MOVIE MANAGEMENT AND RECOMMENDATION USING MOOD ANALYZER

REVIEW REPORT

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Prepared For

DATABASE SYSTEMS (CSE2004) – PROJECT COMPONENT

Submitted To

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(Deemed to be University under section 3 of UGC Act, 1956)

Abstract

There exists a lack of user privacy and slow movie selection process for users upon searching for the next movie and the recommendation provided by the server in conventional websites. The slow movie selection process leads users to waste most of their free time in just searching for the right taste in movie. To solve this problem, we propose a method to give recommendations to by asking the user's current mood not by searching for their past history, thus ensuring that user's needs are met with minimal problems. In addition, the users can also maintain a database of their own through interactive User Interface to keep track of their progress of movies (Plan to watch, Ongoing, Completed, Dropped, etc). To add on to the project, users will be able to interact with each other through discussion forums created with respect to each movie through posts and comments.

Support will also be provided for the general user by providing him/her with the latest news on the movie industry and personalized articles by the moderator community. It is expected that the project will scale up to large segments of data so a generalized table will also be constructed to keep track of all the past versions and patch notes for the website.

The project will be completed by building a website through basic building elements of Frontend (HTML, CSS, JavaScript), Django as the framework for connecting to the SQL*Plus database and using the elements of Anaconda and other Python libraries to efficiently deduce the next movie for the user through Natural Language Processing. A very basic version will be provided for implementing the same through using the RESTful API to apply the query in the Machine Learning model and predict the results through the genre and tag of every movie.

Note that the database is made only by making a model of a relatively short amount of data and is limited to the optimized machine learning model in the scalability of number of movies and users. Future models of this project can also provide access to other features such as private messaging friend requests between users and access to other production key features such as efficiently storing data on clusters of servers and improving algorithms or using other types of database models such as Columnar, Tree, etc to fetch data from the database at a faster pace.

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1. INTRODUCTION

There exists a lack of user privacy and slow movie selection process for users upon searching for the next movie and the recommendation provided by the server in conventional websites. The slow movie selection process leads users to waste most of their free time in just searching for the right taste in movie. To solve this problem, we propose a method to give recommendations to by asking the user's current mood not by searching for their past history, thus ensuring that user's needs are met with minimal problems.

Motivation of the project:

1. The traditional and the most widespread method for achieving this task has been content-based filtering and past user experience filtering methods using various Machine Learning and Deep Learning algorithms. In turn, using this methodology has resulted in invading the user's privacy to a certain extent, because of which many people who do not wish to give their data to third party corporates have contentions regarding the method.

2. A second problem that has arisen nowadays is the paradox of choice in the wide array of movies that the general masses have to adopt. To make the choice of watching a movie easier, people tend to turn to their friends or family for recommendations but the contrast in tastes differs with each individual. The difference in opinion leads to wastage of free time and unproductivity.

Upon seeing the following problems, our aim is to create a movie suggestion platform to cater according to individual choices.

2. PROJECT SCOPE

We propose a method for cohesive tackling for both situations mentioned above and making the best out of the user experience by making a Web Based Platform for recommendation of movies. It would ask a user his mood and use a tone analyser in real time to extract the suitable movies from the database that best fit for his search query. The end user would enter the different types of mood and genre, including but not limited to- romance, action, sadness, fearsome. Another type of search query would also be provided which directly match the exact name of the movie with the search. Separate tags would also be provided for each individual movie for user to search according to year, language, country, genre and other criteria.

3. LITERATURE REVIEW

Django – [1] A free and open source web framework which is scalable to the extreme and is primarily used for creating websites for people who are on fixed deadlines. Django is supported by an active community and is an open source tool which has gained widespread popularity in the last 10 years. Django was created in 2003 when the web developers at the Lawrence Journal – World newspaper started using Python for their development. Heavy documentation is provided in their website since the software was created by journalist developers. It is used by many sites, including Pinterest, PBS, Instagram, BitBucket, Washington Times, Mozilla, and more!

Watson Mood Analyser – [2] An Application Programmable Interface by IBM Web API Services from which our tone analyser can detect and give the score_id and other details of emotions and communication style in text. It consists of various features such as conducting social listening, enhancing customer service and integrating with chatbots.

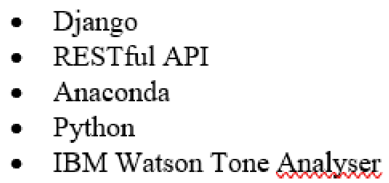
Virtual Environment – [3] There exists a need for various environments wherein multiple versions of a software can be used there without affecting your main installation. Python supports this through virtual environments. The virtual environment is a copy of an existing version of Python with the option to inherit existing packages. A virtual environment is also useful when you need to work on a shared system and do not have permission to install packages as you will be able to install them in the virtual environment.

