

Personalised Game Recommendation System

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Motivation

Why This Project?

In the ever-expanding world of video games, players often find themselves overwhelmed by the sheer number of titles available across various platforms and genres. This abundance of choice can lead to decision paralysis, where gamers spend more time browsing than actually playing. Our project aims to address this challenge by developing a personalized game recommendation system that simplifies the game selection process and helps users discover titles that align with their preferences and playstyles.

How Did You Think About This?

The concept for this project emerged from observing the difficulties gamers face when navigating through extensive game libraries on platforms like Steam, PlayStation Network, or Xbox Live. We noticed that many players struggle to find new games that match their interests or explore different genres that they might enjoy. This inspired us to leverage machine learning techniques to create a tailored solution that enhances the gaming experience by making it easier for players to discover both popular titles and hidden gems that suit their tastes.

Related Work

MythicMap presents games as nodes on an interactive map, with proximity indicating similarity. It combines content-based and collaborative filtering, offering insights into user-friendly recommendation interfaces that encourage exploration.

A Machine-Learning Item Recommendation System for Video Games This study uses Extremely Randomized Trees for item recommendation in video games. The model predicts player preferences for in-game items based on their behavior and characteristics. Highlights the machine learning techniques such as item recommendations, which could be adapted for game recommendations as well.

Steam's Discovery Queue (2023) combines collaborative filtering, content-based filtering, and popularity metrics to suggest games. Steam's approach highlights the importance of integrating multiple strategies and platform-specific data in game recommendations.

Timeline

- **Week 1-2:** Literature review, dataset collection, and analysis of existing models.

- **Week 3-4:** Data preprocessing: cleaning, normalizing, and feature engineering.
- **Week 5-6:** Model development: collaborative, content-based, and hybrid filtering.
- **Week 7-8:** Model training, parameter tuning, and performance evaluation.
- **Week 9:** User interface development and recommendation engine deployment.
- **Week 10:** Testing, feedback collection, and final adjustments.

Individual Tasks

As this is a group project, we will work closely together, ensuring that each task benefits from our collective input and collaboration.

- **Aditya Sharma:** support data collection, feature engineering, and data preprocessing. He will work on model selection, development, and training, and will also focus on model tuning and performance evaluation. Additionally, he will collaborate on integration and deployment.
- **Kanishk Kumar Meena:** Lead model selection, development, and training, as well as testing and feedback for the game recommendation algorithms. He will work with Aditya on integration and deployment, ensuring the final model is user-ready for gamers.
- **Vansh Aggarwal:** Handle game data collection, feature detection and engineering specific to game attributes, and data preprocessing and cleaning. He will also assist in model selection, development, and training, and focus on model tuning and performance evaluation.

Final Outcome

The project aims to deliver a personalized game recommendation system that provides gamers with an enjoyable and seamless game selection experience. Our goal is to deploy this system in a way that makes it accessible to both casual and hard-core gamers, helping them explore a wider range of games tailored to their preferences. By offering personalized recommendations, we hope to enhance the game discovery process, making it easier for users to find and enjoy games that match their interests, skill levels, and gaming habits.