# Summer Project On

# Movie Recommendations System

## By


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Under the guidance of

**Internal Supervisor**

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Autonomous Institute Affiliated to Mumbai University


2022-23

**CERTIFICATE OF APPROVAL**

This is to certify that the following student

**Rohit Mahadik (2021510030)**

Have satisfactorily carried out work on the project
entitled

# "Movie Recommendations System"

Towards the fulfilment of project, as laid down
by
Sardar Patel Institute of Technology
during year
2022-23.

Project Guide:
Prof. Sakina Salmani

# PROJECT APPROVAL CERTIFICATE

This is to certify that the following student

**Rohit Mahadik (UCID)**

Have successfully completed the Project report on

**"Movie Recommendations System",**

which is found to be satisfactory and is approved

at

SARDAR PATEL INSTITUTE OF TECHNOLOGY,
ANDHERI (W), MUMBAI

INTERNAL EXAMINER EXTERNAL EXAMINER

HEAD OF DEPARTMENT PRINCIPAL

# Contents

## Abstract

A movie recommendation system, or a movie recommender system, is an ML-based approach to filtering or predicting the users' film preferences based on their past choices and behavior. It's an advanced filtration mechanism that predicts the possible movie choices of the concerned user and their preferences towards a domain-specific item, aka movie.

We at Label Your Data have gathered the most up-to-date information about modern movie recommendation systems and how to build them using different ML solutions. We've also touched upon some of the most popular examples of these systems that help many movie fans today stay up to date with all the new releases as well as classics of the cinematography.

## Objectives

The Web based Application "Movie Recommendations System" is used

- To provide user a movie recommendations system.
- To provide a similar movie for a user to watch.
- To recommend five similar movies for a user to watch.

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# 1 Introduction

## 1.1 Problem Definition

To provide the user a movie to watch without having to install any external application.

## 1.2 Objectives and Scope

### 1.2.1 Objectives

The Android based application "Movie Recommendations System" is

- To provide user a movie recommendations system.
- To provide a similar movie for a user to watch.
- To recommend five similar movies for a user to watch.

### 1.2.2 Scope

The user can select a movie from a library of over 5000+ movies and have themself similar movies to watch

In this web based application, the user must know the title of the movie.

Our System is being made for so that user will not have to depend on any particular OTT or external source.

## 1.3 Existing System

Currently, only if you are subscribed to paid OTT subscriptions, only then you can have a movie recomender for yourself.
Some of the disadvantages of existing system are as follows :

- Time consuming, Manual work
  Every time a user wants to watch some similar movie, he/she will have to manually subscribe to expensive OTT platforms and search for that movie.
- Inaccuracy
  Many systems are reported to generate non-similar movies based on what an user has selected.
- Complexity
  Many users find it difficult to find a similar movie an any particular platform.

## 1.4 Proposed System

The User is anyone visiting my website will firstly have to enter the title of the movie or he/she can select a movie from a drop-down button.

The user will have to hit recommend and based on the data that I have stored on my project, my system will show 5 similar movies the user can watch, if he/she wants to.

The user will also be shown poster of the movies along with the title.

Some of the advantages of our system are as follows :

- User Friendly
  It provides attractive interface to the user for selecting the title of the movie
  The items of the system are very self-descriptive.
- Accuracy
  On selecting a movie, the user will be getting the most similar movie there exists

## 1.5 System Requirements

- Hardware Requirements on Server Side

Table 1.5.1: Hardware Requirements on Server Side

| | |
|---|---|
| Processor | Dual Core Processor or Above |
| RAM | Minimum 4 GB RAM |
| Storage | Minimum 10 GB Hard Disk Space for smooth run |

- Hardware Requirements on Client Side

Table 1.5.2: Hardware Requirements on Client Side

| | |
|---|---|
| Device | Android Device with Touch Screen minimum 5” inch Display |
| Processor | Dual Core Processor or Above |
| RAM | Minimum 2 GB RAM |
| Storage | Minimum 250 MB Storage Space |

- Software Requirements on Server Side

Table 1.5.3: Software Requirements on Server Side

| | |
|---|---|
| Operating System | OS Independent |
| Database | Firestore |

- Software Requirements on Client Side

Table 1.5.3: Software Requirements on Client Side

| | |
|---|---|
| Operating System | Windows/MacOS/ChromeOS |
| Internet | Required |

# 2 Software Requirement Specification (SRS) and Design

## 2.1 Purpose

The purpose of my system is to develop a web based application that can help user to get similar movies to watch incase they like any particular movie.
This can save lots of efforts of users having to get a subscription of any OTT platfroms or having the need to install any external application.

## 2.2 Definition

To build a Web based Application so the user can get similar movies to watch in-case they like any particular movie.The user will have to hit recommend and based on the data that I have stored on my project, my system will show 5 similar movies the user can watch, if he/she wants to.

## 2.3 Overall Description

### 2.3.1 Product Functions

The system function includes:

1. Selection: Users are required to select a movie title from over a library of 5000+ movie titles.
2. Suggestions: As the user starts typing the title of the movie, my system will start recommending the remaining letters of the movie title.
3. Recommend: This will be a button that the user will have to click on in order to get similar movies.
4. Recommendations: Finally, my system will display 5 similar movie titles along with their posters.

