Board Game Recommender

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FEATURES OF THIS TOPIC

1. How it was Built

From gathering the data to how it chooses games.

2. Fun Facts

What do the top 1,000 board games look like?

3. The App

Hello, I want to play a game.

4. Going Forward

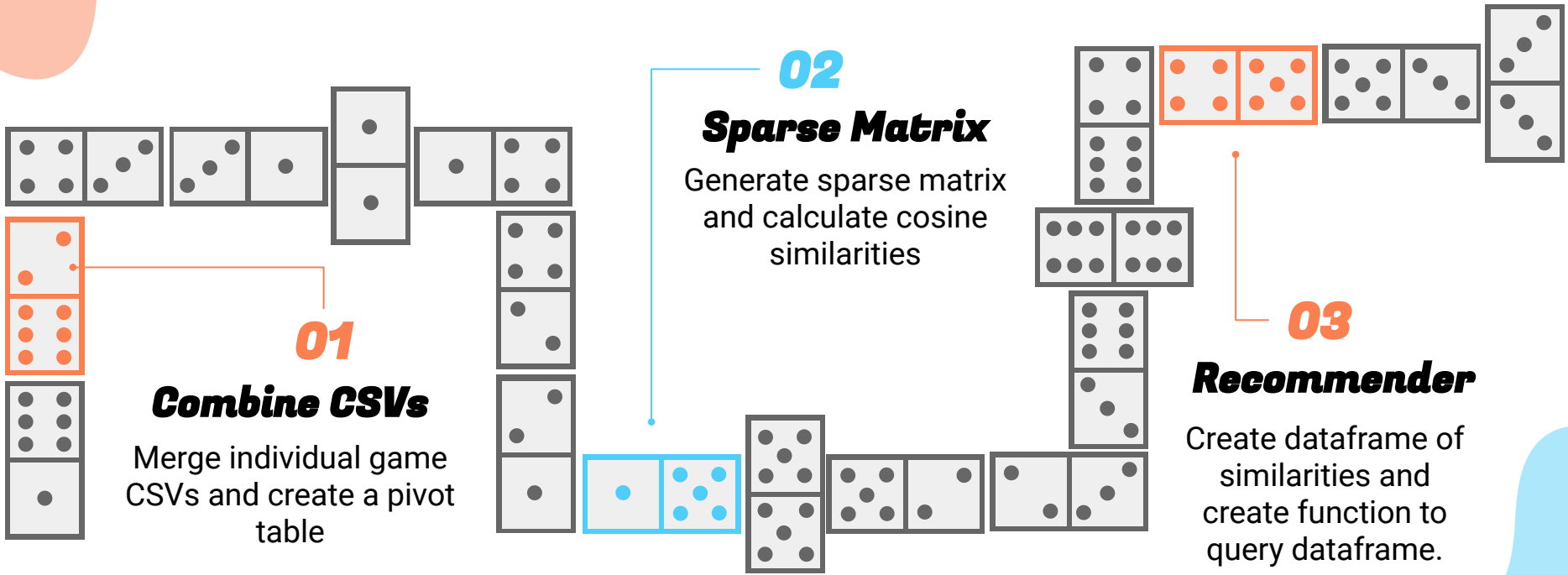
To infinity, and beyond!

How it was Built

Gathering the data from BoardGameGeek:

- Scraped for top 1,000 board games
- User Reviews - GeekDo API (2 weeks)
  - 11,170,197 total reviews
- Scraped for Categorical Data (3 hours)

User-based Recommender



01

Combine CSVs

Merge individual game CSVs and create a pivot table

02

Sparse Matrix

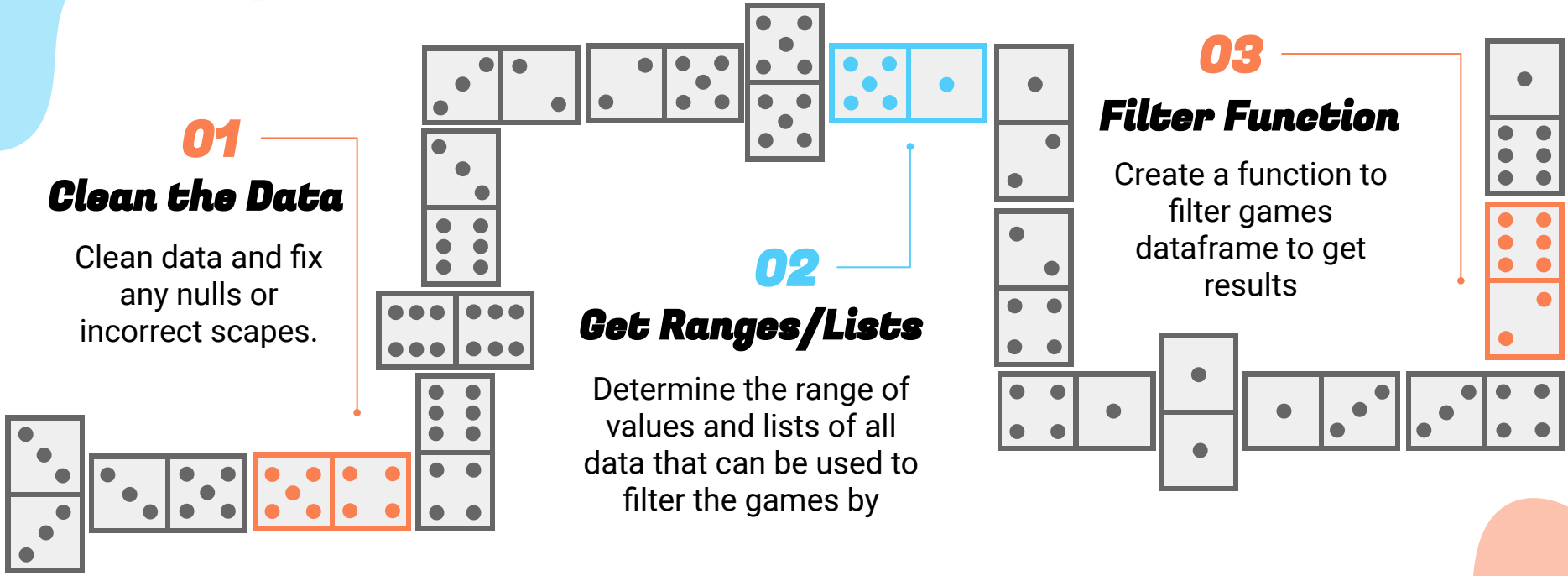
Generate sparse matrix and calculate cosine similarities

