Using Game Recommenders to Support Emerging YouTube Artists

A Data-driven Analysis

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With over **67,000** games on Steam, it's hard to stand out, especially in popular games with established content creators. By analyzing trending games on Steam with positive feedback, game recommender systems can predict the next popular game for new YouTubers.

Abstract

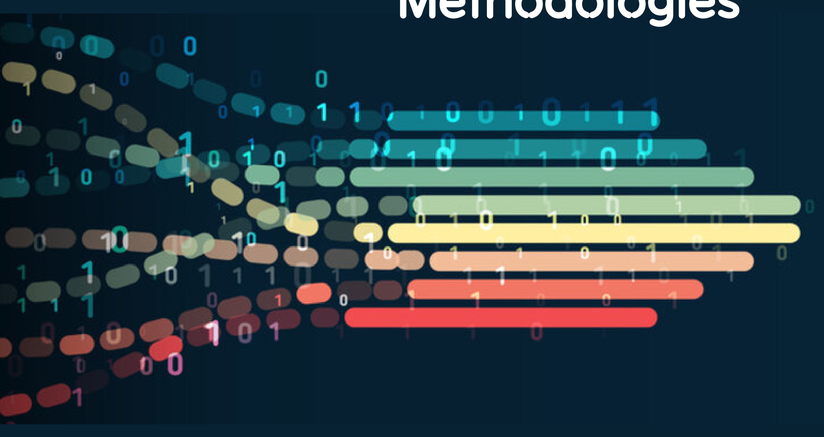
The primary objective of this research is to assist emerging YouTubers who operate within the gaming niche and have fewer than 1000 followers. These content creators face a considerable challenge in identifying the next popular game that can attract viewers due to the vast array of games available in the market. As a result, they require a systematic and data-driven approach to identify the games that can potentially drive views and subscribers to their channels.

To address this challenge, the study proposes an approach that leverages trending games on Steam, which are characterized by positive feedback from players. Steam is a popular online platform for PC games, and it offers various features that can help identify the trending games, such as user reviews, ratings, and sales data.

The approach involves using game recommender systems to predict the next popular games based on the analysis of the positive feedback received by the trending games on Steam. In this case, the recommender system will use data from the trending games to identify the features and characteristics that make them popular among gamers.

By leveraging game recommender systems, the proposed approach simplifies the process of game selection for emerging YouTubers. They can focus on playing and creating content around games that are likely to attract a larger audience, thereby increasing their views and subscribers.

Methodologies



1. Content-based filtering

We focus on analyzing the attributes or characteristics of items (in this case, Steam games) and recommending similar items based on those attributes. In the context of a Steam game recommender system for YouTubers, content-based filtering involves analyzing the game's metadata (such as the game's genre, description, user ratings, etc.) and recommending games that share similar characteristics.

For example, if a YouTuber has played and enjoyed games like "Stardew Valley" and "Animal Crossing," the content-based filtering recommender system could suggest other games that are also in the "life simulation" or "farming" genres. This methodology can be useful when YouTubers have a specific type of game they enjoy, and want to find similar games to play and make content around.

2. Inverse Dense Frequency

Inverse Dense Frequency (IDF) is a technique used in natural language processing and information retrieval to help weight the importance of words in a text. In the context of a Steam game recommender system for YouTubers, IDF could be used to help identify important keywords or features of games that the YouTuber enjoys.

