

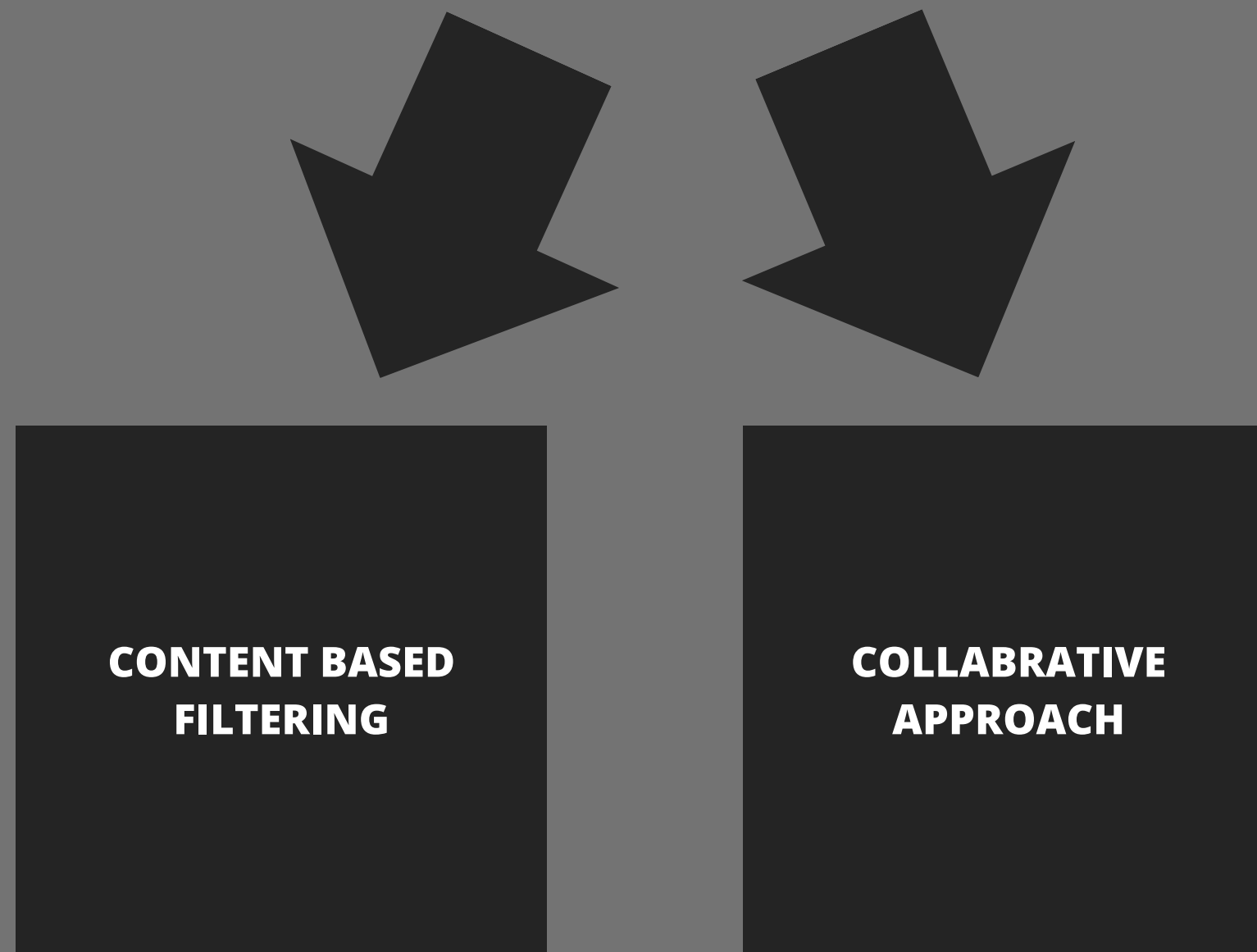
MINI PROJECT

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CINEMATCH

MOVIE RECOMMEDATION SYSTEM

CineMatch is Netflix's recommendation system designed to suggest movies and TV shows to users based on their preferences. It uses collaborative filtering to analyze user behavior, such as viewing history and ratings, to find patterns and similarities between users. By leveraging this data, it predicts and recommends content that a user is likely to enjoy. This personalization improves user satisfaction and engagement, making CineMatch a key factor in Netflix's success.