03

Recommender

Create dataframe of similarities and create function to query dataframe.

Categorical Filter



01

Clean the Data

Clean data and fix any nulls or incorrect scapes.

02

Get Ranges/Lists

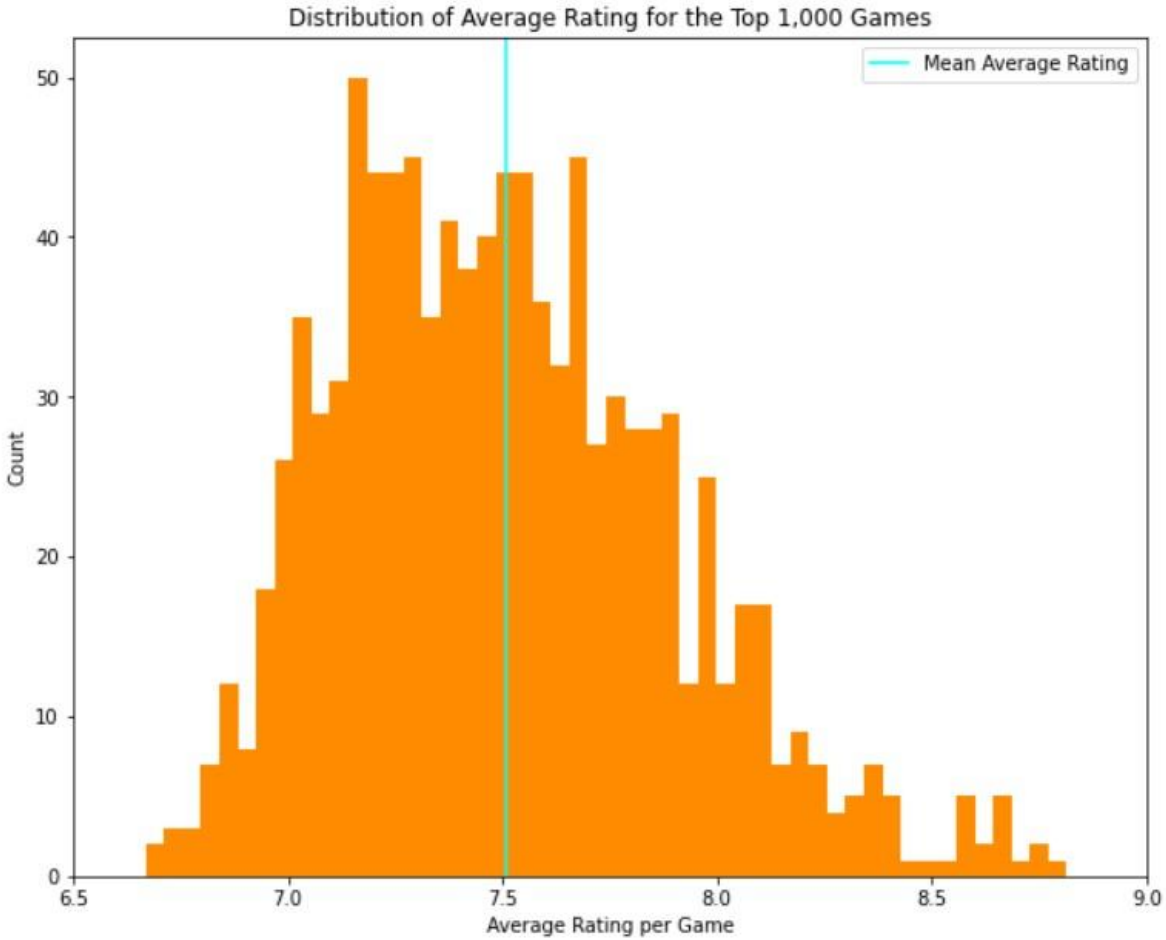
Determine the range of values and lists of all data that can be used to filter the games by