SQL* Plus – [4] SQL*Plus is an interactive proprietary tool by Oracle. It has a CUI with the corresponding GUI for Windows, and the iSQL*Plus web-based user interface. SQL*Plus has its own commands and environment, and it provides access to the Oracle Database. It enables you to enter and execute SQL, PL/SQL, SQL*Plus and operating system commands to perform the following: Format, perform calculations on, store, and print from query results Examine table and object definitions Develop and run batch scripts and perform database administration.

PhpMyAdmin –[5] phpMyAdmin is a free software tool written in PHP friendly for users creating a small database supporting both CUI and GUI interface for various commands. It’s main purpose is for the overall administration of MySQL in a sample website. phpMyAdmin supports a wide range of operations on MySQL and MariaDB. Frequently used operations (managing databases, tables, columns, relations, indexes, users, permissions, etc) can be performed via the user interface, while you still have the ability to directly execute any SQL statement.

4. PROJECT RESOURCE REQUIREMENTS

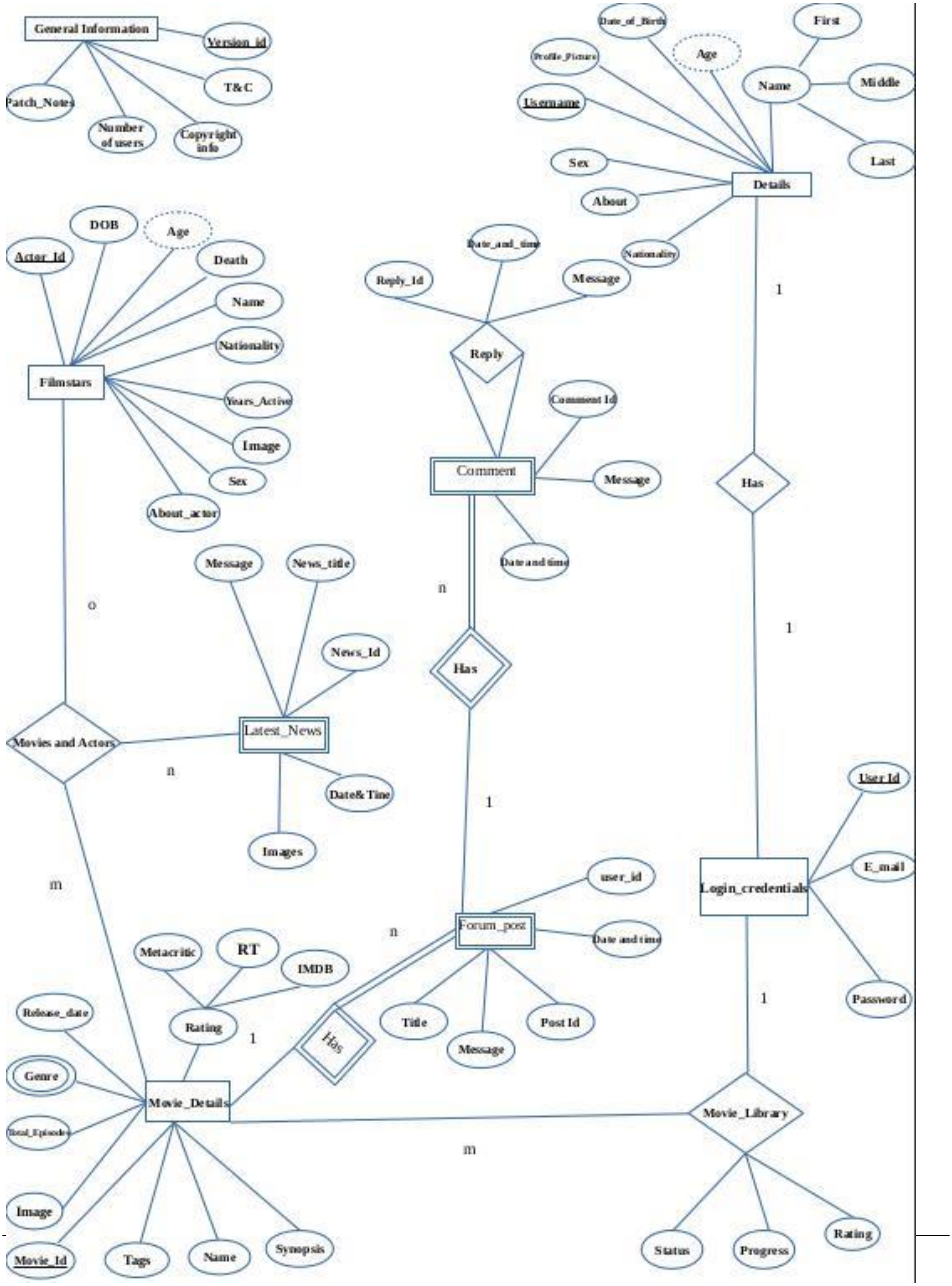
1.1 Software Resource Requirements



- Django
- RESTful API
- Anaconda
- Python
- IBM Watson Tone Analyser

- Windows 10
- SQL *Plus
- HTML, CSS
- JavaScript

5. ER DIAGRAM


General Information
Version_id
T&C
Patch_Notes
Number of users
Copyright info
Date_of_Birth
Profile_Picture
Age
First
Name
Middle
Username
Last
Sex
Details
About
Nationality
1
DOB
Age
Actor_Id
Death
Name
Nationality
Filmstars
Years_Active
Image
Sex
About_actor
Date_and_time
Reply_Id
Message
Reply
Comment Id
Comment
Message
Date and time
Has
n
Has
1
o
Message
News_title
News_Id
1
Movies and Actors
Latest_News
n
Date& Time
Images
1
User Id
m
user_id
E_mail
Login_credentials
Forum_post
Date and time
n
Metacritic
RT
IMDB
Password
1
Release_date
Rating
1
Title
Post Id
Has
Message
Genre
Movie_Details
Movie_Library
Total_Episodes
m
Image
Status
Progress
Rating
Movie_Id
Tags
Name
Synopsis

6. TABLES AND CONSTRAINTS

Table Name : User_Details