Content-based filtering is a recommendation approach that suggests items to users based on the characteristics of the items themselves and the user's previous preferences. Here's a brief explanation:

Key Points:

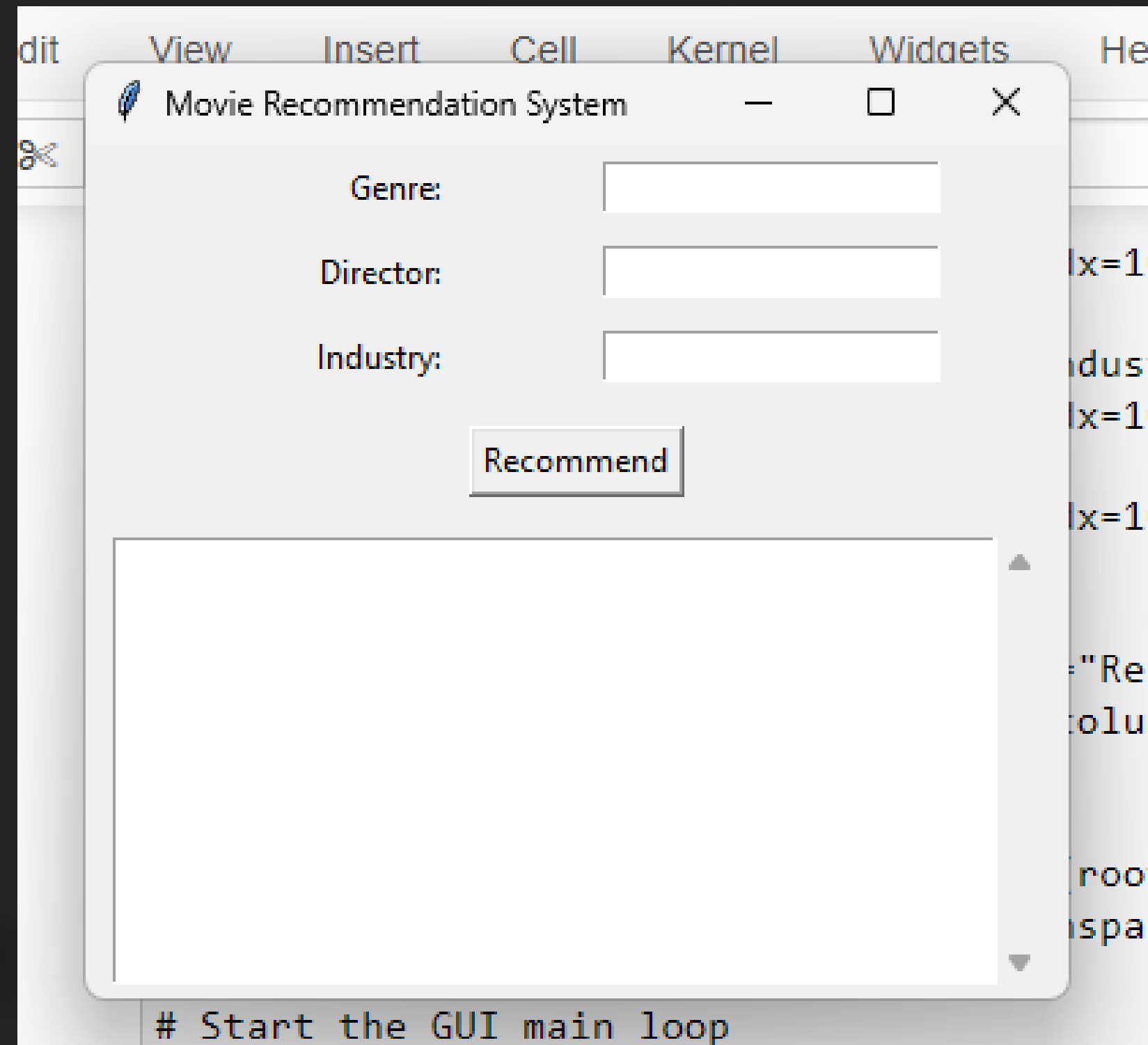
Item Attributes: It focuses on the features of items, such as genre, director, actors, and keywords for movies.

User Profile: It creates a profile for each user based on their interactions, such as items they've liked, rated highly, or frequently watched.

Matching: The system recommends items that have similar attributes to those the user has previously shown interest in.

Example: If a user likes science fiction movies with certain directors or actors, the system will recommend other science fiction movies featuring similar directors or actors.

```
# Sample movie data
movies = [
    Movie("Interstellar", "scifi", "Christopher Nolan", ["Hollywood"]),
    Movie("Avatar", "scifi", "James Cameron", ["Hollywood"]),
    Movie("Bahubali", "drama", "S. S. Rajamouli", ["Tollywood"]),
    Movie("Leo", "action", "Martin Scorsese", ["Kollywood"]),
    Movie("Mad Max: Fury Road", "action", "George Miller", ["Hollywood"]),
    Movie("The Notebook", "romance", "Nick Cassavetes", ["Hollywood"]),
    Movie("Inception", "scifi", "Christopher Nolan", ["Hollywood"]),
    Movie("Parasite", "drama", "Bong Joon-ho", ["Korean Cinema"]),
    Movie("The Hangover", "comedy", "Todd Phillips", ["Hollywood"]),
    Movie("John Wick", "action", "Chad Stahelski", ["Hollywood"]),
    Movie("Dilwale Dulhania Le Jayenge", "romance", "Aditya Chopra", ["Bollywood"])
]
```



```
# Start the GUI main loop
```