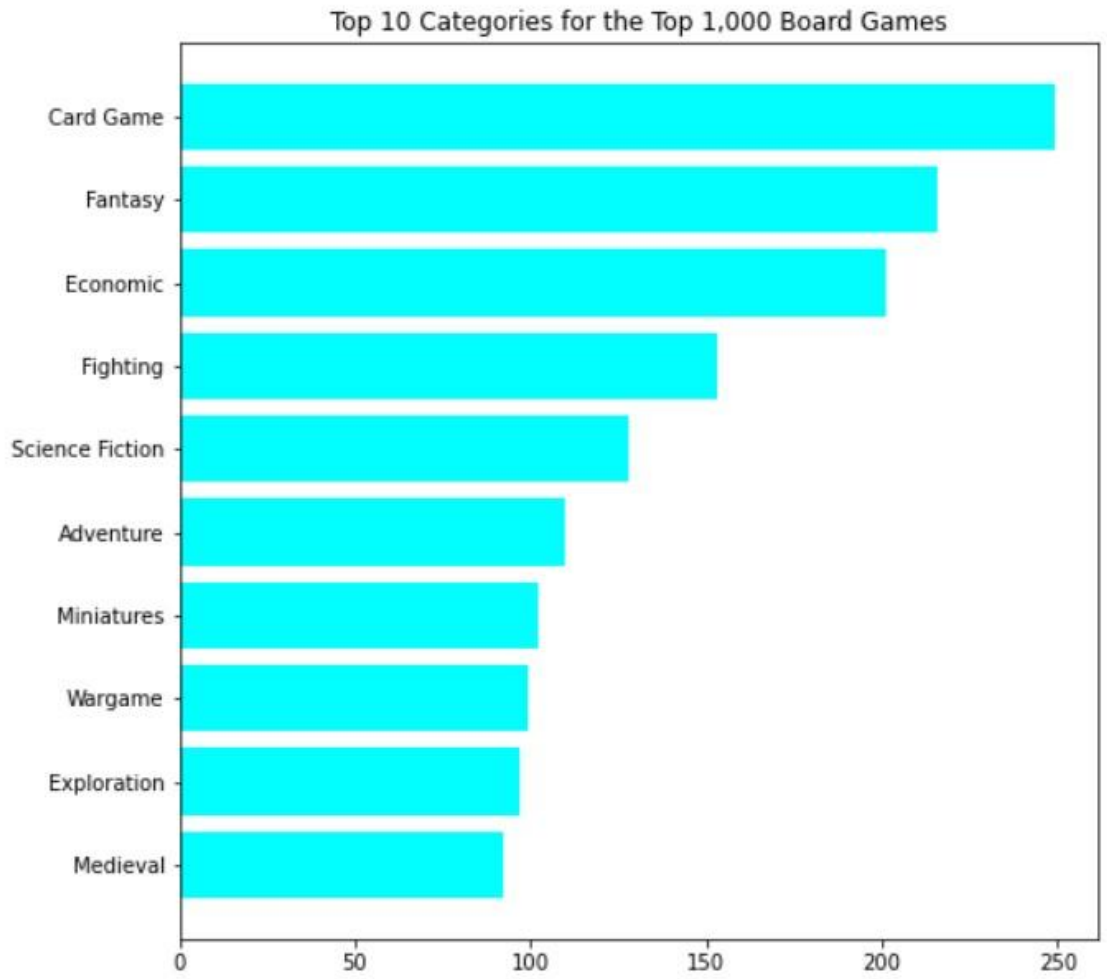
03

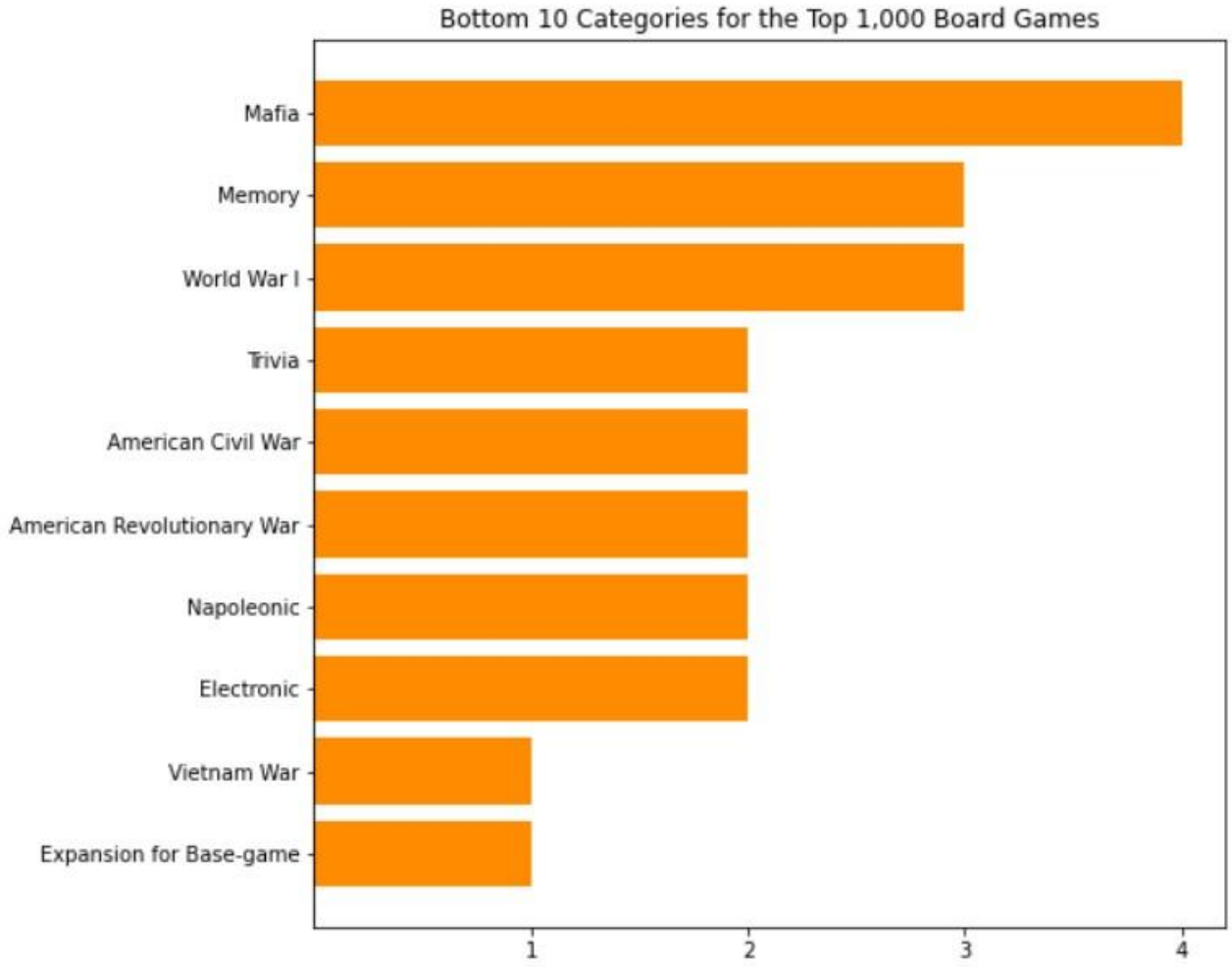
Filter Function