#### 2.3.2 User Characteristics

There is one type of user:

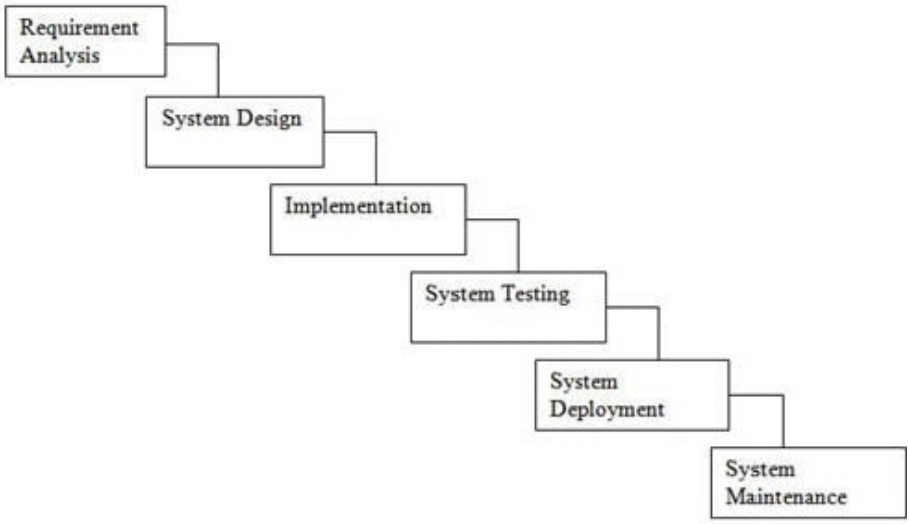
- Normal user: The user will select a movie he/she likes and will get 5 more similar movies to watch.

# 3 Project Analysis and Design

## 3.1 Methodologies Adapted

In Waterfall model, very less customer interaction is involved during the development of the product. Once the product is ready then only it can be demonstrated to the end users.

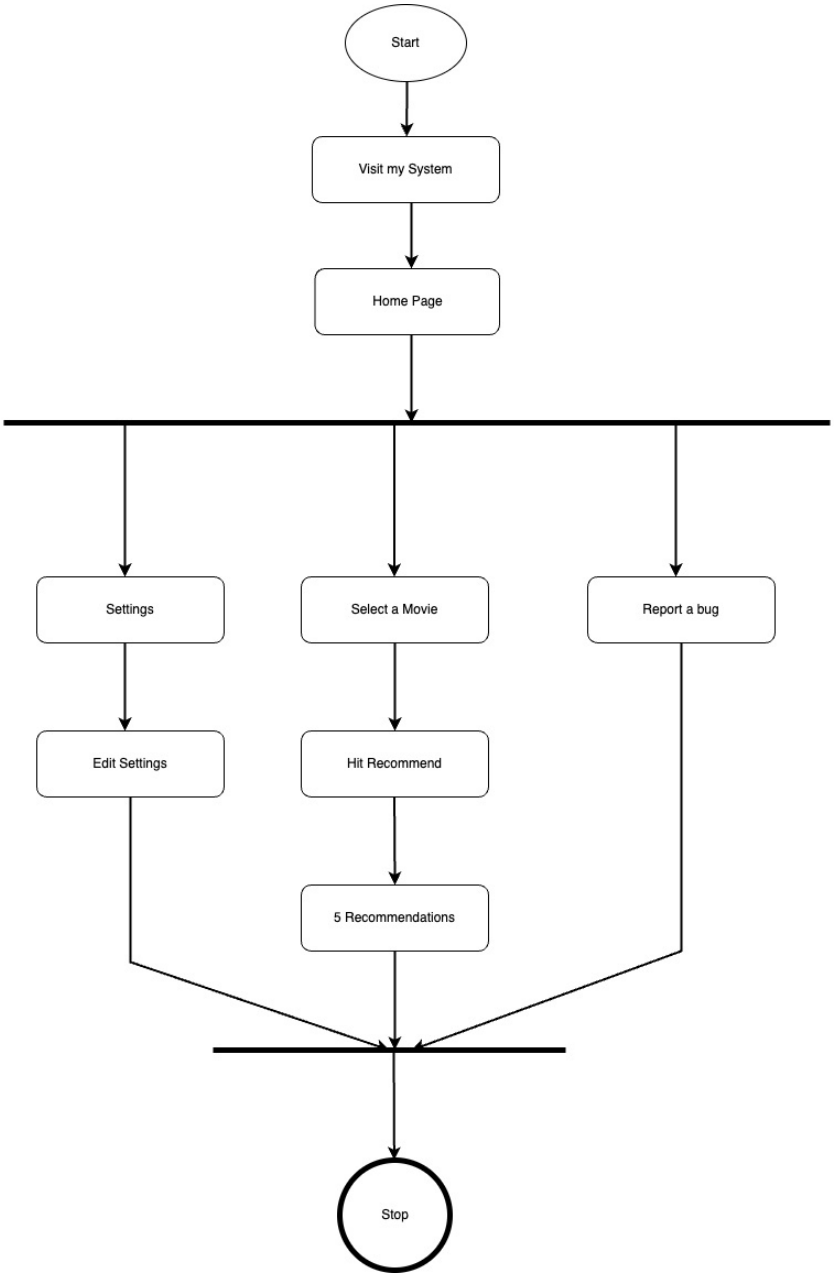
Once the product is developed and if any failure occurs then the cost of such issues is very high, because we need to update everything from document till the logic.




