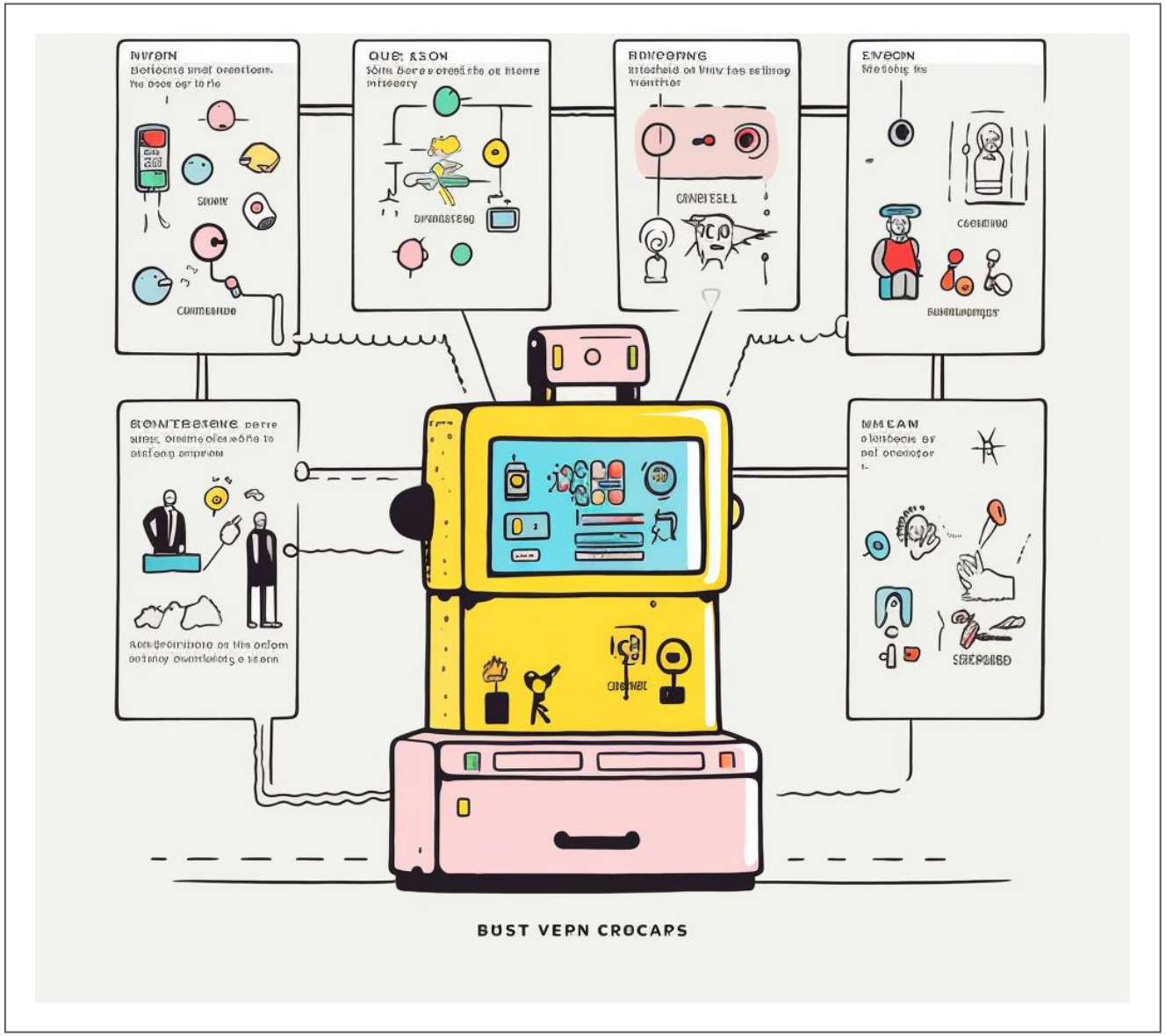
Building a Better Game Review Analyzer

A Flatiron Phase 4 Project by
Jordan Loewen-Colón



Today’s Agenda

Business Problem

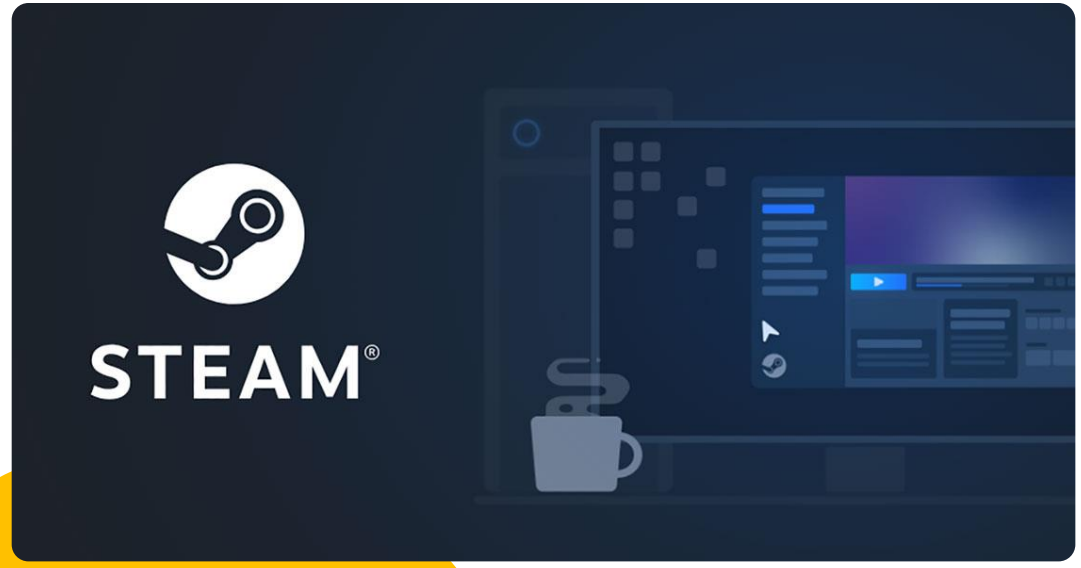
Goals

Data

Methods

Results

SUPERGIANT GAMES



The Problem

SuperGiant Games wants more useful insights from player reviews on Steam. Steam's review system offers a binary recommendation, masking nuanced player feedback. Our project will analyze reviews, focusing on aspects like sound, action, story, visuals. Through sentiment analysis, we aim to identify what