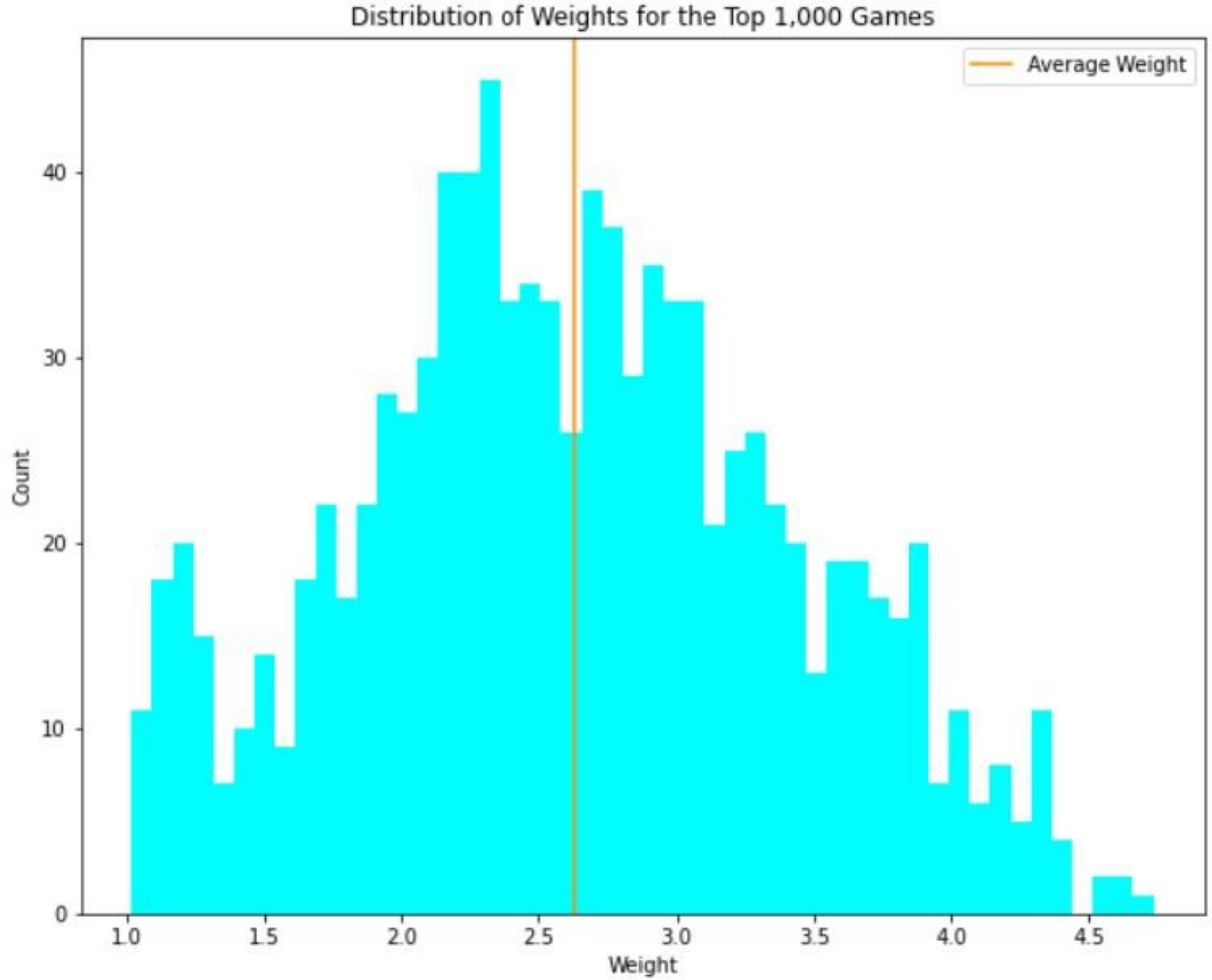
Create a function to filter games dataframe to get results

