

Title:

# “Movie Recommendation System”

This presentation explores the development of a Movie Recommendation System that utilizes collaborative filtering and genre-based recommendations to personalize movie suggestions for users.

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**GitHub Link:**



# Introduction

## Objective

Create a recommendation system to suggest movies based on user ratings and genre preferences.

## Key Features

- Collaborative filtering to find similar users.
- Genre-based filtering for personalized recommendations.
- Interactive user input for dynamic results.

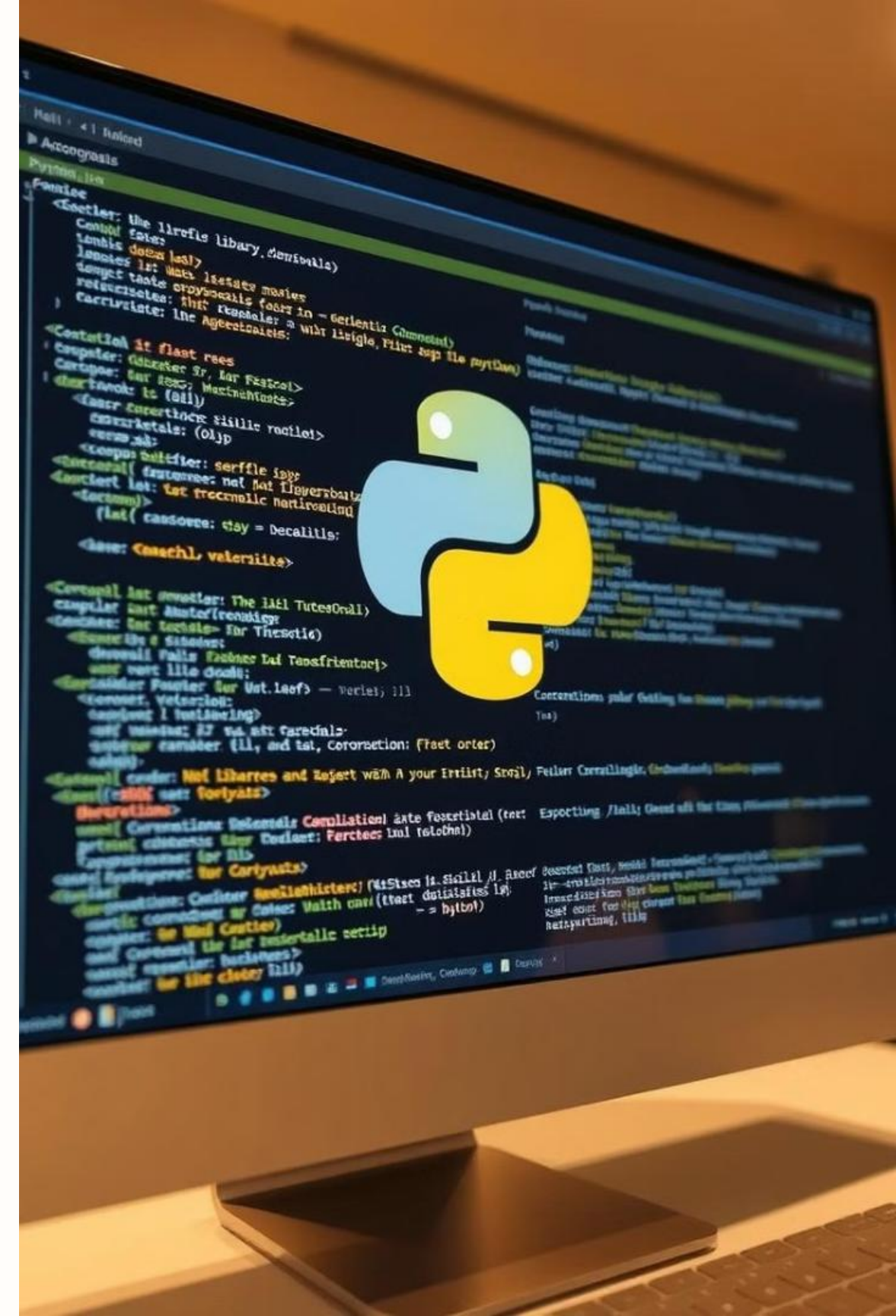