Attribute	Data Type	Constraint
User_Id	Number(10)	Foreign Key to User_Id of Login_Credentials onDelete cascade
User_Name	Varchar2(15)	Primary Key
First_Name	Varchar2(30)	Not Null
Middle_Name	Varchar2(30)	
Last_Name	Varchar2(30)	
Sex	Char(1)	Sex In (M,F,m,f)
Nationality	Varchar2(30)	
Date_Of_Birth	Date	
Profile_Picture	Varchar2(30)	Default “blank.png”
About_User	Varchar2(1000)	

Table Name: Login_Credentials

Attribute	Data Type	Constraint
User_Id	Number(10)	Primary Key
E-Mail	Varchar2(30)	Unique
Password	Varchar2(30)	

Table Name : Movie_Details

Attribute	Data Type	Constraint
Movie_Id	Number(10)	Primary Key
Movie_Name	Varchar2(20)	Not Null
IMDB_Rating	Number(5,2)	check(IMDB Rating between 0 and 10
RT_Rating	Number(5,2)	check(RT Rating between 0 and 100
Metacritic_Rating	Number(5,2)	check(Metacritic Rating between 0 and 100)
Genre	Varchar2(10)	Multivalued
Image	Varchar2(100)	Default “blank.png”
Tag	Varchar2(100)	
Release_Date	Date	
Total_Episodes	Number(5)	Check(Total Episodes >0)
Synopsis	Varchar2(1000)	

Table Name : Movie_Library

Attribute	Data Type	Constraint
Movie_Id	Number(10)	Foreign Key to Movie_Id of Movie_Details onDelete cascade
User_Id	Varchar2(20)	Foreign Key to User_Id of User_Details onDelete cascade
Your_Rating	Number(5,2)	check(Rating between 0 and 10)
Status	Char(1)	Status In (O,D,C,P,W,o,d,c,p,w)
Progress	Number(4)	Check(Rating between 0 and Total Episodes)

Here
O- On Hold
D - Dropped
C- Completed
P-Plan to Watch
W-Watching

Table Name : Filmstars

Attribute	Data Type	ConstraintNmae
Actor_id	Number(10)	Primary Key
Name	Varchar2(10)	Not Null
Date_of_Birth	Date	Not Null
Died	Date	
Nationality	Varchar2(10)	
Sex	Char(1)	Sex In (M,F,m,f)
Years_Active	Number(3)	
Actor_Image	Varchar2(100)	Default “blank.png”
About_Actor	Varchar2(1000)	

Table Name : Movie_and_actors

Attribute	Data Type	Constraint
Actor_id	Number(10)	Foreign Key to Actor_Id of Filmstars onDelete cascade
Movie_id	Number(10)	Foreign Key to Movie_Id of Movie_Details onDelete cascade
News_id	Number(10)	Foreign Key to News_Id of Latest News onDelete cascade