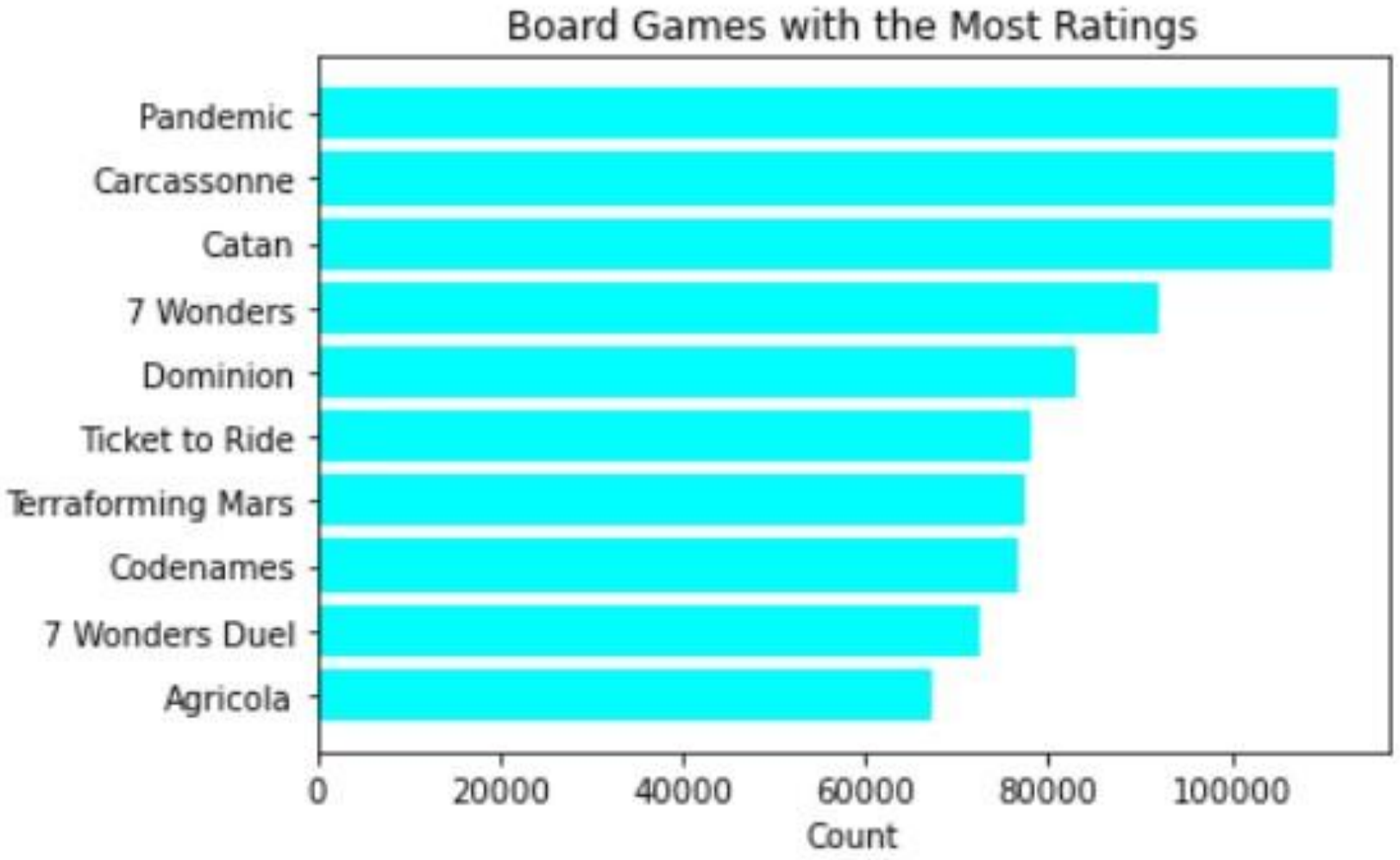
Fun Facts

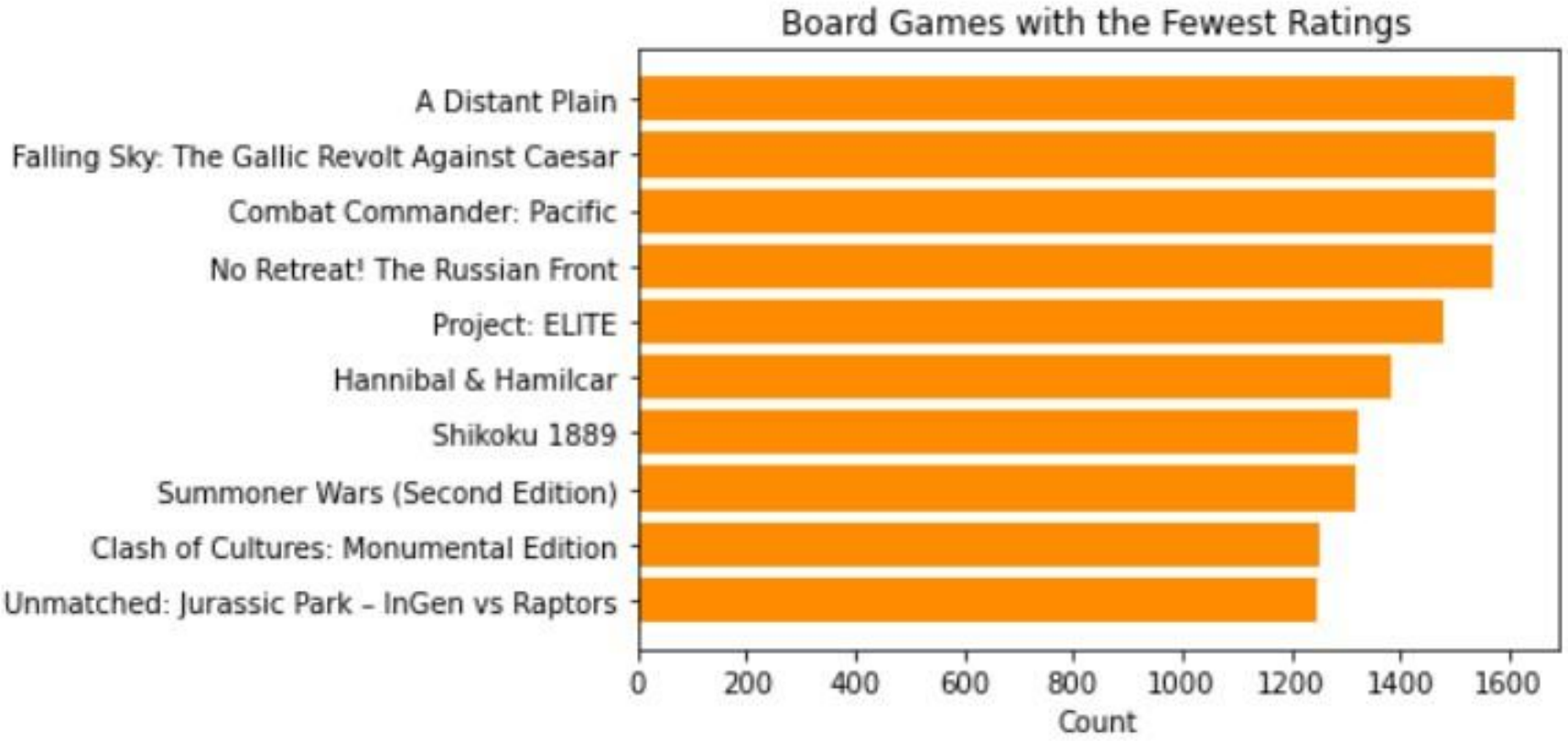

Distribution of Average Rating for the Top 1,000 Games
Mean Average Rating
Count
0
10
20
30
40
50
6.5
7.0
7.5
8.0
8.5
9.0
Average Rating per Game

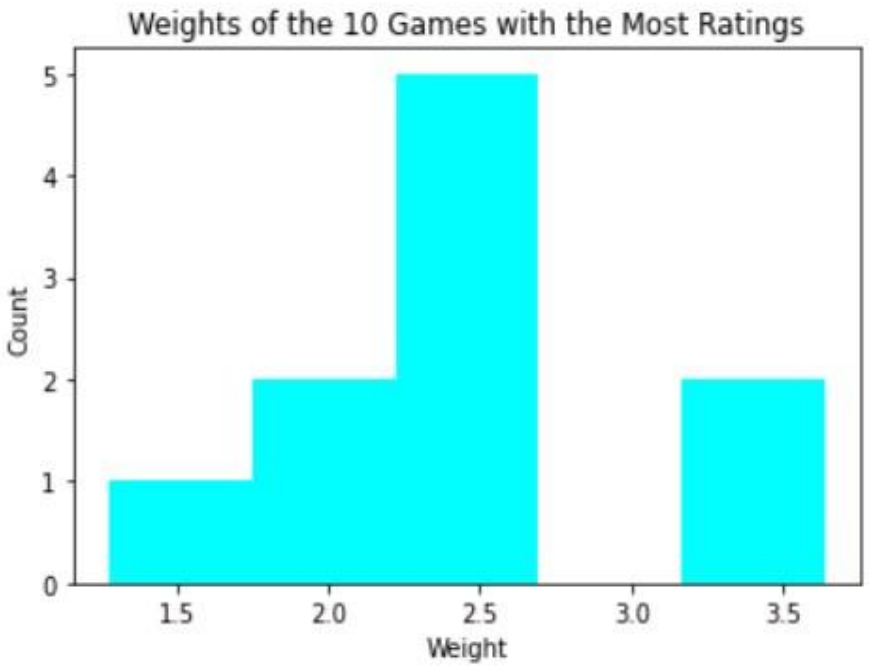

Top 10 Categories for the Top 1,000 Board Games
Card Game
Fantasy
Economic
Fighting
Science Fiction
Adventure
Miniatures
Wargame
Exploration
Medieval
0
50
100
150
200
250

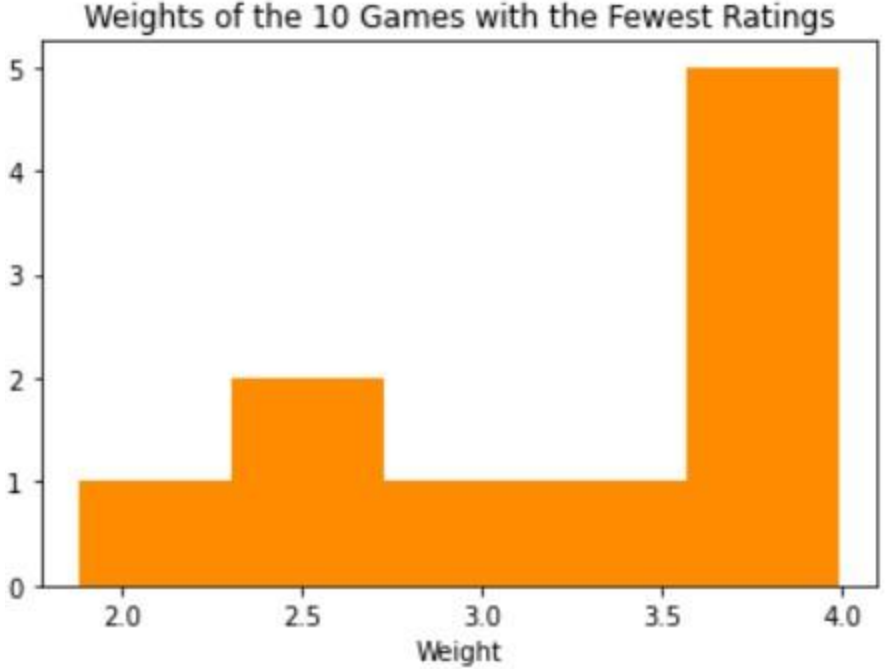

Bottom 10 Categories for the Top 1,000 Board Games
Mafia
Memory
World War I
Trivia
American Civil War
American Revolutionary War
Napoleonic
Electronic
Vietnam War
Expansion for Base-game
1
2
3
4


Distribution of Weights for the Top 1,000 Games
Average Weight
Count
0
10
20
30
40
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Weight


Board Games with the Most Ratings
Pandemic
Carcassonne
Catan
7 Wonders
Dominion
Ticket to Ride
Terraforming Mars
Codenames
7 Wonders Duel
Agricola
0
20000
40000
60000
80000
100000
Count