3.1.1: Diagrammatic Representation of Waterfall Model

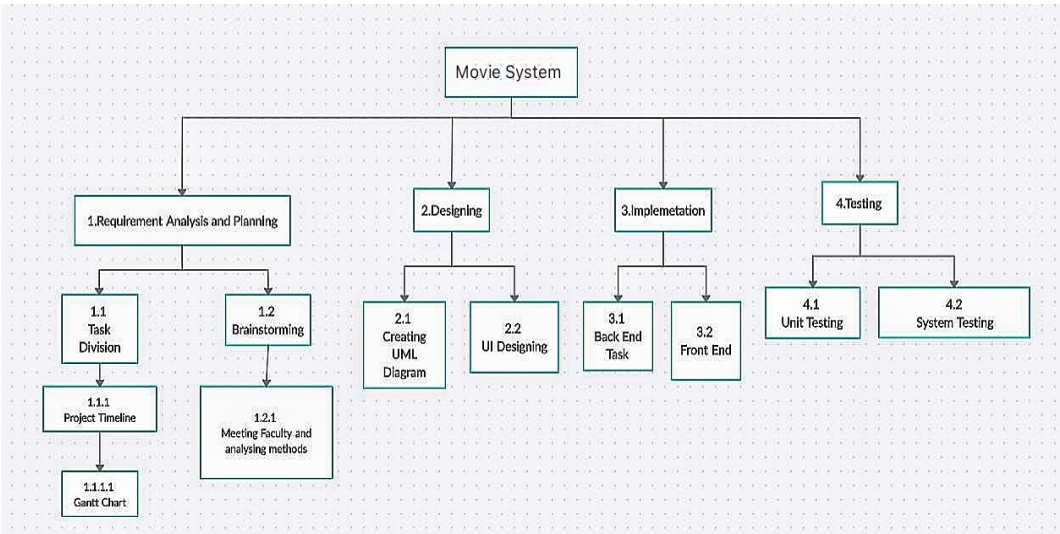
## 3.2 Modules

### 3.2.1 Activity diagram




3.2.1: Activity Diagram

### 3.2.2 Work Breakdown Structure




3.2.2: Work Breakdown Structure

### 3.2.3 PERT Chart


3.2.3: PERT Chart

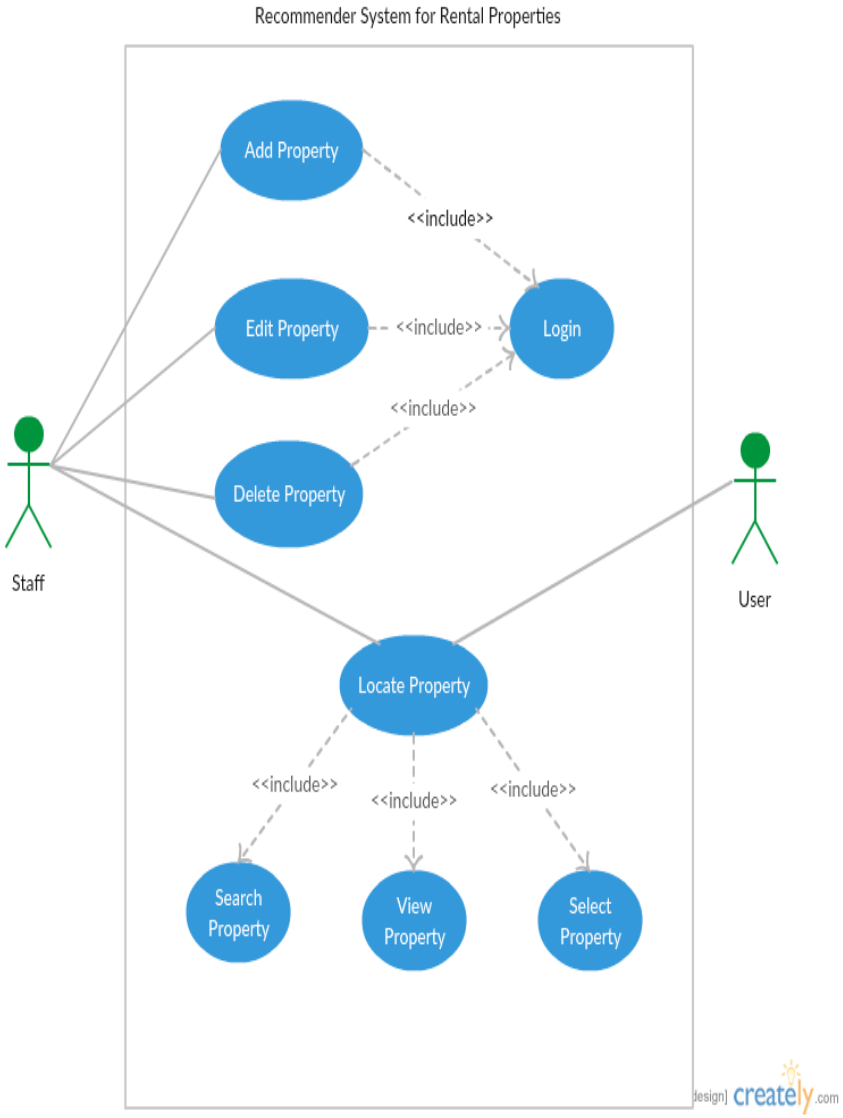
### 3.2.4 Gantt Chart

**MOVIE RECOMMENDATIONS SYSTEM GANTT CHART**

| Task ID | Task Name | Start Date | End Date | Duration (In Days) | April - May | May - June | June - July | July - August | August - September |
|---|---|---|---|---|---|---|---|---|---|
| T01 | Problem Statement | 26/04/22 | 07/05/22 | 12 | | | | | |
| T02 | Brainstorming | 08/05/22 | 09/05/22 | 2 | | | | | |
| T03 | Requirement Gathering | 10/05/22 | 10/05/22 | 1 | | | | | |
| T04 | Project Planning | 11/05/22 | 19/05/22 | 9 | | | | | |
| T05 | Analysis | 20/05/22 | 30/05/22 | 11 | | | | | |
| T06 | Design | 31/05/22 | 19/06/22 | 20 | | | | | |
| T07 | Modelling | 20/06/22 | 19/07/22 | 30 | | | | | |
| T08 | Implementation/Coding | 20/07/22 | 14/08/22 | 26 | | | | | |
| T09 | Testing | 15/08/22 | 28/08/22 | 14 | | | | | |
| T10 | Hosting | 29/08/22 | 21/09/22 | 24 | | | | | |
| T11 | Documentation(Final) | 15/09/22 | 18/09/22 | 4 | | | | | |

3.2.4: Gantt Chart

### 3.2.5 Use-Case




3.2.5: Use-Case Diagram

Use Cases:

1. Selection
