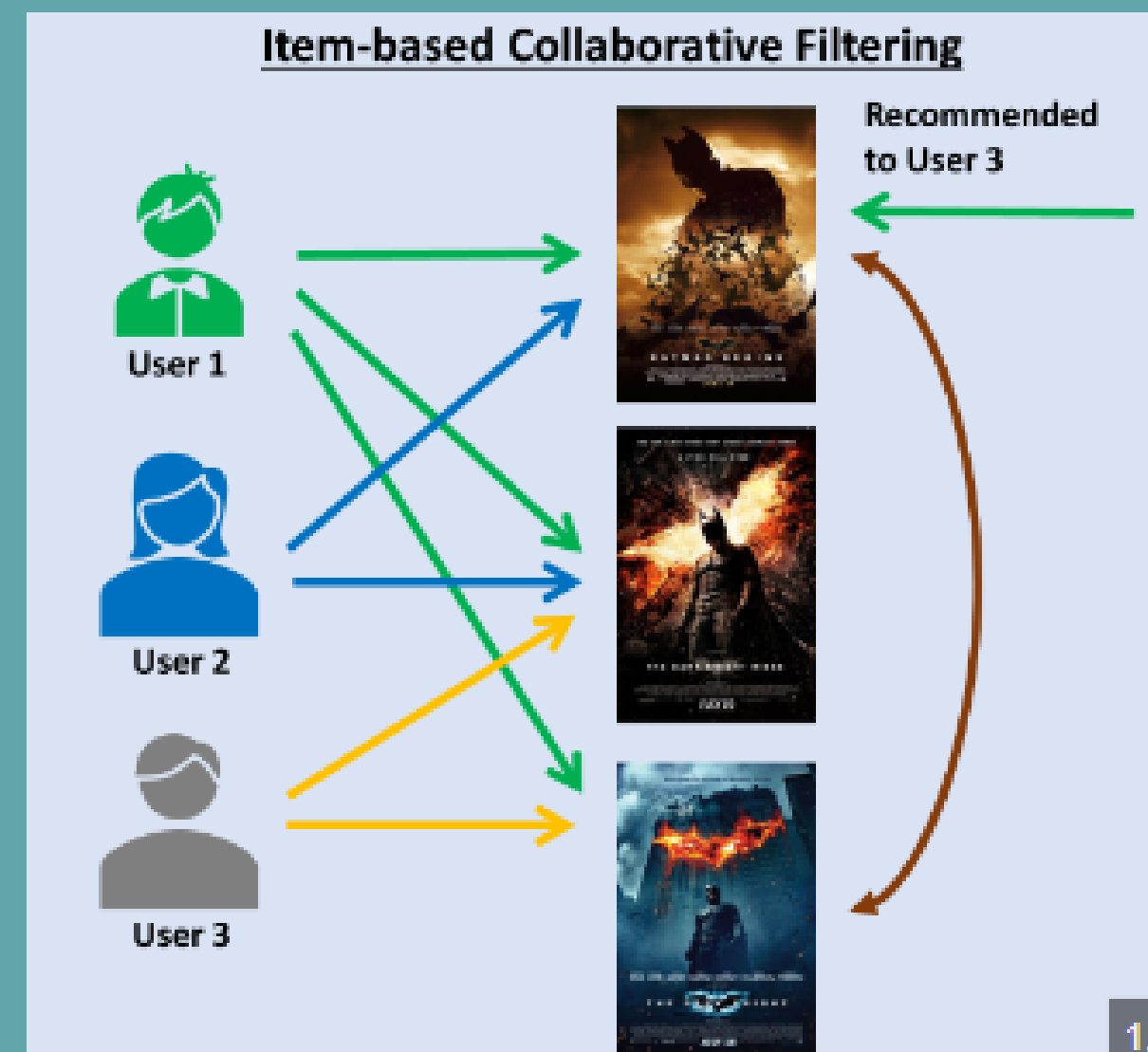# MINI PROJECT

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CINEMATCH

MOVIE RECOMMEDATION SYSTEM

Movie recommendation is a system that suggests movies to users based on their preferences and behavior. It uses algorithms to analyze data such as movies watched, ratings given, and genres liked. By understanding these patterns, the system predicts which movies a user might enjoy next. Recommendations can be based on similarities with other users (collaborative filtering) or the attributes of movies themselves (content-based filtering). The goal is to enhance user satisfaction by offering personalized suggestions and making it easier to discover new movies aligned with individual tastes.

Item-based Collaborative Filtering

Overview

Introduction:

Objective:

- To create a system that assigns unique ratings to movies based on genre, star power, and diversity of film industries.
- To recommend top movies based on user preferences.

DATA STRUCTURES:

CLASS MOVIE:

ATTRIBUTES: HOLDS MOVIE-SPECIFIC INFORMATION SUCH AS TITLE, CATEGORY, DIRECTOR, ACTORS, INDUSTRIES, AND RATING.

LIST:

- PURPOSE: LISTS ARE USED TO STORE COLLECTIONS OF MOVIE OBJECTS.

SEARCHING:

SEARCHING ALGORITHMS: ALGORITHMS LIKE BINARY SEARCH ARE TYPICALLY USED TO LOCATE A SPECIFIC ITEM WITHIN A SORTED COLLECTION EFFICIENTLY.

SORTING:

- SORTING ALGORITHMS: ALGORITHMS LIKE QUICKSORT OR MERGESORT ARE USED TO ARRANGE ITEMS IN A SPECIFIED ORDER (E.G., ASCENDING OR DESCENDING).

```python
# Sample movie data with additional attributes (actors)
movies = [
    Movie("Interstellar", "scifi", "Christopher Nolan", ["Leonardo DiCaprio", "Scarlett Johansson"], ["Hollywood"]),
    Movie("Avatar", "scifi", "James Cameron", ["Tom Cruise", "Jennifer Lawrence"], ["Hollywood"]),
    Movie("Bahubali", "drama", "S. S. Rajamouli", ["Brad Pitt"], ["Tollywood"]),
    Movie("Leo", "action", "Martin Scorsese", ["Johnny Depp"], ["Kollywood"]),
    Movie("Mad Max: Fury Road", "action", "George Miller", ["Robert Downey Jr.", "Emma Stone"], ["Hollywood"]),
    Movie("The Notebook", "romance", "Nick Cassavetes", ["Chris Hemsworth"], ["Hollywood"]),
    Movie("Inception", "scifi", "Christopher Nolan", ["Leonardo DiCaprio", "Scarlett Johansson"], ["Hollywood"]),
    Movie("Parasite", "drama", "Bong Joon-ho", ["Brad Pitt"], ["Korean Cinema"]),
    Movie("The Hangover", "comedy", "Todd Phillips", ["Dwayne Johnson"], ["Hollywood"]),
    Movie("John Wick", "action", "Chad Stahelski", ["Tom Cruise"], ["Hollywood"]),
    Movie("Dilwale Dulhania Le Jayenge", "romance", "Aditya Chopra", ["Chris Hemsworth"], ["Bollywood"])
]
```

Movie Recommendation System

Genre:

Director:

Actor:

Industry:

Recommend