Board Games with the Fewest Ratings
A Distant Plain
Falling Sky: The Gallic Revolt Against Caesar
Combat Commander: Pacific
No Retreat! The Russian Front
Project: ELITE
Hannibal & Hamilcar
Shikoku 1889
Summoner Wars (Second Edition)
Clash of Cultures: Monumental Edition
Unmatched: Jurassic Park – InGen vs Raptors
0
200
400
600
800
1000
1200
1400
1600
Count

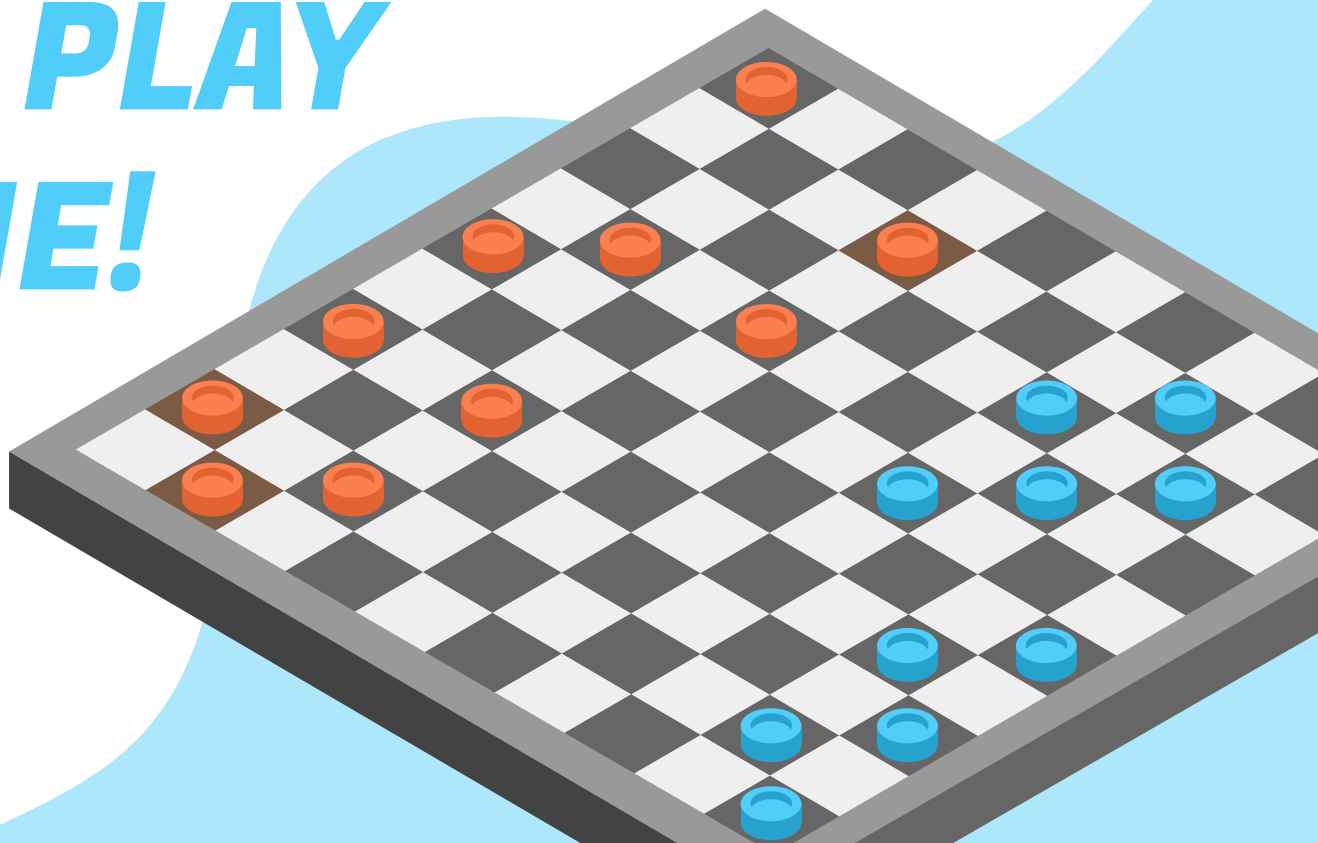




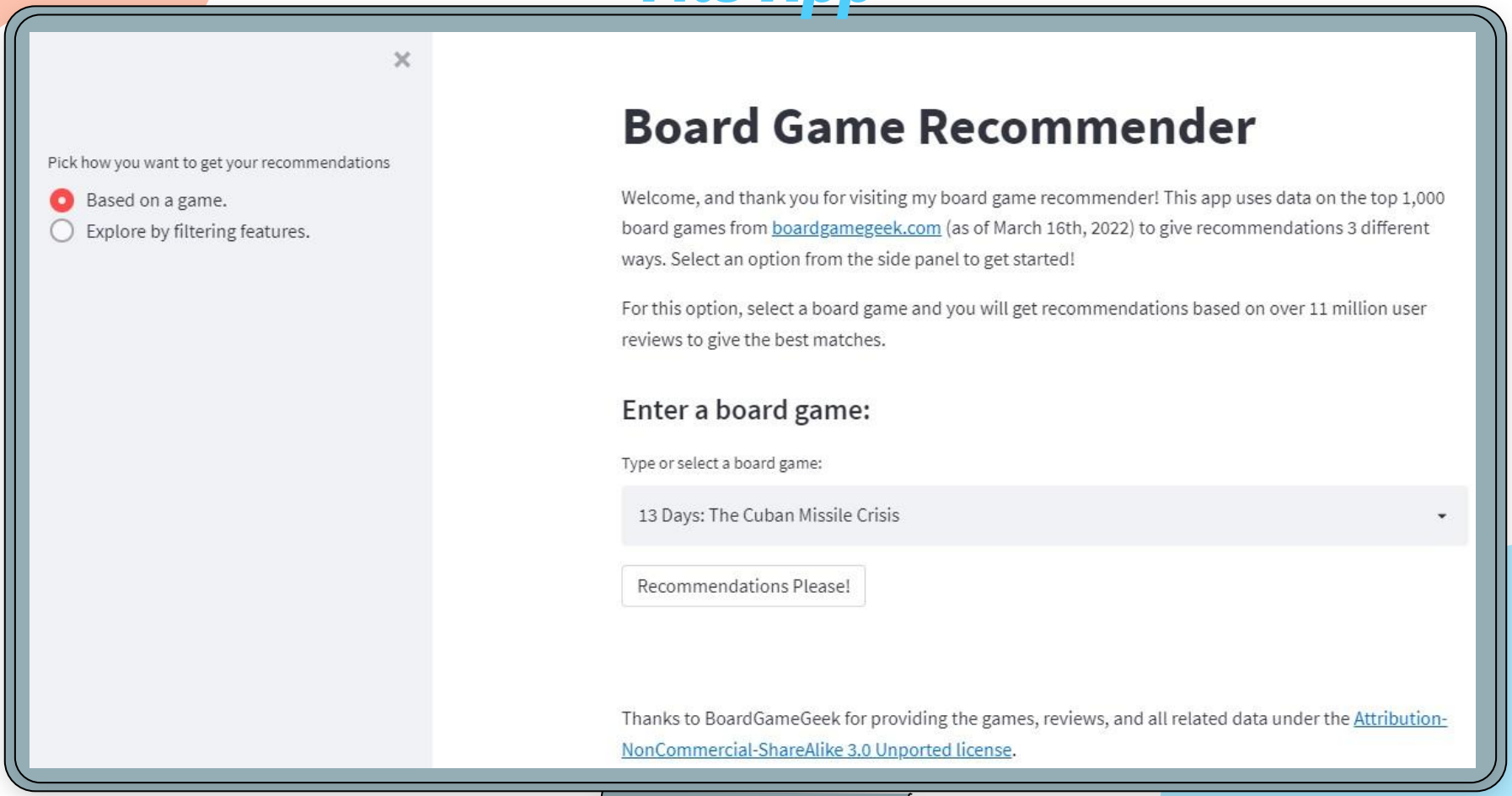
- **Average Rating**
  - **7.69**

- **Average Rating**
  - **8.13**

LET'S PLAY A GAME!



The App



