

Selection of Video Games Using Machine Learning

ADITYA SUR

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY CHENNAI, TAMIL NADU, INDIA

BTech. Electronics & Communication Engineering

Email- aditya.sur1998@gmail.com

DOI: 10.29322/IJSRP.9.12.2019.p9612

<http://dx.doi.org/10.29322/IJSRP.9.12.2019.p9612>

Abstract- This paper examines the selection of videogames based on the matched skill set and budget of the gamers. Through analysis of the results using A.I. this paper seeks to provide insight into the interests and genre of the video-games gamers are into these days. This paper also provides an analysis on the correct game which is the best suitable for the gamer with the correct skill set and budget.

Index Terms- Gaming, genres, gamers, decision tree, A.I, games, skill set.

I INTRODUCTION

A. VIDEO GAME PLAYING

Each gamer is extraordinary and thusly will appreciate distinctive computer games. Picking the correct kind is significant for the general delight in the game. Each gamer has an alternate range of abilities and has various interests. For instance, an individual who is keen on just action games will purchase just action games. Be that as it may, if the gamer is keen on purchasing a game having an alternate sort then with the assistance of a choice tree, the gamer can pick the correct game for him/her which will coordinate his/her ranges of abilities.

B. VIDEO GAMING GENRES

There are several genres of gaming.

Role-playing games or RPG's require you to play a role. These games require a moderate to high level of concentration while playing, are designed for hardcore gamers.

Puzzle games were made way back when they didn't have video games. Puzzle games keep these creations 'alive', in a sense.

These games usually focus on one main puzzle, although there are some out there that focus on many different puzzle types, or many similar puzzles. Some brain training games also include puzzles. Puzzles have also been incorporated into many other genres of games and playing puzzle games can help you become better at other types of games.

Gamers who are interested in sports like football, cricket, etc also like to play sports games like FIFA, NBA, etc. Not only people enjoy playing with their favourite team, but they also learn the rules and regulations of the game. Sports games require a separate set of skill set as well. The gamer requires quick thinking to make the right decision that can affect the sport he/she is playing.

II OBJECTIVE

With the sprouting of the computer games industry over the most recent three decades, gaming organizations fabricate several games each year. Regardless of whether it is an action game, mind blocking puzzles or esports. Gamers play computer games as a side interest, to gain as a calling by gushing and partake in rivalry or to discharge pressure. With the economy rising such a great amount in the advanced business, computerized organizations particularly gaming organizations make an enormous benefit as a large number of game copies are sold around the world. With the expansion so popular, bearing games nowadays are costly. Likewise, with numerous games discharging each year, gamers are in a quandary to choose which game is the best for them. Henceforth, this proposed strategy will assist gamers with choosing the correct game as indicated by their coordinated range of abilities and spending budget.

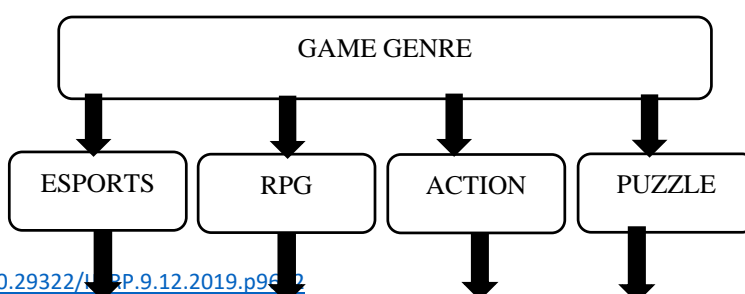
III METHODOLOGY

The attributes of the game like the product necessities, age, rating and the class will as of now be pre - resolved to the framework programming. These necessities will be filled by the gaming organizations themselves. The system utilized for this venture will be a decision tree. The parameters for the decision tree are – genre of the computer game, age of the gamer, required range of abilities of the gamer and the budget of the gamer. Different parameters like past experiences, achievements, interests, etc of games and so on will as of now be transferred to the framework programming by the gamer.

With every one of these parameters the algorithm will ask the gamer on what classification the gamer needs to purchase a game. Regardless of whether it's an activity game, a riddle game or games related with sports. The following inquiry the algorithm will pose to the gamer his/her age. The games will be isolate as indicated by the class and required age. For instance, on the off chance that a gamer is a 10-year-old kid, at that point he won't have the option to pick action games which require an age breaking point of 18 years. The following inquiry the decision tree will pose is the necessary range of abilities of the gamer. For instance, if a gamer has solid scientific outlook and capacity to function as a group then the algorithm will recommend action games as they have both multiplayer mode and requires expository aptitudes. The last parameter of the decision tree is the spending limit of the game.

In the following decision tree, the gamer will already fill in the details into the algorithm like past experiences, achievements and preferred skill set. The first parameter of the decision tree is the genre of the game. The games are classified into 4 parts. In this case, let's assume that the user is a 10 year old kid. If he chooses all the 4 genres, the algorithm will ask him the next parameter which is the age. As it is already mentioned that the user is a 10 year old kid, he has to choose the below 18 parameter. As RPG and action games come under the above 18 section, those game genres will be neglected. The next parameter is the budget. In this case, the user has decided to keep a balance of Rs.2000. Hence the 2 parameters will be of games above 2000 and below 2000. Games coming under the parameter of above 2000 like NBA and Tetris will be neglected. At the end the user has options both from each genre. FIFA from esports category and Candy Crush from puzzles section.