# Tools and Libraries

**Programming Language:**  
Python

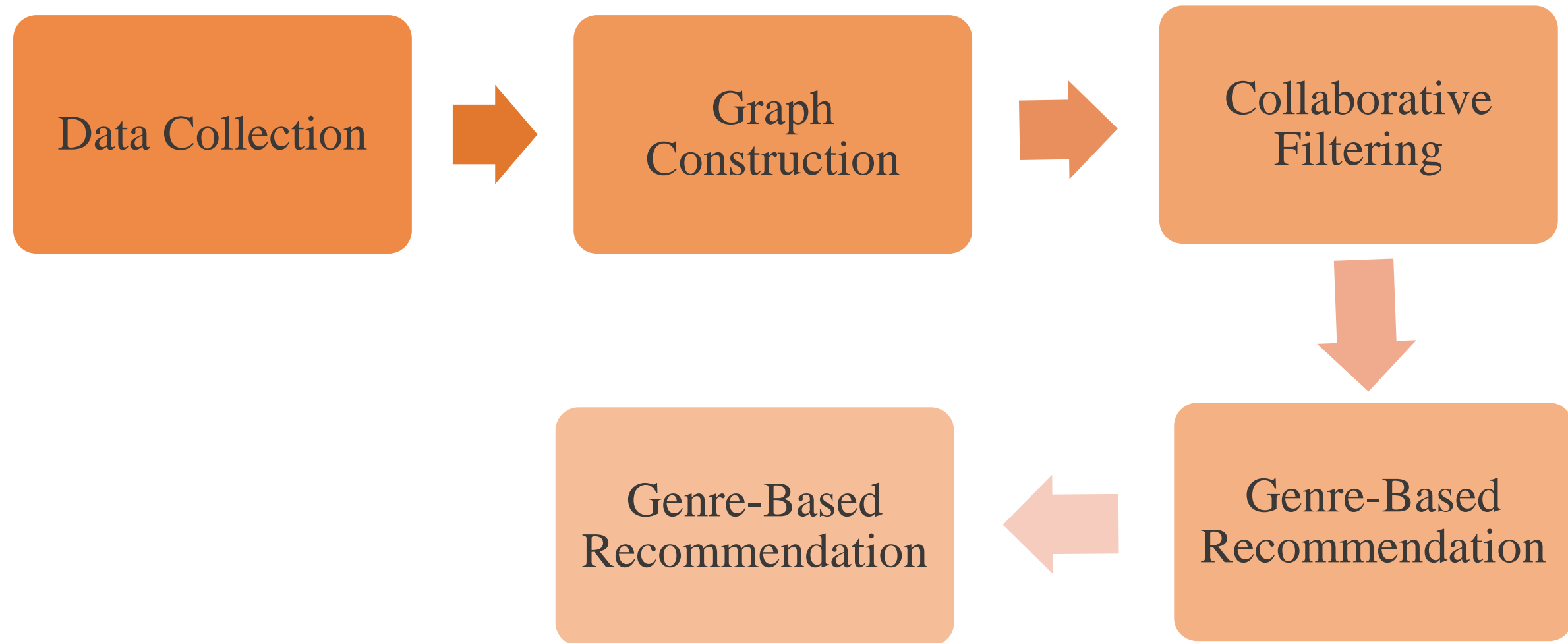
## Key Libraries

**Networkx:**  
for building and analyzing graphs.

**Collections:**  
for managing data structures like  
defaultdict.



# Methodology:



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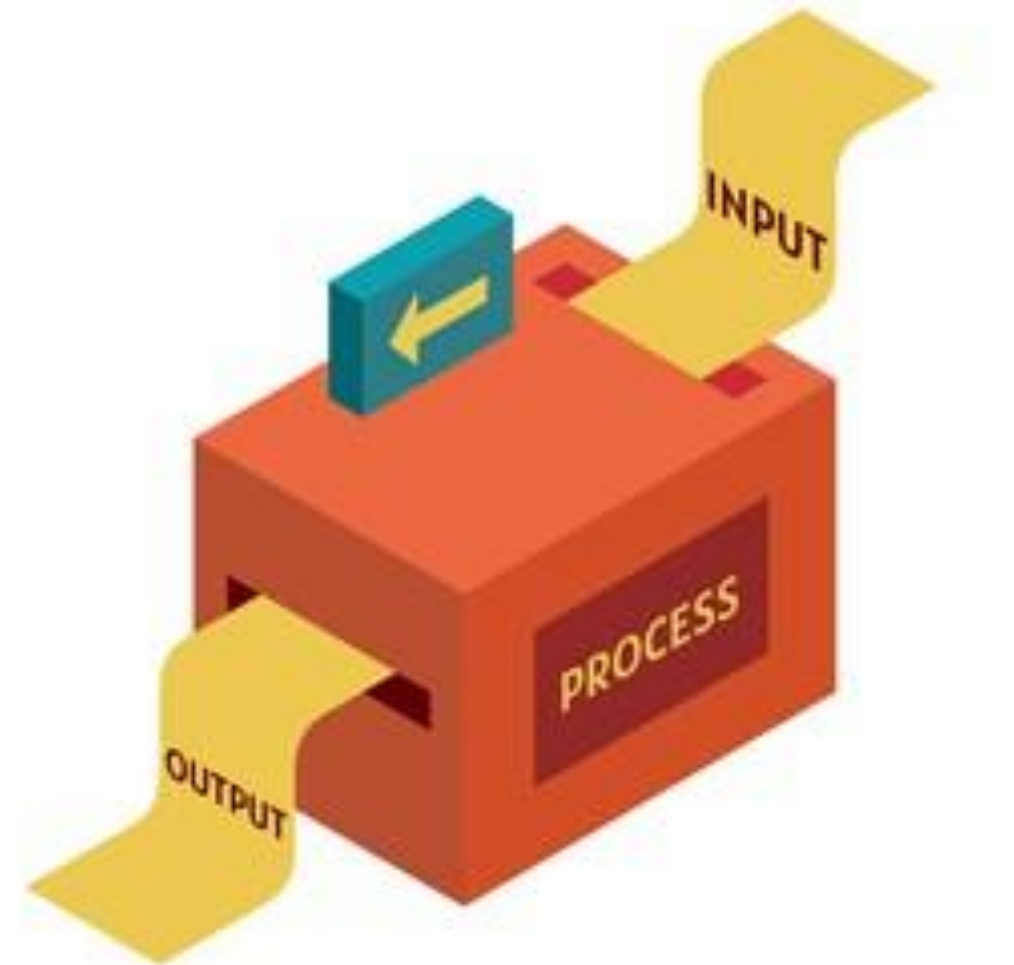
# Sample Input and Output:

## Input

User ID: "User1" Preferred Genre: "Sci-Fi"

## Output

Recommended Movies: \_\[Example List\]\_  
Ratings for selected movies.



# Advantages:

## ■ Personalized

Tailored movie suggestions based on individual preferences.

## ■ Engaging

Engaging user interface for real-time inputs.

## ■ Scalable

Scalable with more user data and genres.



# Challenges and Future Scope:

## Challenges

### 1. Handling Sparse Data:

When ratings are missing.

### 2. Diverse Recommendations

Ensuring recommendations are varied.

## Future Enhancements

### 1. External APIs:

Integration with IMDb.

### 2. Sentiment Analysis

Adding sentiment analysis from reviews.

### 3. Expansion

Expanding genres and user base.



# Conclusion:

This project demonstrates a robust movie recommendation system that leverages graph analysis and collaborative filtering. It has the potential to enhance user experience in movie selection by providing personalized and insightful recommendations.

