STEAMED UP
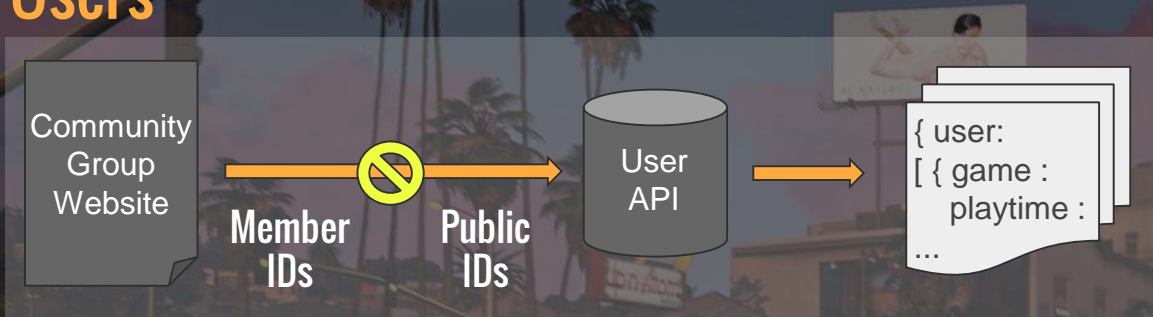
Brynne | Meg | Paul
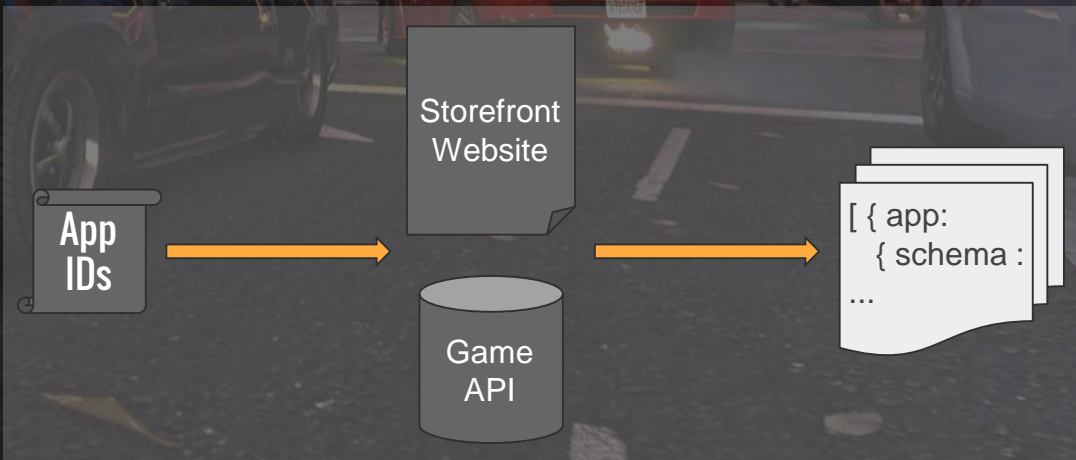
Steam is an entertainment platform from Valve offering a storefront as well as a flexible client to game on.

Users

Community Group Website

Member IDs → 🚫 → Public IDs → User API →

{ user:
[{ game :
   playtime :
...

Games

App IDs →

Storefront Website

Game API →

[{ app:
  { schema :
...

DATA COLLECTION

KModes

Clustering Game Profiles

Action Racing Adventure 1126

166 — F2P Indie Racing

Action F2P RPG 1080

Strategy RPG Casual 1039

176 — Indie Adventure Racing

Simulation Strategy Sports 1036

148 — Design & Illustration Audio Production Web Publishing

Number of Trees	Depth	Mean Square Error
70	4	1.837
100	4	1.560
120	4	1.757
100	6	1.580