2. Suggestions
3. Recommend
4. Recommendations

Table 4.2.1: Use Case Table - Selection

| | |
|---|---|
| Use Case ID | 1 |
| Use Case Name | Selection |
| Actor | User |
| Pre-Condition | Visits my Website |
| Post-Condition | User at Home page |
| Flow of events | Visit my Website and Start typing the title of the movie. |

Table 4.2.2: Use Case Table - Suggestions

| | |
|---|---|
| Use Case ID | 2 |
| Use Case Name | Suggestions |
| Actor | User |
| Pre-Condition | They start typing title of the movie. |
| Post-Condition | User is ready to hit recommend after successfully typing the entire title of the movie. |
| Flow of events | Visits my Website and Start typing the title of the movie and my system recommends the remaining letters of that movie title. |

Table 4.2.3: Use Case Table - Recommend

| | |
|---|---|
| Use Case ID | 3 |
| Use Case Name | Recommend |
| Actor | User |
| Pre-Condition | Typed the entire title of the movie. |
| Post-Condition | User clicks on the button ”Recommend”. |

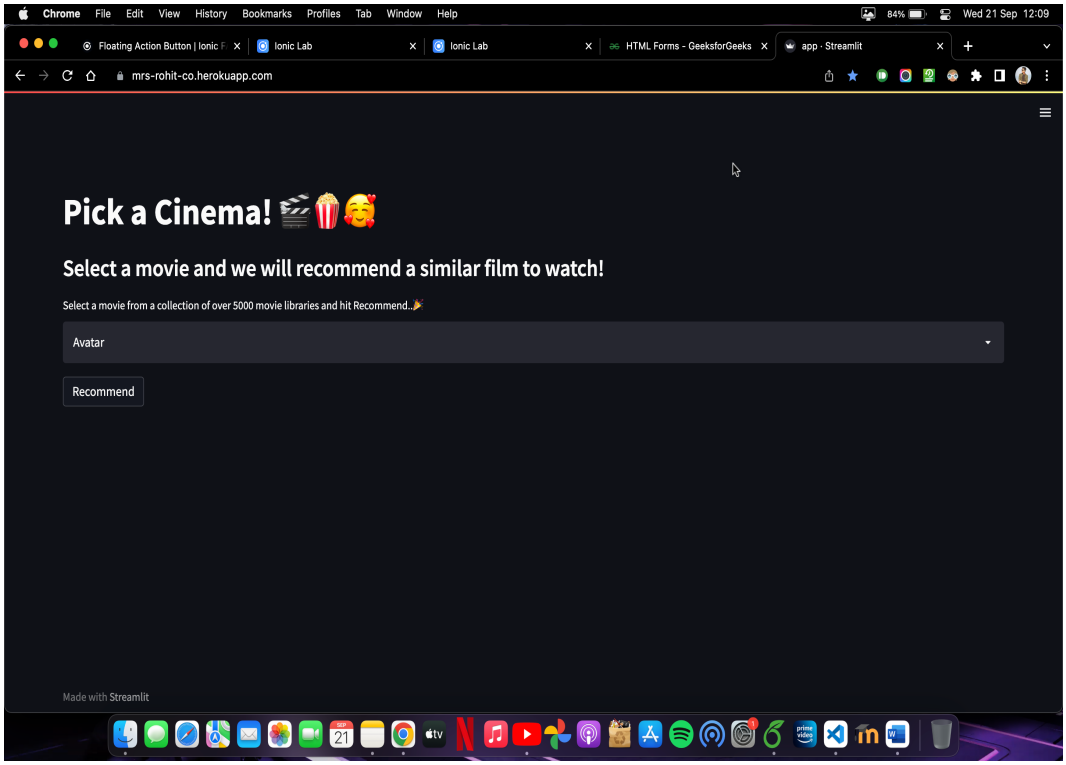
Table 4.2.4: Use Case Table - Recommendations

| | |
|---|---|
| Use Case ID | 4 |
| Use Case Name | Recommendations |
| Actor | User |
| Pre-Condition | User clicks on the button "Recommend". |
| Post-Condition | There will be 5 similar movies suggested based on user selected movie. |