https://share.streamlit.io/tprich/board_game_recommender/main/streamlit_app/recommender_app.py

Going Forward

- Add in Mechanics to the filter
- Add section to both filter and search by game
- More games!
- Fine tune the app to be more efficient.

THANKS!

Thanks to BoardGameGeek for providing the games, reviews, and all related data under the Attribution-NonCommercial-ShareAlike 3.0 Unported license.

Do you have any questions?
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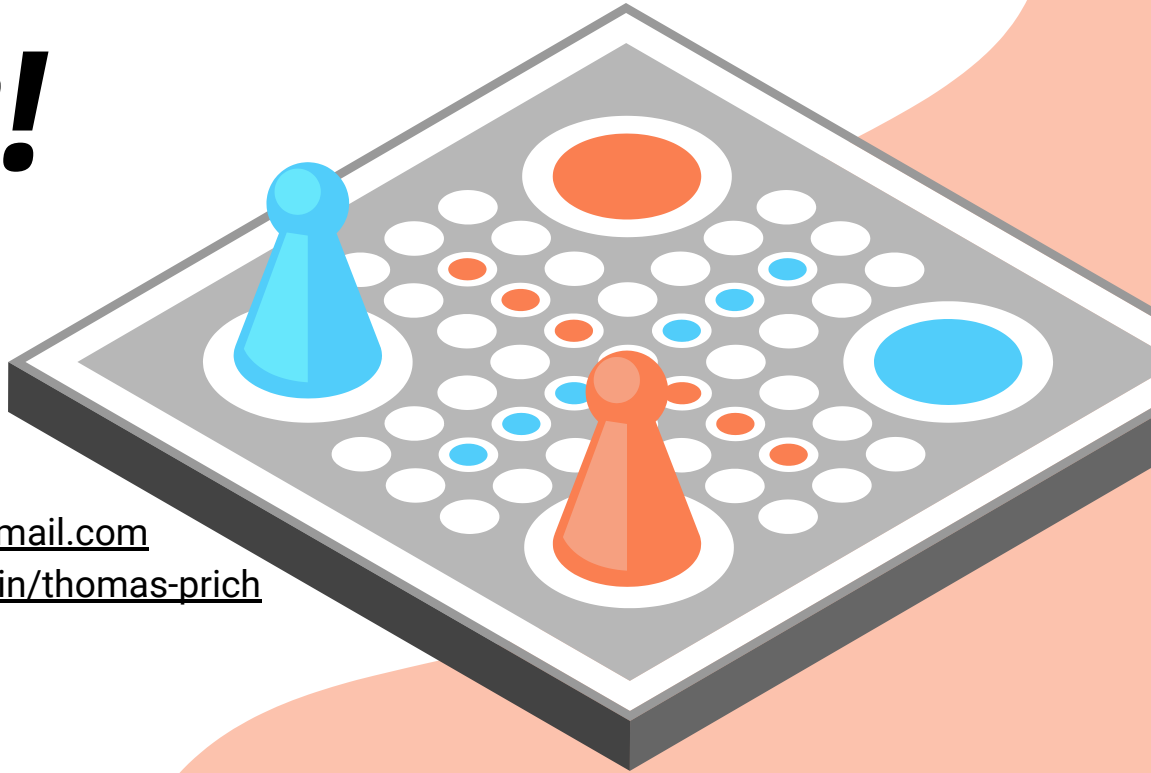
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