	-12.9	4.74e- 38
5 Indie	2.57	0.272	9.45	3.58e- 21
6 `Massively Multiplayer`	-6.08	0.966	-6.30	3.09e- 10
7 `Early Access`	-2.22	0.381	-5.81	6.23e- 9
8 Action	-1.52	0.243	-6.27	3.60e- 10
9 Sports	-2.21	0.563	-3.93	8.57e- 5
10 Casual	-1.04	0.247	-4.19	2.82e- 5
11 Strategy	-1.38	0.300	-4.61	3.96e- 6
12 Racing	-2.20	0.619	-3.56	3.78e- 4
13 RPG	0.903	0.319	2.83	4.63e- 3
14 Adventure	-0.495	0.245	-2.02	4.30e- 2

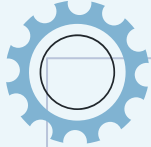




Conclusion and Future Work

- Multiple variables affected steam score; Unique effects
 - Genres
 - Price
 - Reported difficulty
- Low variability accounted from our variables
- Future Work:
 - Broaden scope
 - What are users *really* looking for
 - Improve research conditions





References:

Qaffas, A. A. (2020). An Operational Study of Video Games' Genres. *International Journal of Interactive Mobile Technologies (iJIM)*, 14(15), pp. 175–194.

<https://doi.org/10.3991/ijim.v14i15.16691>

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<https://towardsdatascience.com/analyzing-video-games-data-in-r-1afad7122aab>

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