Table 4.2.5: Use Case Table - View Marks

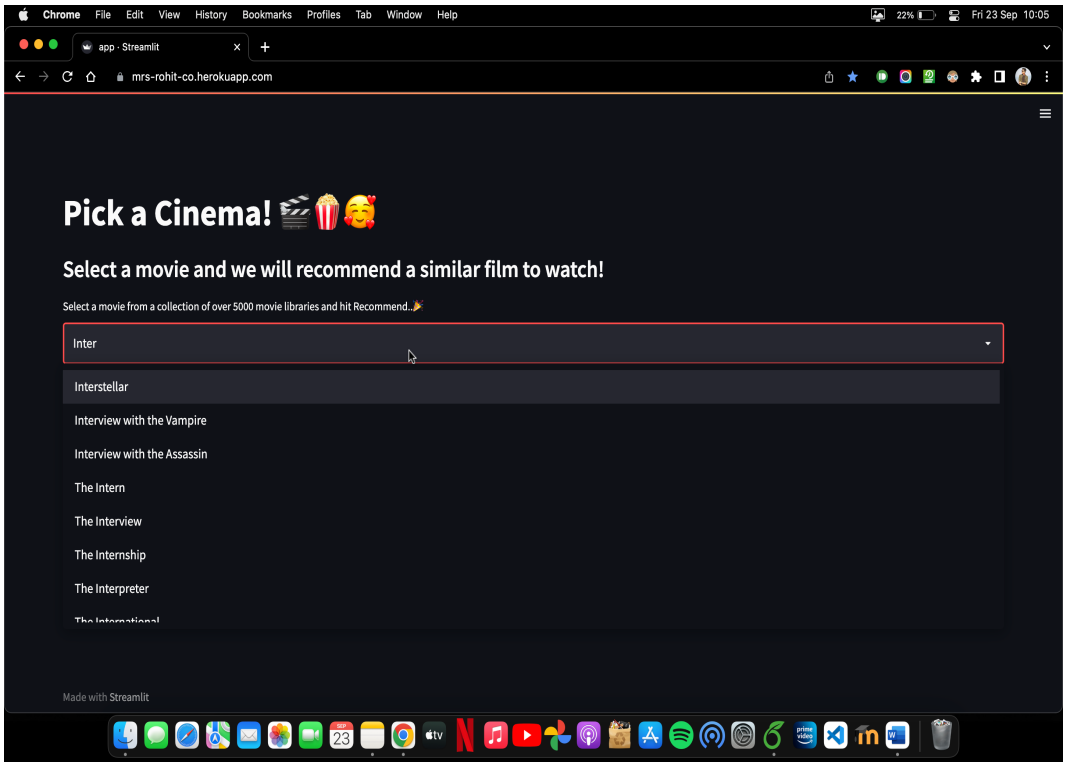
# 4 Project Implementation and Testing

## 4.1 Home - Landing View



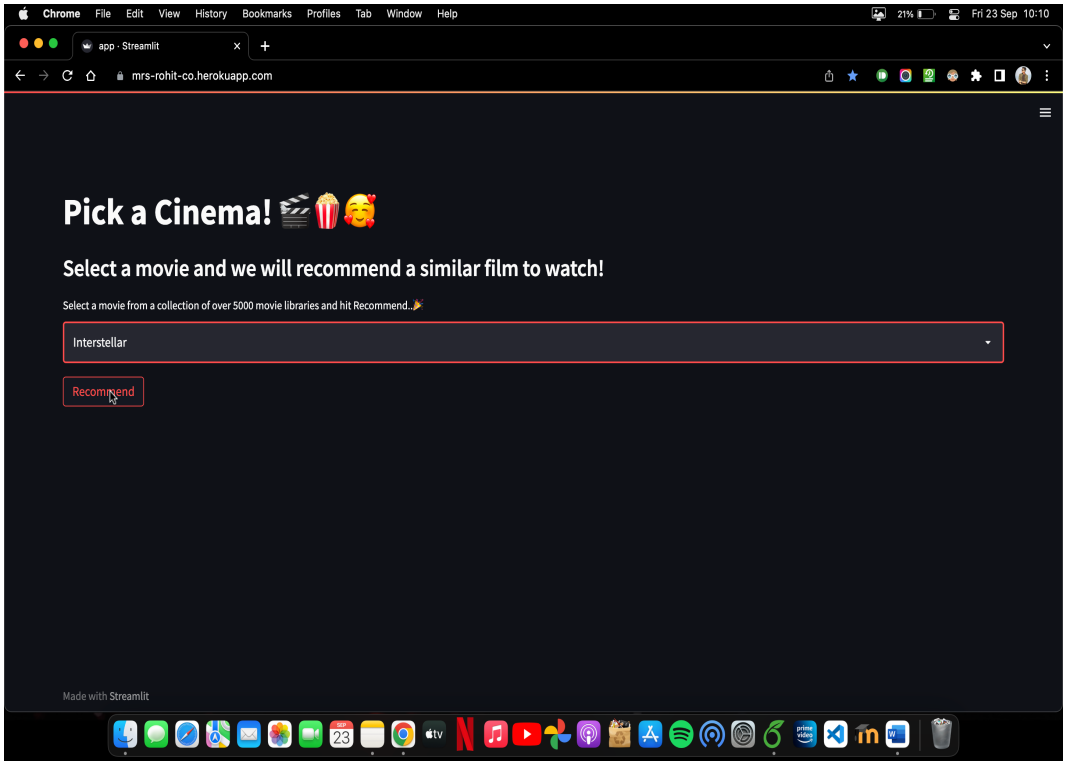

4.1.1: Home View

## 4.2 Selecting Movies



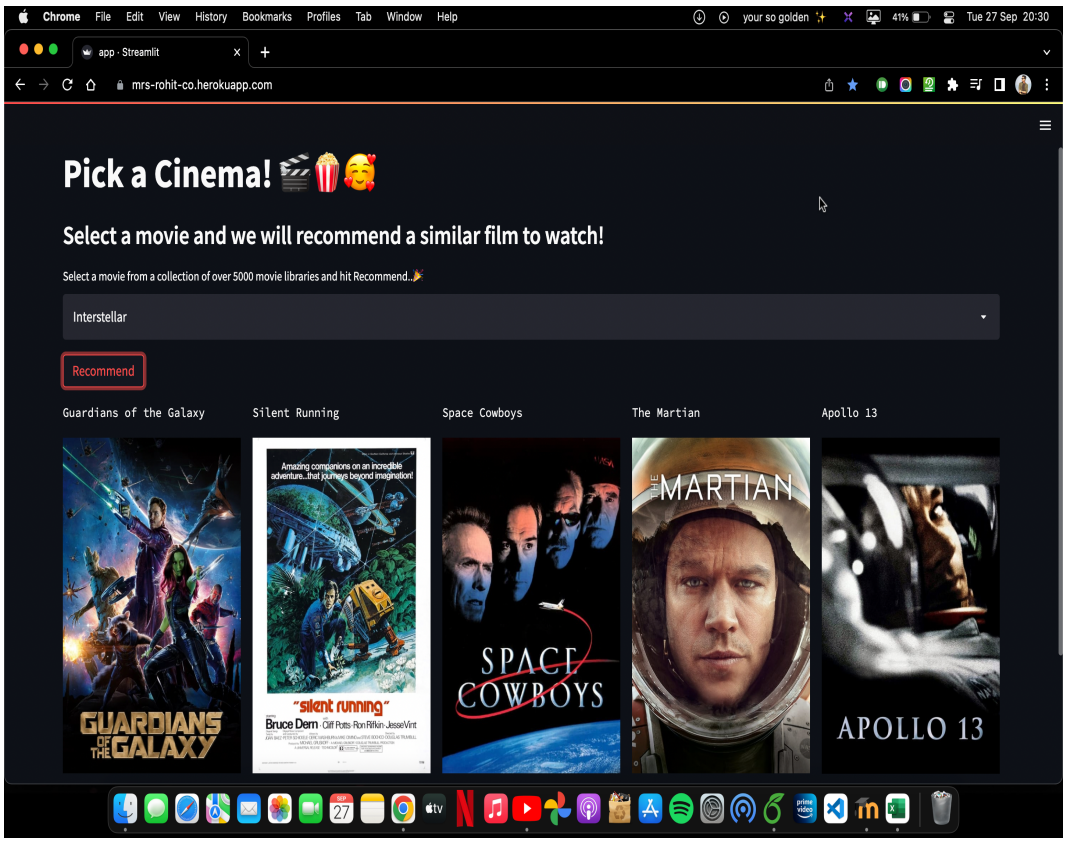

4.2.1: Selection of title

## 4.3 Recommend



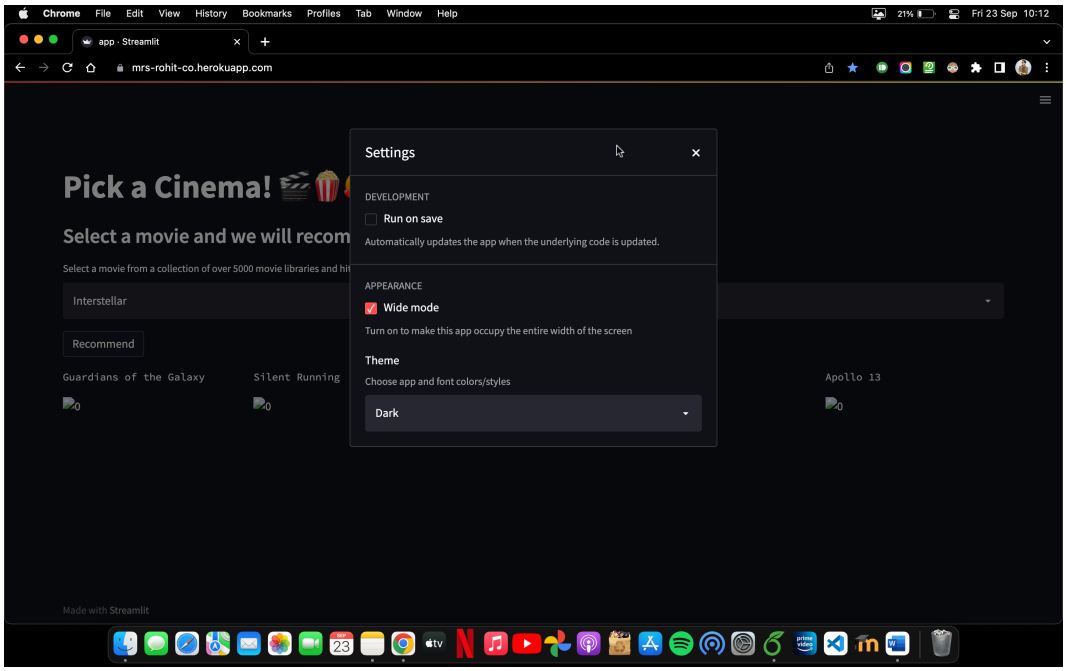

4.3.1: Hit Recommend

## 4.4 Actual Recommendations



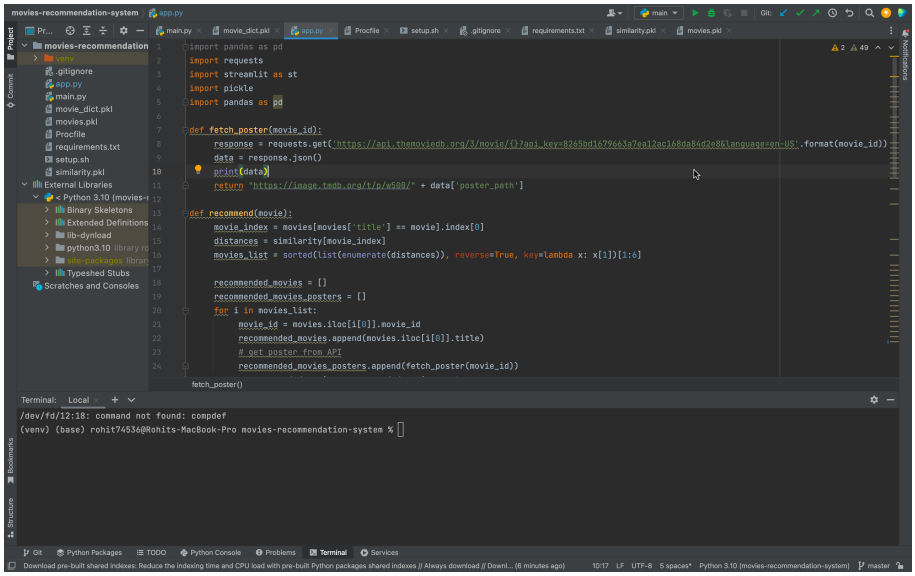

4.4.1: 5 Movie Recommendations

## 4.5 Settings

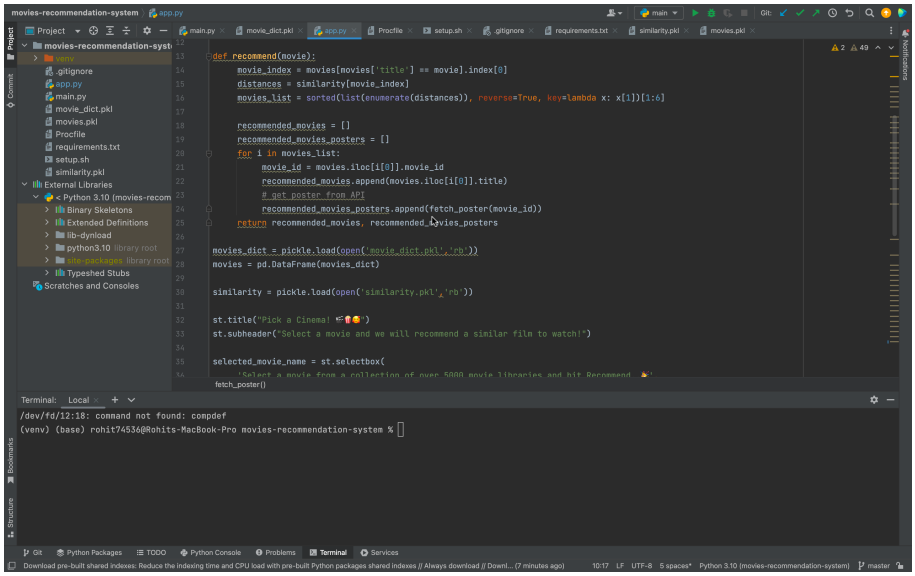



4.5.1: Edit Settings

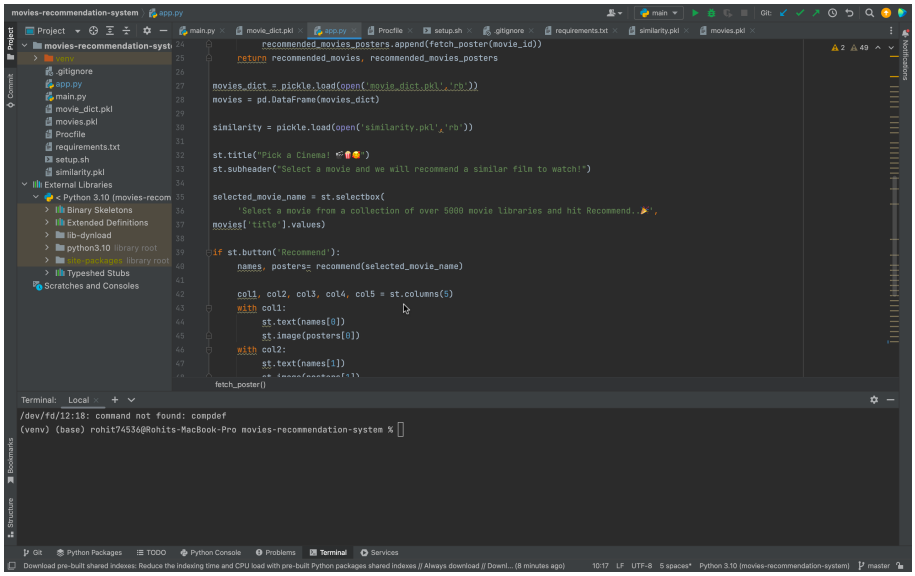
## 4.6 Code 1



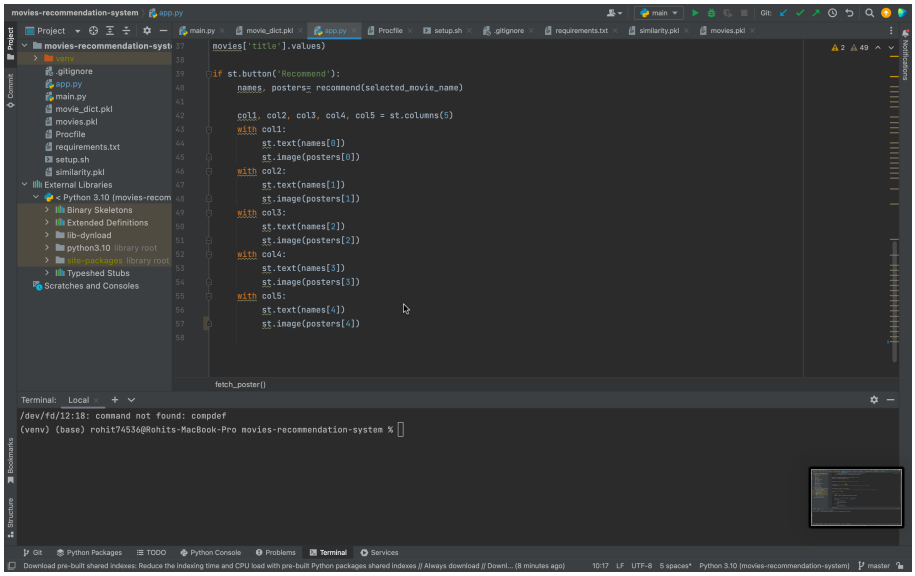

