Business Understanding

1) Overview

This project aims to develop a personalized movie recommendation system by leveraging a dataset containing movie information, user ratings, and interactions. The system will utilize content-based and collaborative filtering techniques to suggest movies to users based on their preferences and past interactions.

Modules for movie and user profiling will be developed to analyze movie attributes and user preferences, respectively. Evaluation and optimization will be conducted to enhance the accuracy

Furthermore, leveraging movie metadata, user ratings, and collaborative filtering algorithms, the system provides personalized movie recommendations to enhance the user's movie-watching experience.

1.1)Introduction

- TMDB is a popular database that provides comprehensive information about movies,that contains the following titles, release dates, genres,cast and crew information. Credit information is given as well about the cast and crew information whereby the cast and crew are invoved in each movie. With the combination of the datasets, we gain valuable insights and perform variious analyses related to the movie industry

Problem Statement

- The movie industry is vast and fast evolving , with countless movies and movie sequels released each year hence can be a challenge for the users to navigate through the vast amount of content and get to know which movies align with their preferences.

- To ease this, or rather improve the users' experience, we come up withh a recommendation system that provides personalized movie recommendations based on user preferences and similarities with other users, and also aim to improve user satisfaction, increase user engagement, which ultimately drive user's retention on the platform.

1.3.1) General Objectives

- Develop a recommendation system that leverages user data and movie information to provide personalized movie recommendations.

Incorporate user preferences, including movie genres, ratings, and historical interactions, to generate relevant and engaging recommendations.

- Implement different recommendation techniques, such as collaborative filtering and content-based filtering, to ensure a diverse and accurate set of movie recommendations.

- To develop a movie recommendation system based on movie attributes, user ratings, and user interactions. The dataset consists of movie information such as title, cast, crew, budget, genres, keywords, language, revenue, and other relevant attributes. The objective is to leverage this data to build a recommendation system that can suggest movies to users based on their preferences and past interactions.

1.4 Data Understanding

\* Columns Understanding:

- id: Unique identifier for each movie

- title: Title of the movie

- cast: List of actors/actresses in the movie

- crew: List of crew members involved in the movie

- budget: Budget of the movie

- genres: List of genres associated with the movie

- homepage: Website URL of the movie

- keywords: List of keywords associated with the movie

- original\_language: Original language of the movie

- original\_title: Original title of the movie

- production\_companies: List of production companies involved in the movie

- production\_countries: List of countries where the movie was produced

- release\_date: Release date of the movie

- revenue: Revenue generated by the movie

- runtime: Duration of the movie in minutes

- spoken\_languages: List of languages spoken in the movie

- status: Current status of the movie (e.g., Released, Post Production)

- tagline: Tagline or slogan of the movie

- vote\_average: Average vote rating for the movie

- vote\_count: Number of votes received by the movie

- tags: List of tags associated with the movie