Table Name : Latest_News

Attribute	Data Type	Constraint Name
News_Id	Number(10)	Partial Discriminator key
Movie_Id	Number(10)	Foreign Key to Movie_Id of Movie_Details onDelete cascade
Actor_Id	Number(10)	Foreign Key to Actor_Id of Filmstars onDelete cascade
News_Message	Varchar2(1000)	Not Null
Title	Varchar2(50)	Not Null
News_d_t	TimeStamp	
Images	Varchar2(100)	

Table Name : Forums_post

Attribute	Data Type	Constraint Name
Movie_Id	Number(10)	Foreign Key to Movie_Id of Movie_Details onDelete cascade
Post_Id	Number(10)	Partial Discriminator key
Title	Varchar2(100)	Not Null
Message	Varchar2(255)	Not Null
User_Id	Number(10)	Foreign Key to User_Id of User_Details onDelete cascade
Post_d_t	TimeStamp	

Table Name : Comments

Attribute	Data Type	Constraint
Comment_id	Number(10)	Partial Discriminator Key
Post_Id	Number(10)	Foreign Key to Post_Id of Forums_Post onDelete cascade
User_id	Number(10)	Foreign Key to User_Id of User_Details onDelete cascade
Message	Varchar2(255)	Not Null
Comment_time	timestamp	

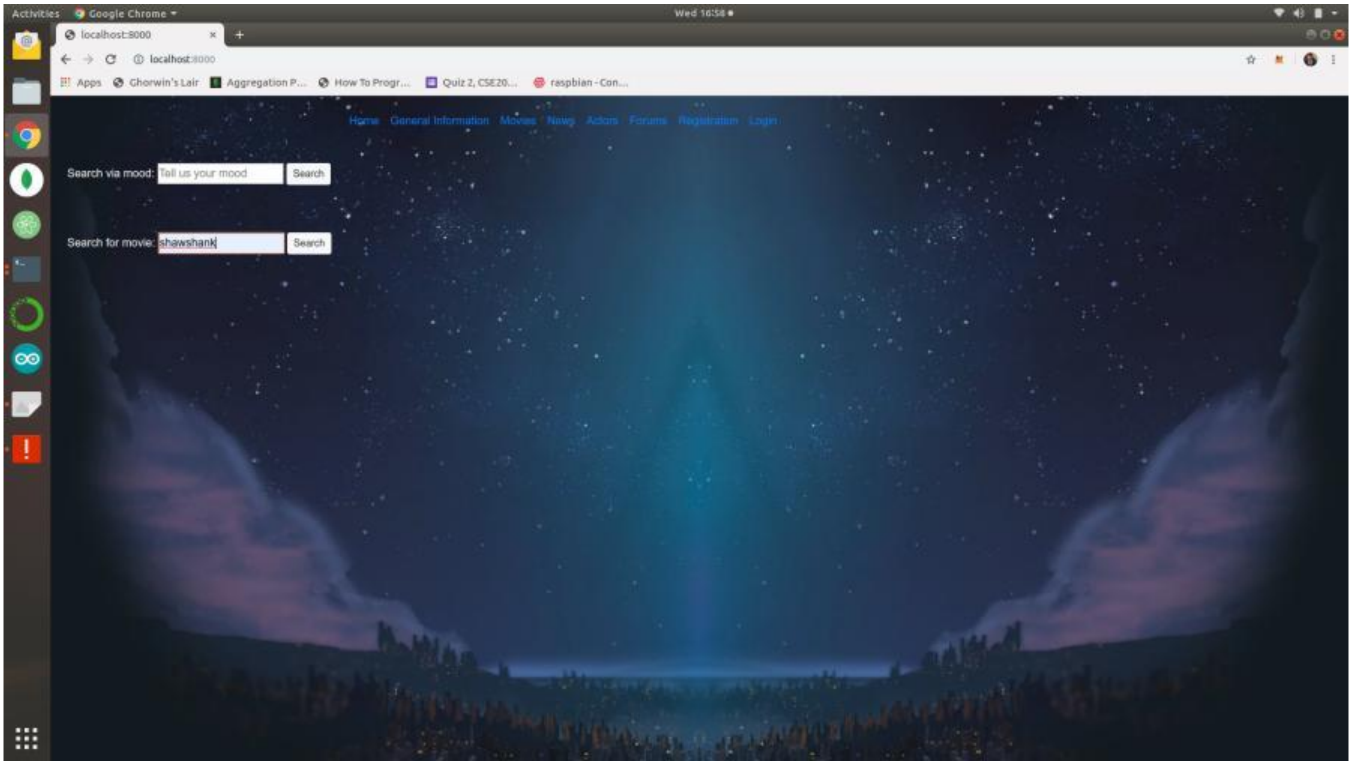
Table Name : Replies

Attribute	Data Type	Constraint
Comment_id	Number(10)	Foreign Key to Comment_Id of Comments onDelete cascade
Reply_Message	Varchar2(255)	Not Null
Reply_Id	Number(10)	Partial discriminator Key
Reply_Time	timestamp	
User_Id	Number(10)	Foreign Key to User_Id of User_Details onDelete cascade

