School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	13
Title of Experiment	Provide the details of Architecture Design and Framework of the project.
Name of the candidate	Papai Mondal
Team Members	Dhruv Deshmukh (RA2111028010125) Atharva Sohani(RA2111028010105)
Register Number	RA2111028010116
Date of Experiment	27/04/23

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	**10**	

Staff Signature with date

Aim

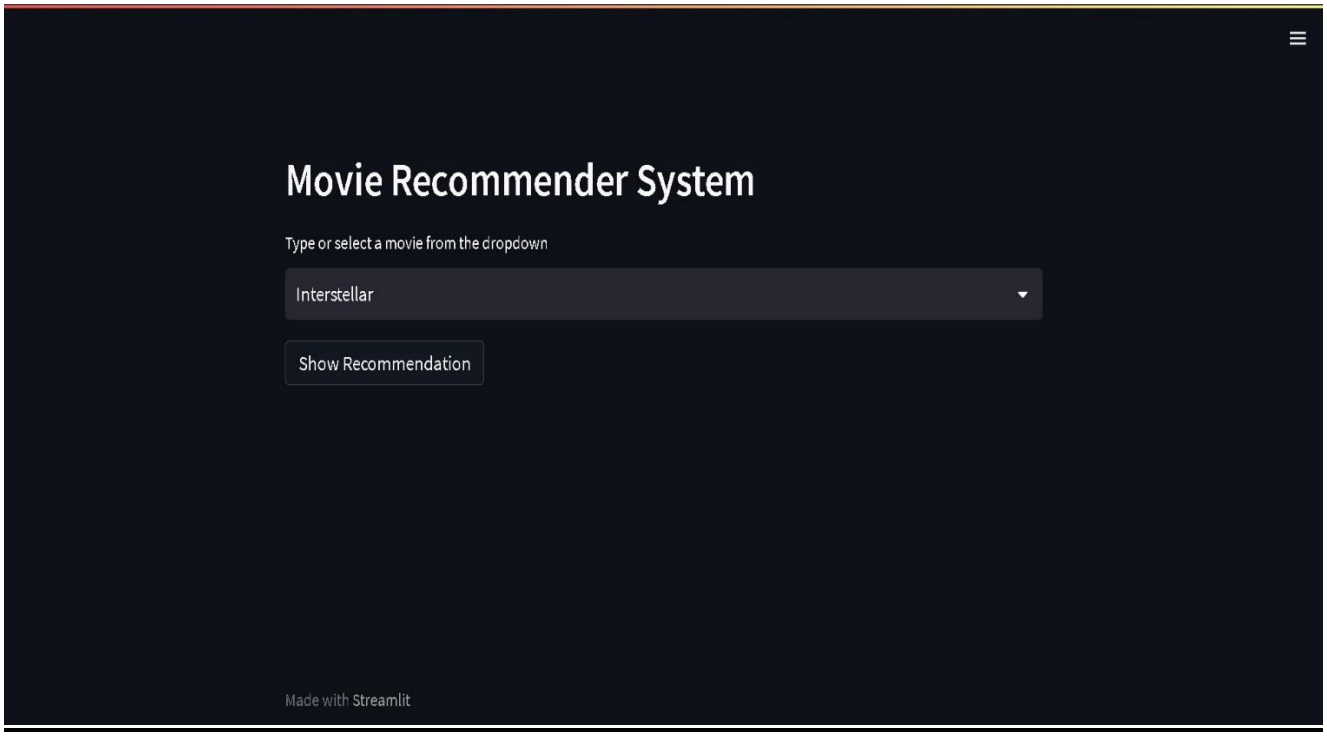
To provide the details of architectural design of the OTT/Movie Recommendation System website.