Random Forest

Regression
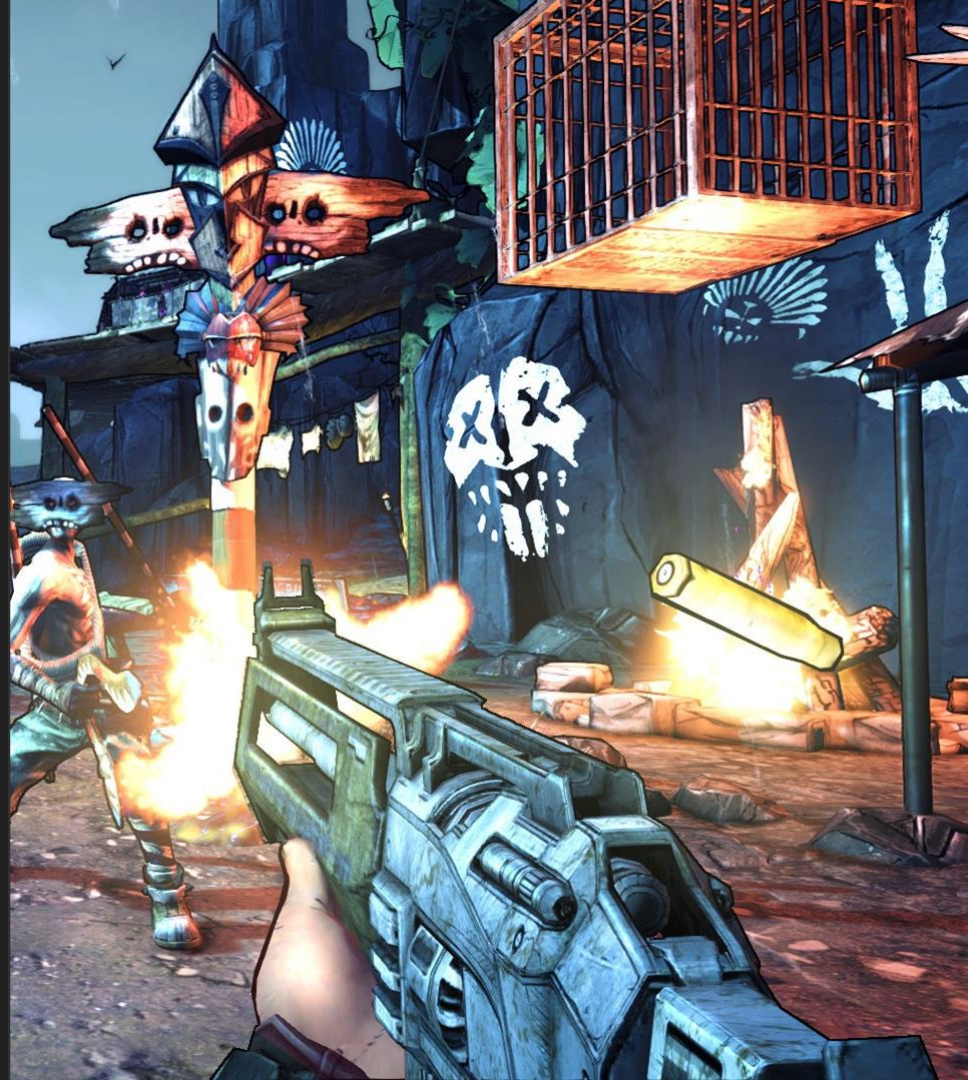
TEST USER

Single test "super user"
➢ Held each game out of training set
one at a time and ranked predictions