elements captivate players. This understanding will guide SuperGiant Games to create more successful, player-centric games.

Primary Goals

Develop

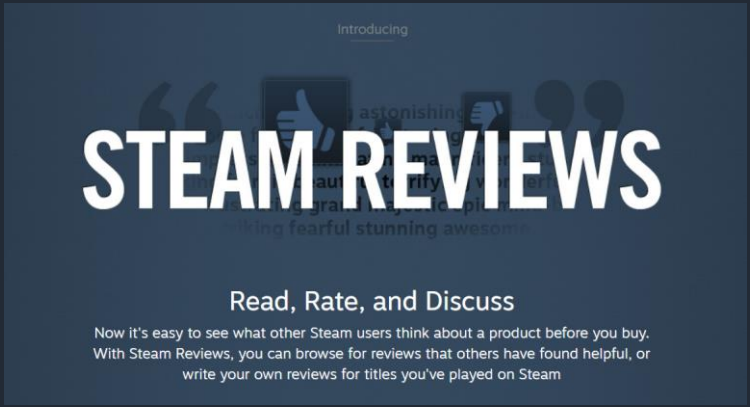
a sentiment analysis model that extends beyond binary evaluations to understand deeper nuances within player reviews.

Aim

To shift from a mere yes/no system to a model that measures specific themes or topics of player interests.

Focus

on key game aspects, such as sound, action, story, and visuals, to understand what elements engage players and define their gaming experience.