IV DECISION TREE



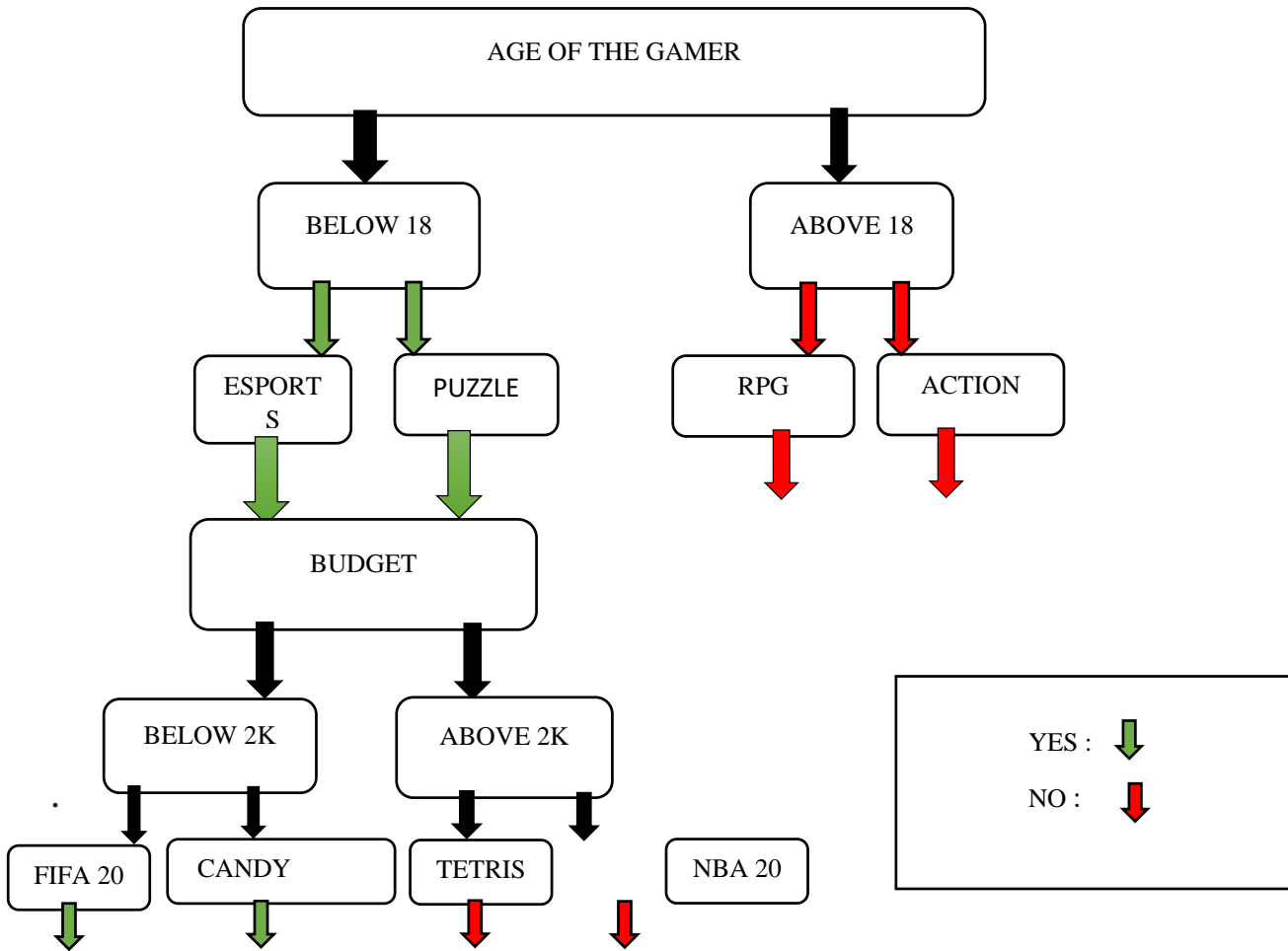


Figure1: Decision Tree for selection of video games.

V CONCLUSION

This paper investigates the system of picking the right game utilizing the utilization of AI. Utilizing the decision tree, the gamer can pick the best appropriate game for him/her. Having the option to partition the computer games into parameters like genre, range of abilities and skill sets, budget and age on how they are picked permits the A.I. researchers to more readily comprehend the capacities of the calculation.

Researchers can likewise study more and exploit these highlights where they can make a product like a software or an application for consumers. In light of this research, the customers can pick the vital game for what's best for them. There is still a requirement for better calculations that can read the requirement for gamers. The data laid out on this paper provides map for building a very robust algorithm portfolio for consumers.

REFERENCES

- [1] <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.543.5729&rep=rep1&type=pdf>
- [2] <https://cseweb.ucsd.edu/~yfreund/papers/atrees.pdf>
- [3] <https://ieeexplore.ieee.org/abstract/document/97458/>
- [4] <https://www.nature.com/articles/nrn3135>
- [5] https://en.wikipedia.org/wiki/List_of_video_game_genres
- [6] <https://www.idtech.com/blog/different-types-of-video-game-genres>
- [7] <https://www.geeksforgeeks.org/decision-tree-introduction-example/>
- [8] <https://machinelearningmastery.com/a-tour-of-machine-learning-algorithms/>
- [9] <https://www.aaai.org/ocs/index.php/AIIDE/AIIDE16/paper/viewPaper/14015>
- [10] <https://ieeexplore.ieee.org/abstract/document/8463434/>

AUTHORS

First Author- Aditya Sur, BTech in Electronics & Communication, SRM Institute Of Science And Technology Chennai, India,
Email- aditya.sur1998@gmail.com.