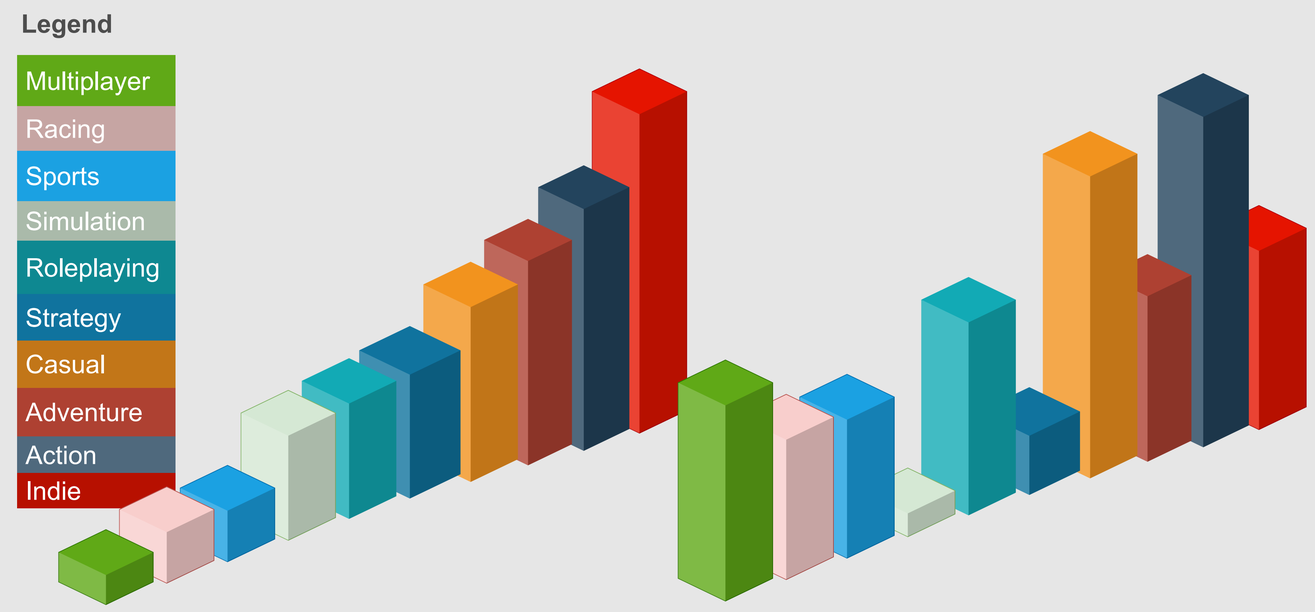
For example, if a YouTuber has made content around games with strong narrative elements in the past, an IDF-based recommender system could give more weight to games that have descriptive language or strong narrative elements in their metadata. Similarly, if a YouTuber has a particular preference for games with a specific type of gameplay mechanic, an IDF-based recommender system could identify and prioritize games that mention that mechanic in their metadata.

3. Linear Kernel

A linear kernel is a type of algorithm used in machine learning and data analysis to help identify linear relationships between different variables. In the context of a Steam game recommender system for YouTubers, a linear kernel-based methodology could involve analyzing data about the YouTuber's gameplay history and preferences, as well as data about the games themselves, and identifying linear relationships between those variables.

For example, a linear kernel-based recommender system could identify that YouTubers who enjoy games with strong multiplayer components are more likely to enjoy games with large open worlds or sandbox-style gameplay mechanics. The system could then recommend other games that share those characteristics.

Overall, each of these methodologies has its own strengths and weaknesses, and which one is best for a given use case will depend on the specific goals and constraints of the project.



Game Distribution by Genre on Steam in 2021

This bar graph displays the distribution of games on Steam in 2021, categorized by genre. The X-axis represents the different genres, while the Y-axis represents the number of games in each genre. The bars are arranged in ascending order of the number of games in each genre.

Genre Popularity Scores on Steam in 2021

This bar graph displays the popularity scores of different game genres on Steam in 2021. The popularity scores are calculated using multiple game recommender systems. The X-axis represents the different genres, while the Y-axis represents the popularity scores of each genre. The bars are arranged in the same order as the graph on the left

Note: The length of the bars in the right graph is not directly comparable to the bars in the left graph as they represent different measures. The right graph shows the popularity scores of genres, while the left graph shows the number of games in each genre.

IN SUMMARY, this study proposes a method to help small gaming YouTubers choose the next popular game. By analyzing positive feedback from trending games on Steam and using recommender systems, the approach simplifies the game selection process. It utilizes various sources of data, including Kaggle datasets, YouTube videos, and academic research.

FUTURE RESEARCH can assess the effectiveness of the approach and explore other data sources for more gaming trend insights.

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