

CHAPTER I

INTRODUCTION

1.1. Background

Technological developments are very helpful in carrying out daily activities and work. This technological development can be seen in the use of various types of Artificial Intelligence (AI), and various software for computerization, robots and others. One technology that is developing very quickly is Artificial Intelligence (AI). The development of this AI technology is happening very quickly and covers almost all human fields such as business, entertainment, education and others. The implementation of this AI has begun to reach all activities on existing digital platforms, one example is the creation of bots in communication applications. The use of bots in these communication applications is widely used to make it easier for application users without reducing efficiency and time in using an application by adding another function in an application in the form of a bot. One communication application that provides the use of bots is Discord. Discord is basically a communication application that allows users to interact directly through text, voice, and video. This application was developed by Discord Inc., a company founded in San Francisco, United States, in 2015, with the main goal of providing more effective communication options for gamers. [1]

This application is often used by gamers to interact with each other because of its many features that are very helpful for gamers when playing video games. Through Discord's features, users can engage in real-time communication and make social connections online. In the online community, this platform has emerged as an important resource for individuals and groups to connect, collaborate, and build relationships.[2] Gamers spend a lot of time on Discord because of its many servers and channels that can be used as a discussion place on many different topics on each server. Not only that, Discord also provides a bot feature to assist Discord users in performing computational processes such as AI images, mini-games and others. This large amount of time spent on Discord is due to the many computational

features that can be used in Discord, such as chatting users to search for information, generating website links and searching for image sources. This information search is often done by gamers to find a specific thing, for example, video games. Because many Discord users are gamers, many users want to find information related to video games. This search is usually conducted by entering a channel and asking for opinions from many users within that channel. However, because there are so many people on the channel, many recommendations will appear, with varying results. This can leave the information seeker confused about which game to play.

Therefore, to make gamers' time efficient in searching for information on Discord, the author wants to create a feature that can help gamers in recommending video games that they can play by using a Discord bot with the Collaborative Filtering and TF-IDF methods to facilitate the computing process. In the research conducted [3], marketplace recommendations use Collaborative Filtering because this method is very simple and effective in sorting store recommendations based on user habits and existing ratings. In its use, the author will add TF-IDF to increase accuracy in the recommendation process.

1.2. Formulation of the problem

Based on the background explained by the author, several problem formulations were obtained as follows:

1. How to pre-process the obtained video games data list?
2. How is Collaborative Filtering and TF-IDF implemented in the bot created?
3. How to evaluate the performance of the method to be used on the bot?

1.3. Scope of problem

From the formulation of problem above, several problem limitations are obtained as follows:

1. Code using the Python language
2. Data text using English such as name, genre and others
3. Recommendations will be based on genre, name and description of video games.

4. The game genres used are first person shooting, city, fantasy, zombie and alien

1.4. Research purposes

The objectives of this research are:

1. Create a bot with features that can help gamers determine the games they want to save time.
2. Conducting analysis of bot recommendation performance results with Collaborative Filtering and TF/IDF

1.5. Benefits of research

The benefits obtained from this research are:

1. Increase the efficiency of time used by gamers in searching for information on the Discord application.
2. Knowing the implementation and performance results of bots with Collaborative Filtering and TF/IDF
3. This research can be a reference for further research.