Team Members:

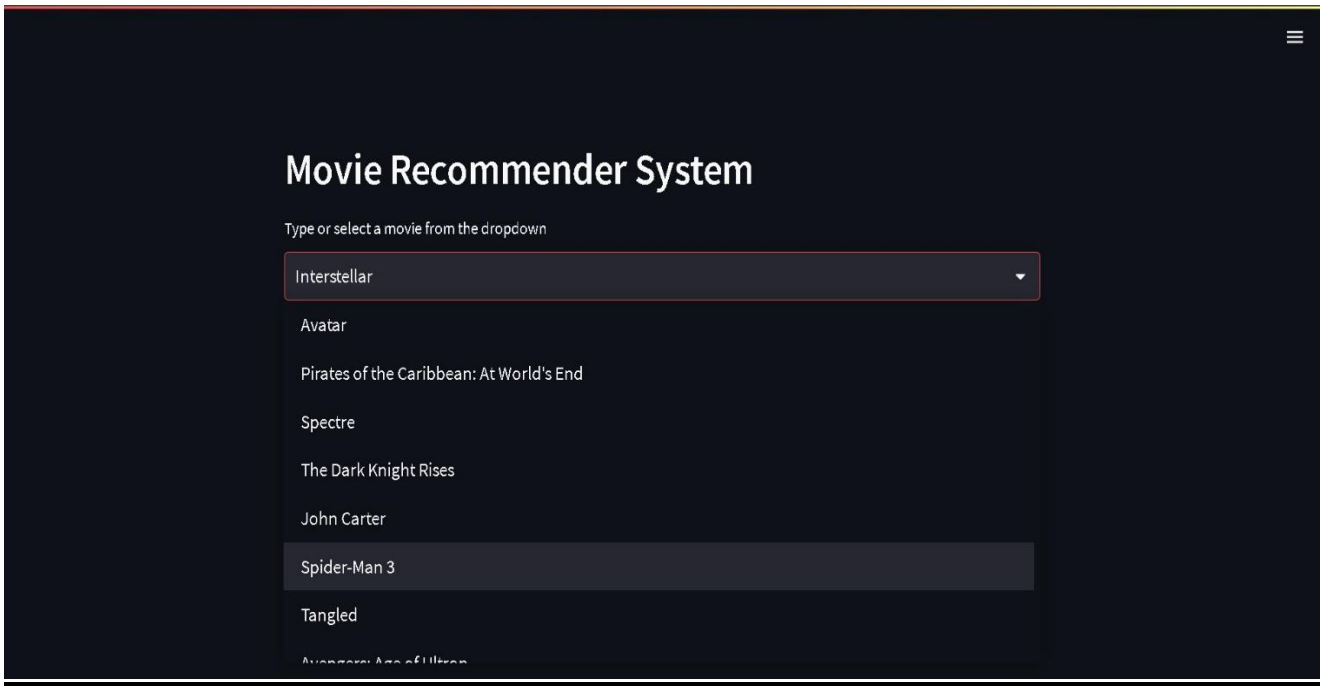
S No	Register No	Name	Role
1	RA2111028010125	Dhruv Deshmukh	Rep/Member
2	RA2111028010116	Papai Mondal	Member
3	RA2111028010105	Atharva Sohani	Member

