Master Degree Project

UNIVERSITY OF SKÖVDE

RECOMMENDING STEAM GAMES TO USERS

Matching games based on a user's personal time spent on games

Master Degree Project in Informatics with a Specialization in Data Science
One year level, 15 ECTS
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Supervisor:
Examiner:

Introduction

Steam today has a discovery queue that recommends game titles to users. This queue is made up of new releases, popular titles and games recommended to a user based on a lot of factors. Some users can spend a lot of hours every week to play certain games while other users maybe only have time to spend a couple hours, or even less, per week. One area that the current recommender system might fail at is finding the most relevant game based on how much time needs to be spent on it. Not a lot of research has been done on this type of recommender system. Users with a limited time for playing games might appreciate being able to actually complete games in a reasonable amount of time, instead of spreading one game session over weeks if not months. The same can be done for those with much more time available. With the amount of indie games available there ought to be some game/hidden gem that satisfy the genre and range of time necessary to suit the unique experience per each user.

Method

A recommender system using item-based collaborative filtering with extra attention to the user's personal time profile is to be implemented. Steam has a huge number of users and games that both increase ("Number of games", 2018), though the users increase more than the games ("Number of Steam users", 2019), which is the reason an item-based collaborative filtering is used.

A dataset consisting of steam users, their games played and play times, and some metric showing time spent per week is needed to create this recommender system. Some ways to get that kind of data is to use Steam's Web API ("Steam web api") and SteamSpy's service ("Games sales"). If this data collection is not feasible in the amount of time given for this project, another dataset consisting of just steam users and play time for games could be adapted to be used as proof-of-concept.

Evaluation

One way to evaluate the performance of this recommender system is to calculate Mean Average Precision with the average time a user has spent gaming. Other ways could be to compare the results with some other recommender system that has been developed by external researchers.

Time plan

Week	1	2-5	6-8
Task	Prepare by reading up on relevant articles	Implement artefact using suggested method	Evaluate performance
	Document report		

References

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Steam web api - valve developer community. (n.d.). Retrieved 09 april 2019, from https://developer.valvesoftware.com/wiki/Steam_Web_API