BEST MODELS

❏ Linear Regression with log(playtime + 1)
❏ Logistic Regression

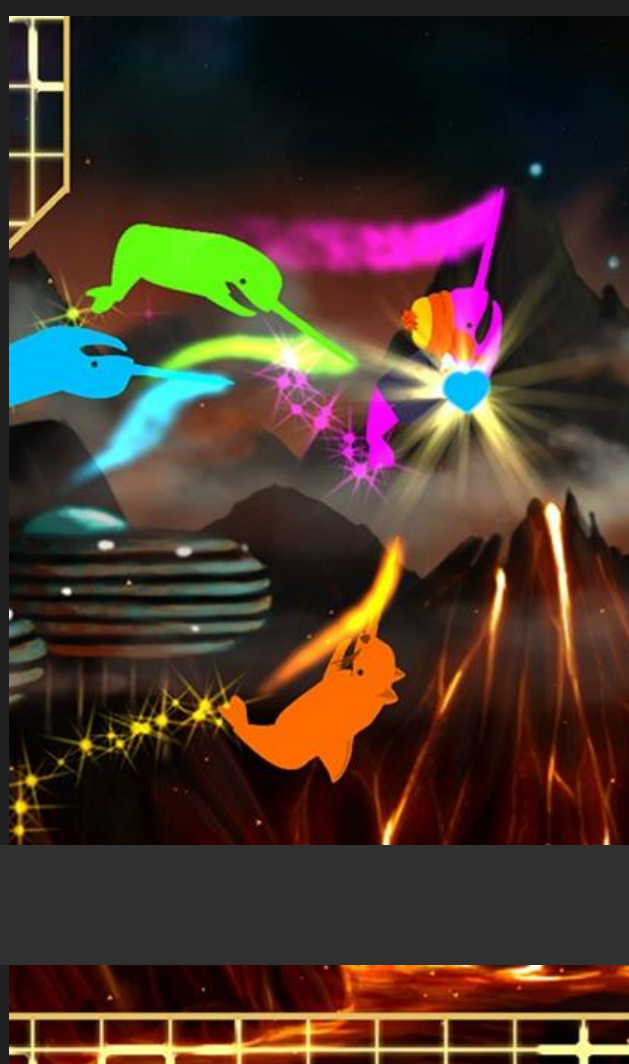Majority of time spent on feature engineering.

Collaborative Filtering

Method	Mean Absolute Error	Root Mean Square Error
Untreated Ratio	.97	2.36
Log Ratio	.18*	.24
Ratio to Discrete Rating	.92	1.12
Log Ratio to Discrete Rating	.93	1.14

CONSIDERATIONS

- Huge variety playtime across users
  - "Super Users" skew playtime distribution

RATING

$$\frac{user\ playtime_{game}}{average\ playtime_{game}} \mid playtime > 0$$

Example

Payday 2
Warframe
Team Fortress 2
Left 4 Dead 2
Total War: ATTILA
Total War: Shogun 2
Global Agenda
Tera
Payday: The Heist
Killing Floor
Fallout: New Vegas
Company of Heroes: Opposing Fronts
Total War: Rome II - Emperor Edition
Dynasty Warriors 8
Grand Theft Auto V
Fallout 4
Firefall
Left 4 Dead
Tom Clancy's Rainbow Six Siege
Dead Island

Our Test User

Top Developers

1. Feral Interactive
2. Valve
3. Croteam

Top Tags

1. Action
2. Single-player
3. Multiplayer

Top Genres

1. Action
2. Indie
3. Strategy

Random Forest

Log-transformed Playtime

1. Road Redemption
2. Hands on Deck
3. Spartans Vs. Zombies Defense
4. Astro Lords
5. CaesarIA
6. Galcon 2
7. Battle for Blood
8. Simply Chess
9. Demise of Nations: Rome
10. Not the Robots

Collaborative Filtering

Binned Ratio of Ratings

1. VERLIES II
2. Pilot Crusader
3. Masterspace
4. DvDrum, Ultimate Drum Simulator!
5. Herding Dog
6. Mystic Towers
7. RaySupreme 3D
8. Dandelion - Wishes brought to you
9. Cheesecake Cool Conrad
10. Rise: Battle Lines

Linear Regression

Log-transformed Playtime

1. Fallout 3
2. Red Faction: Armageddon
3. Dead Island Riptide
4. The Witcher Adventure Game
5. Metro: Last Light Redux
6. Super Sanctum TD
7. The Witcher: Enhanced Edition
8. Command and Conquer 4: Tiberian Twilight
9. MEDIEVAL: Total War\u2122 - Gold Edition
10. Summoner

THANK YOU.