MOVIE RECOMMENDATION SYSTEM

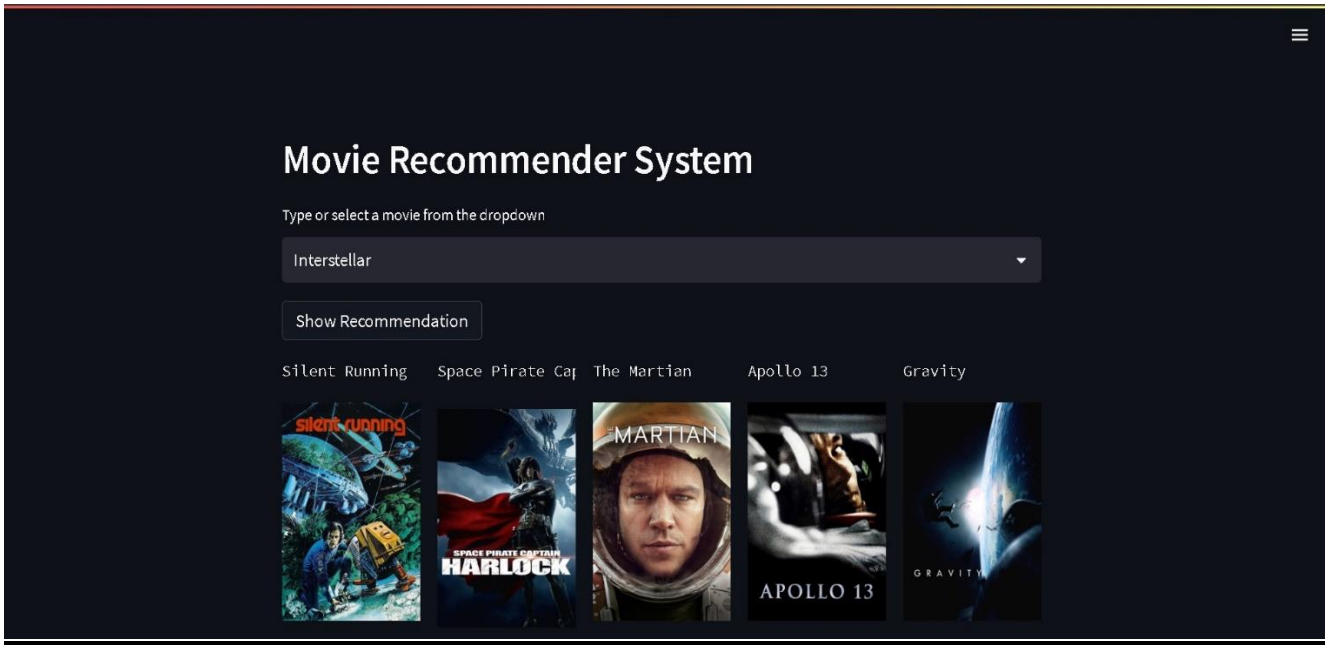
1. Search page



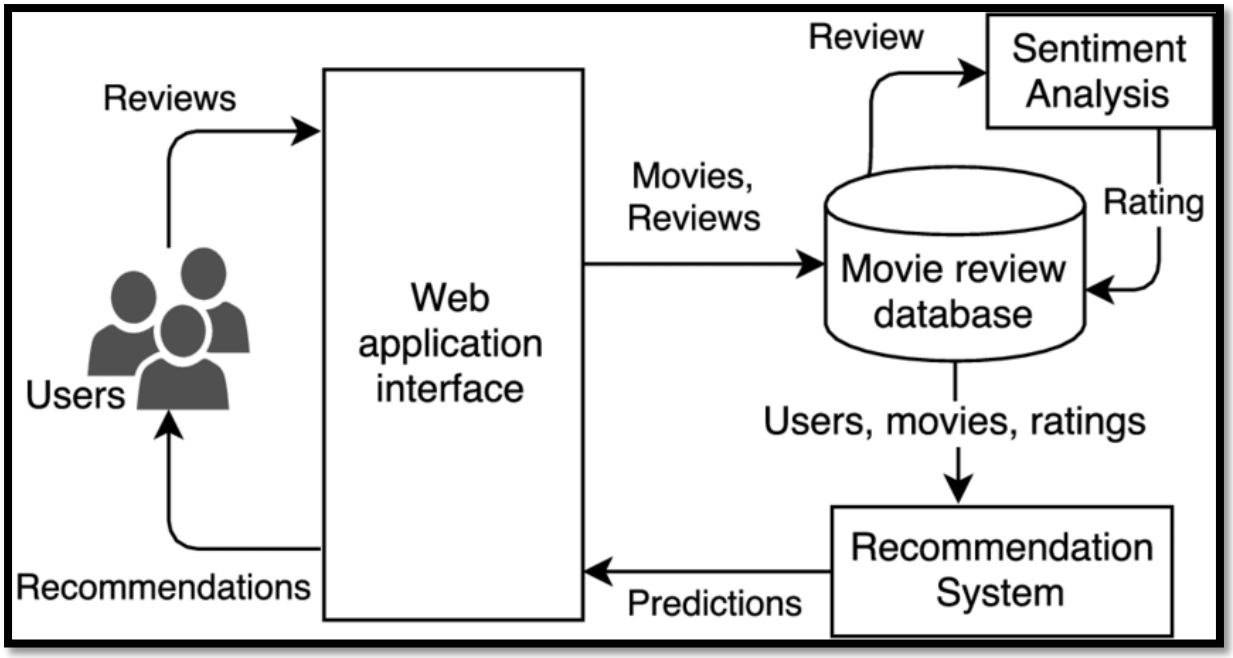
2. The Search bar shows a list of searches you can choose from.