## 4.7 Code 2



## 4.8 Code 3




## 4.9 Code 4



# 5 Test Cases

Table 6.1: Test Case

| Test Case ID | Test Case Name | Test Data | Expected Output | Actual Output | Result |
|---|---|---|---|---|---|
| 1 | User enters the URL for my system | Enters the correct URL | Home Page | Home Page | Pass |
| 2 | User starts typing the title of the movie | Enters the correct title of the movie | Similar text movie titles start showing up | Similar text movie titles start showing up | Pass |
| 3 | User gets Recommendation for remaining title of the movie | My system starts suggesting remaining title of the movie | Suggestion Successful | Suggestion Successful | Pass |
| 4 | User hits the recommend button | System starts searching for similar movies | 5 different movie titles has been suggested | 5 different movie titles has been suggested | Pass |

# 6 Limitations

- It needs internet to be accessed.
- It might take time if the movie doesn't have that much similarity between any other movies.
- No support for other than Hollywood movies.
- It does not have a feature to view the trailer of the movie.
- Movies are not categorized.

# 7 Future Enhancements

- Support for Bollywood movies as well.
- Feature of viewing trailer of any movie.
- Category wise movie recommendations.
- Support for Cast and Crew information.

# 8 User Manual

**Part 1 – Selection**
Users are required to select a movie title from over a library of 5000+ movie titles.

**Part 2 – Suggestions**
As the user starts typing the title of the movie, my system will start recommending the remaining letters of the movie title.

**Part 3 – Recommend**
This will be a button that the user will have to click on in order to get similar movies.

**Part 4 – Actual Recommendations**
Finally, my system will display 5 similar movie titles along with their posters.

# 9 Bibliography

## 9.1 Web References

[1.] https://jupyter.org/
[2.] https://www.imdb.com/
[3.] https://www.youtube.com/
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