The Data

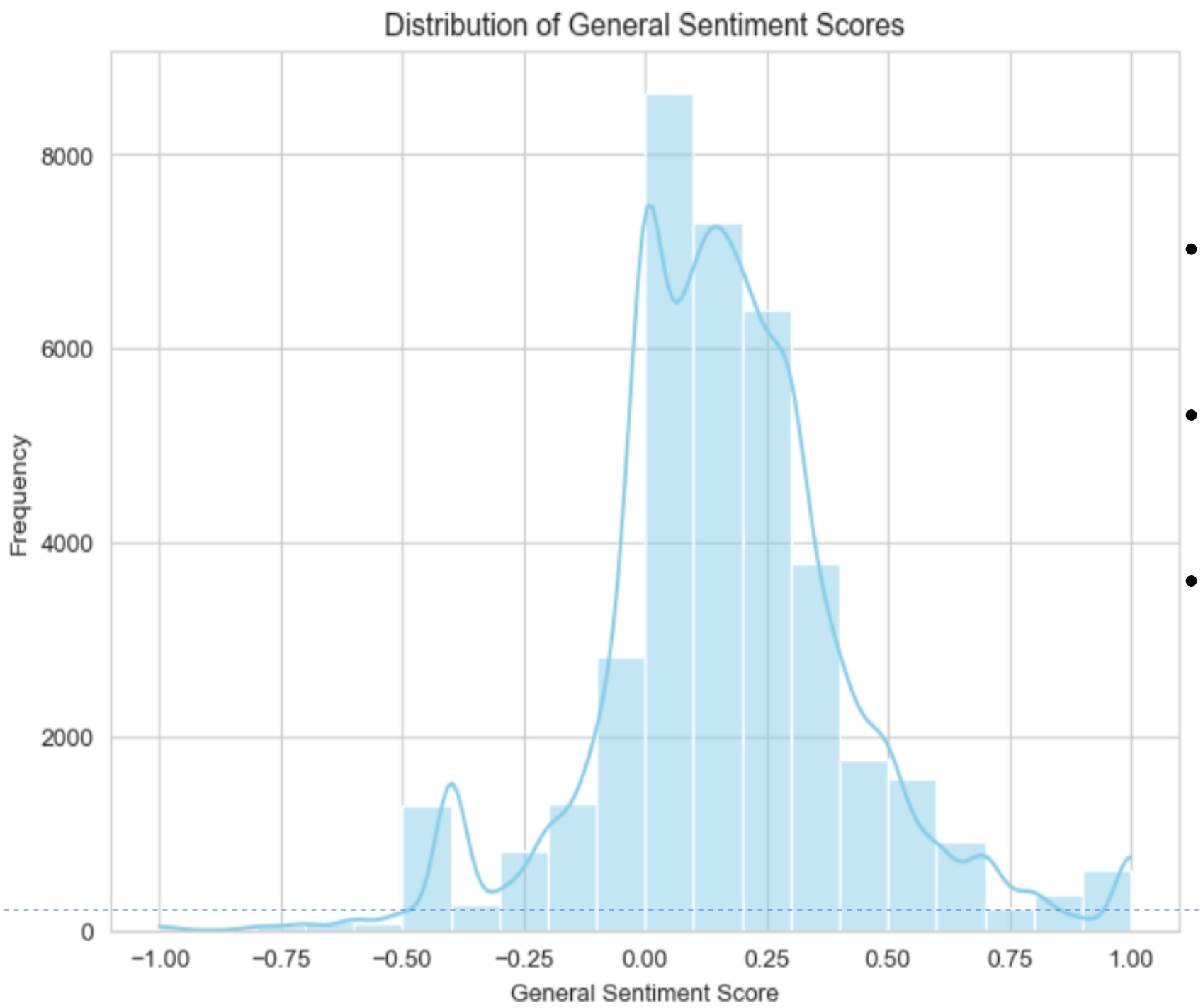
- The dataset has 70k+ entries
- The reviews follow a simple binary rating system “voted up” or not.
- Other data points include:
  - Playtime
  - Purchase data
  - Whether the review is rated as “funny” by other players

Strategy

- Check the data for patterns
  - Can we build a model that predicts the length of playtime based on the contents of a review?
  - Can our model accurately recognize the sentiments of a review (positive or negative?
  - Can we build a model that can find underlying topic patters in words?

Broken Models!

- Unfortunately, all three models performed poorly, even with parameter tuning. Probably due to:
  - Time constraints
  - Limited data
  - Lack of underlying pattern in target variables

