

# ChatBot & Recommendation System Final Project

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## 1. Introduction

For the final project of Chat Bot and Recommendations System we have chosen to do a chat bot that recommend you new Steam video games based on what Steam video games you already like.

To use this chatbot we thought that the most appropriate platform would be discord. Indeed, the discord platform is widely used by gamers.

The bot has 3 main features:

1 → You can talk with him. On this point it is not very developed indeed it is not the main goal of our bot but you can still say hello, how are you, thank you ... And it will reply to you.

2 → You can ask him information about video games but not only you can ask him information on what you want like Charlemagne or Citroen

3 → You can interact with all the recommendation system, add video games to your favorite list, view your favorite list, clear your favorite list and finally recommend new video games.

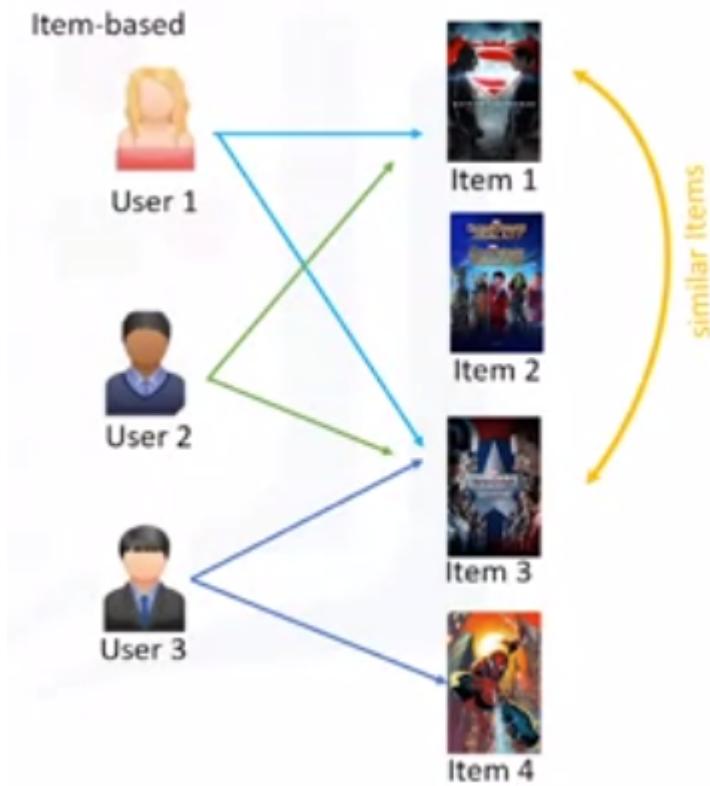
## 2. How it works

For the discussion we have used Regular Expression and a library that includes synonyms for some words. For example for the word "Hello" and its synonyms it will reply "Hello how can I help you".

For the information system the bot uses a Wikipedia API. It will do a request to Wikipedia to find the page which best matches with the request and the response is the first three sentences of the Wikipedia page.

Finally the more complex is the recommendation system. First when you add a video game to your favorite list it will check the closest video games in the Steam database to what you have marked. If the difference with Levenshtein's distance is high it will ask you if that is the game you want to add and you can do !yes to add this game to your favorite list. To recommend you new video games we pickle a matrix that we create before with our model that gives resemblances between games. We multiply the favorite list which is a vector with the matrix and it will return the game you should like.

How we have created the matrix of resemblances ? We use a dataSet that has a list of Steam Client and the time they play on each game. With that we create a mark between 1 and 5 and with that the matrix is created with the system of Collaborative Filtering Item-Based. We thought that is the best model because with that we use the client mark but the recommendation is pertinent even if there is only one video game in your favorite list because it works with the resemblances of game but not the feature of the game, the mark of the user.



### 3. How to use it

First you have to go to a discord server where the bot is. We created a dedicated server to join it use this link → <https://discord.gg/2cnNdsrpvx>

In this server you can talk with the bot in all text channel.

Exemple of scenario :

1. You just want to talk with BotoBot (it is the name of our bot).

Me : Hello

BotoBot : Hello! How can I help you?

Me : How are you ?

BotoBot : I am fine thanks

Me : Thanks

BotoBot : You are welcome

Me : I would like chocolate

BotoBot : I do not know if this is what you would like but I have these commands → list of command

Me : zdezczevzez

BotoBot : I dont quite understand. Could you repeat that, or type "help".

Me : I need help

BotoBot : If it can help you, here are my commands :

!info {video-game} → Give information on the video games you typed

!add {video-game} → Add the video game you typed to your favorite list

!fav → Display your favorite video games list

!clear → Clear your favorite video games list

!recommandation → Recomand you 10 video games that you might like depending your favorite list

2. You need some information about what you want.

Me : !info counter strike

BotoBot : Counter-Strike (CS) is a series of multiplayer first-person shooter video games in which teams of terrorists battle to perpetrate an act of terror (bombing, hostage-taking, assassination) while counter-terrorists try to prevent it (bomb defusal, hostage rescue). The series began on Windows in 1999 with the release of the first game, Counter-Strike. It was initially released as a modification ("mod") for Half-Life that was designed by Minh "Gooseman" Le and Jess "Cliffe" Cliffe before the rights to the mod's intellectual property were acquired by Valve, the developers of Half-Life, who then turned Counter-Strike into a retail product.

Me : !info peugeot

BotoBot : Peugeot (UK: , US: (listen), French: [pøʒo]) is a French automotive manufacturer which is a part of Stellantis. The family business that preceded the current Peugeot companies was founded in 1810, with a steel foundry that soon started making hand tools and kitchen equipment, and then bicycles. On 20 November 1858, Émile Peugeot applied for the lion trademark.

3. You want to interact with the recommendation system

Me : !add counter strike

BotoBot : The game 'Counter-Strike' was added to your favorite list

Me : !recommandation

BotoBot : Thanks to your favorite list, I offer you video games that you might like:

1. Saints Row The Third
2. Mirror's Edge
3. The Binding of Isaac
4. PAYDAY 2
5. Left 4 Dead
6. Dead Island
7. Euro Truck Simulator 2
8. H1Z1
9. Path of Exile
10. PAYDAY The Heist

Me : !clear

BotoBot : your favorites list has been successfully emptied

Me : !add dota 2

BotoBot : The game 'Dota 2' was added to your favorite list

Me : !add the witcher

BotoBot : I am not sure that I have this game in my model, the closest game is : 'The Witcher 2 Assassins of Kings Enhanced Edition', If you want to add it to your list type '!yes' or try another game

Me : !yes

BotoBot : The game 'The Witcher 2 Assassins of Kings Enhanced Edition' was added to your favorite list

Me : !fav

BotoBot : This is your favorite list of video games :

Dota 2, The Witcher 2 Assassins of Kings Enhanced Edition,

Me : !recommandation

BotoBot : Thanks to your favorite list, I offer you video games that you might like:

1. Max Payne 3
2. Middle-earth Shadow of Mordor
3. Sleeping Dogs
4. Call of Duty Modern Warfare 2
5. Deus Ex Human Revolution

6. Fallout 4
7. The Witcher Enhanced Edition
8. Kerbal Space Program
9. L.A. Noire
10. Natural Selection 2