3. The Recommendations are given.



System Architecture



Result:

Thus, the details of architectural design along with the screenshots were provided for the OTT Recommendation System Project.

CONCLUSION

We have successfully built and evaluated a movie recommendation system using machine learning algorithms. Our system leverages user ratings and movie metadata to provide personalized movie recommendations to individual users. We used cosine similarity and collaborative filtering algorithms to build our system, and evaluated its performance using various metrics such as precision and recall. Our results show that our recommendation system provides accurate and relevant movie suggestions to users. Going forward, we recommend further exploring the use of deep learning algorithms for movie recommendation systems, as well as incorporating additional data sources such as social media activity and movie reviews to improve the accuracy and usefulness of the recommendations. This system effectively utilizes two key components: user ratings and movie metadata, to offer tailored movie recommendations to individual users. By employing cosine similarity and collaborative filtering algorithms, we have successfully constructed a robust recommendation engine. To validate its efficacy, we conducted thorough evaluations using essential metrics like precision and recall. The results unequivocally demonstrate that our recommendation system provides users with precise and relevant movie suggestions.

REFERENCES

[1] Gate Smashers, “Software Development Life Cycle”, YouTube

[2] Jisti, “Jisti-meet”, GitHub

[3] Uy Nguyen, “Documenting a Software Architecture”, GitHub

[4] Node.js, “Node.js v16.15.1 documentation”, NodeJS

[5] Express.js, “Express.js v 5.x API”, ExpressJS

[6] Typescript, “TypeScript Documentation”, Typescript

APPENDIX

CODE:

```
import pickle
import streamlit as st
import requests

def fetch_poster(movie_id):
    url =
"https://api.themoviedb.org/3/movie/{}?api_key=8265bd1679663a7ea12ac168da84d2e8&lan
guage=en-US".format(movie_id)
    data = requests.get(url)
    data = data.json()
    poster_path = data['poster_path']
    full_path = "https://image.tmdb.org/t/p/w500/" + poster_path
    return full_path

def recommend(movie):
    index = movies[movies['title'] == movie].index[0]
    distances = sorted(list(enumerate(similarity[index])), reverse=True, key=lambda x: x[1])
    recommended_movie_names = []
    recommended_movie_posters = []
    for i in distances[1:6]:
        # fetch the movie poster
        movie_id = movies.iloc[i[0]].movie_id
        recommended_movie_posters.append(fetch_poster(movie_id))
        recommended_movie_names.append(movies.iloc[i[0]].title)

    return recommended_movie_names,recommended_movie_posters


st.header('Movie Recommender System')
movies = pickle.load(open("C:/Users/Dhruv/Desktop/Movie-recommender-
system/strm/model/movie_list.pkl",'rb'))
similarity = pickle.load(open("C:/Users/Dhruv/Desktop/Movie-recommender-
system/strm/model/similarity.pkl",'rb'))

movie_list = movies['title'].values
selected_movie = st.selectbox(
    "Type or select a movie from the dropdown",
    movie_list
)

if st.button('Show Recommendation'):
```

```
    recommended_movie_names,recommended_movie_posters =
recommend(selected_movie)
    col1, col2, col3, col4, col5 = st.beta_columns(5)
    with col1:
        st.text(recommended_movie_names[0])
        st.image(recommended_movie_posters[0])
    with col2:
        st.text(recommended_movie_names[1])
        st.image(recommended_movie_posters[1])

    with col3:
        st.text(recommended_movie_names[2])
        st.image(recommended_movie_posters[2])
    with col4:
        st.text(recommended_movie_names[3])
        st.image(recommended_movie_posters[3])
    with col5:
        st.text(recommended_movie_names[4])
        st.image(recommended_movie_posters[4])
```