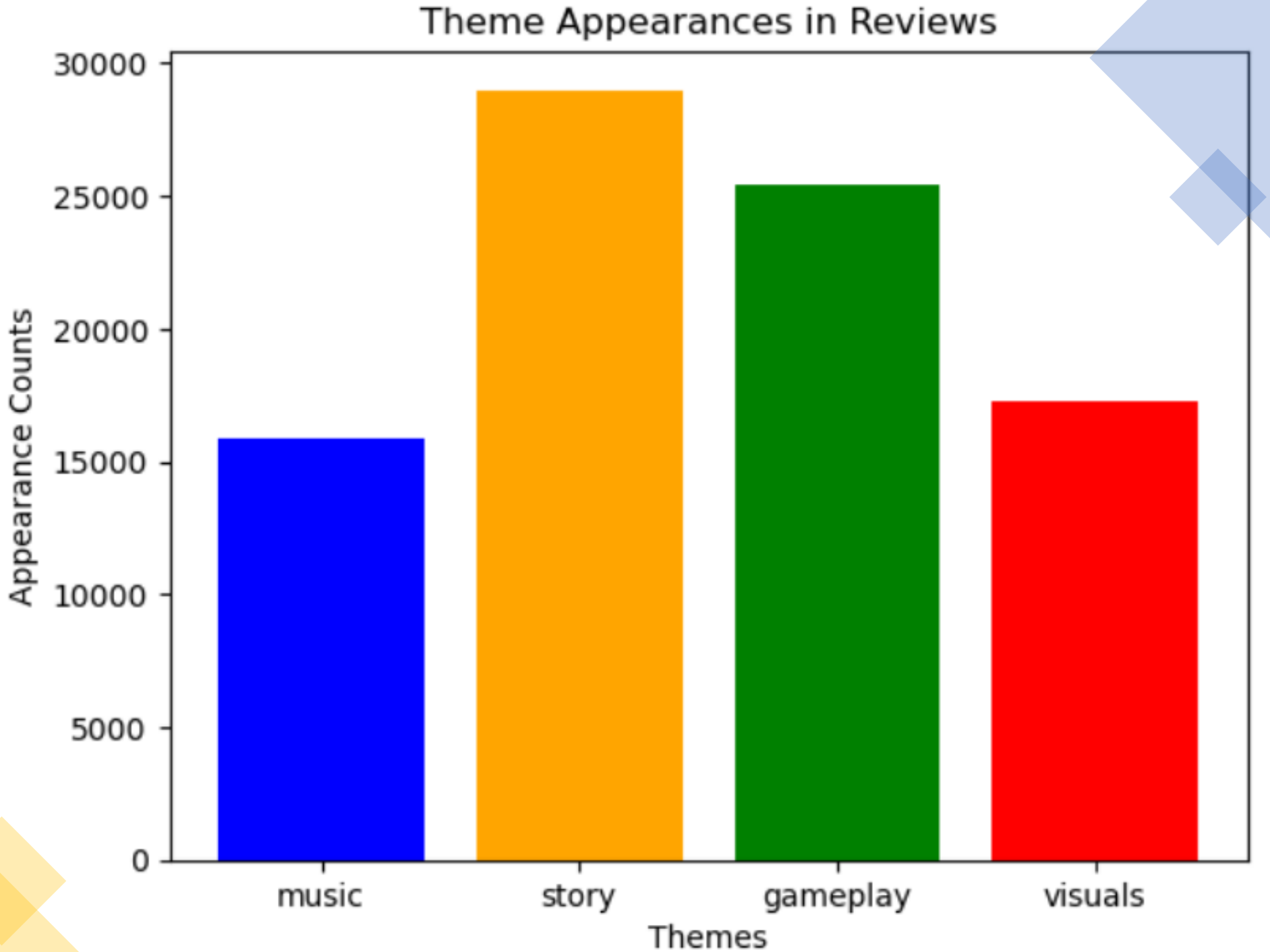


- Each review was given a “sentiment’ score between -1 and 1
- Higher scores means they used language that indicated more positivity
- The average sentiment score falls between 0 and .25, which is favorable!

Counts of how many times players referenced a key word from a list of themes and synonyms.

Players were most likely to reference the story when writing reviews.

Generally, story references were rated more positively.



TOP 5 BIGRAMS BY THEME

Music	Story	Gameplay	Visuals
Sound, track - 10	Side, quest - 9	Attack, pattern -13	Late, party - 9
Instead, audio - 12	Question, asked - 13	Power, ups - 8	Add, cart - 7
Audio, eargasm - 12	Family, drama - 11	El, combate - 9	Vibrant, color - 12
Musical, score - 12	Extended, family - 14	Power, creep - 10	Color, palette -12
Mass, effect - 10	Answer, question -14	Micro, transaction - 16	Farewell, earthly -15

Review Sentiment Analyzer

Review Length: 95

Review: go one best game time . 10/10 everything : story , gameplay , difficulty , art , voice acting .

Theme Words and Polarity

Music: voice acting, 0.548

Story: story, 0.525

Gameplay: gameplay, 0.500

Visuals: art, 0.594

Conclusions

reviews expressed positive sentiment within the range of 0 to 0.25.

In reviewers emphasized story.

Reviewers may have limited vocabulary when describing their appreciation for the 'music' and 'visuals.'

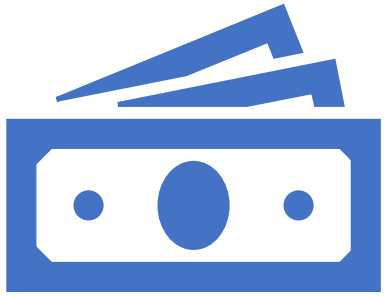
Recommendations

Focus on the strong storytelling elements.

Help players express positive impressions of 'music' and 'visuals' by providing in-game prompts or specific key words or phrases.

Concerns & Interest

Computational efficiency limited pattern recognition



Findings indicate there is value in further study!

Thank You

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