Table Name : General_Informaton

Attribute	Data Type	Constraint
Version_id	Number(2,2)	Primary Key
Patch_notes	Varchar2(255)	Not Null
Number_of_users	Number(10)	Number of Users>0
Copyright_Notice	Varchar2(100)	Not Null
Terms_and_Conditions	Varchar2(1000)	Not Null

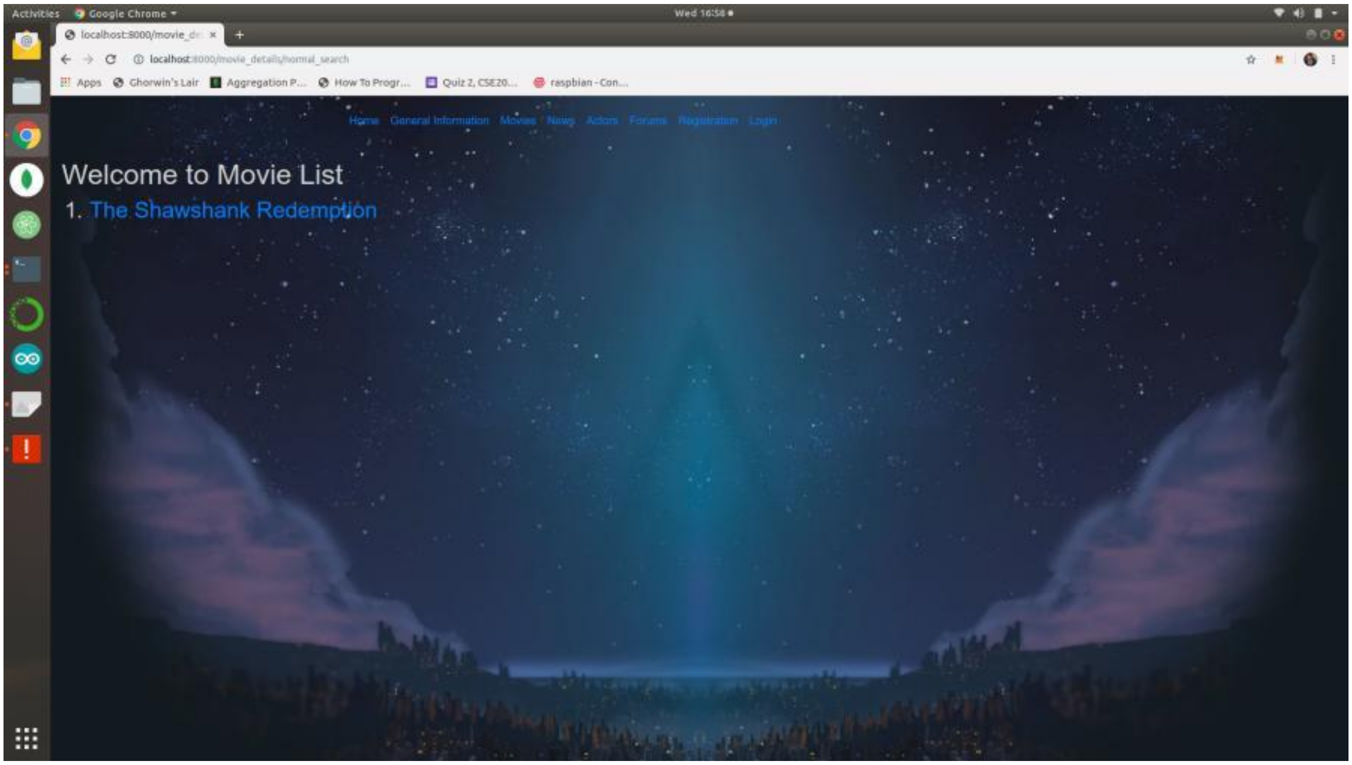
7. PROJECT OUTPUT



Search via mood: Tell us your mood

Search for movie: shawshank

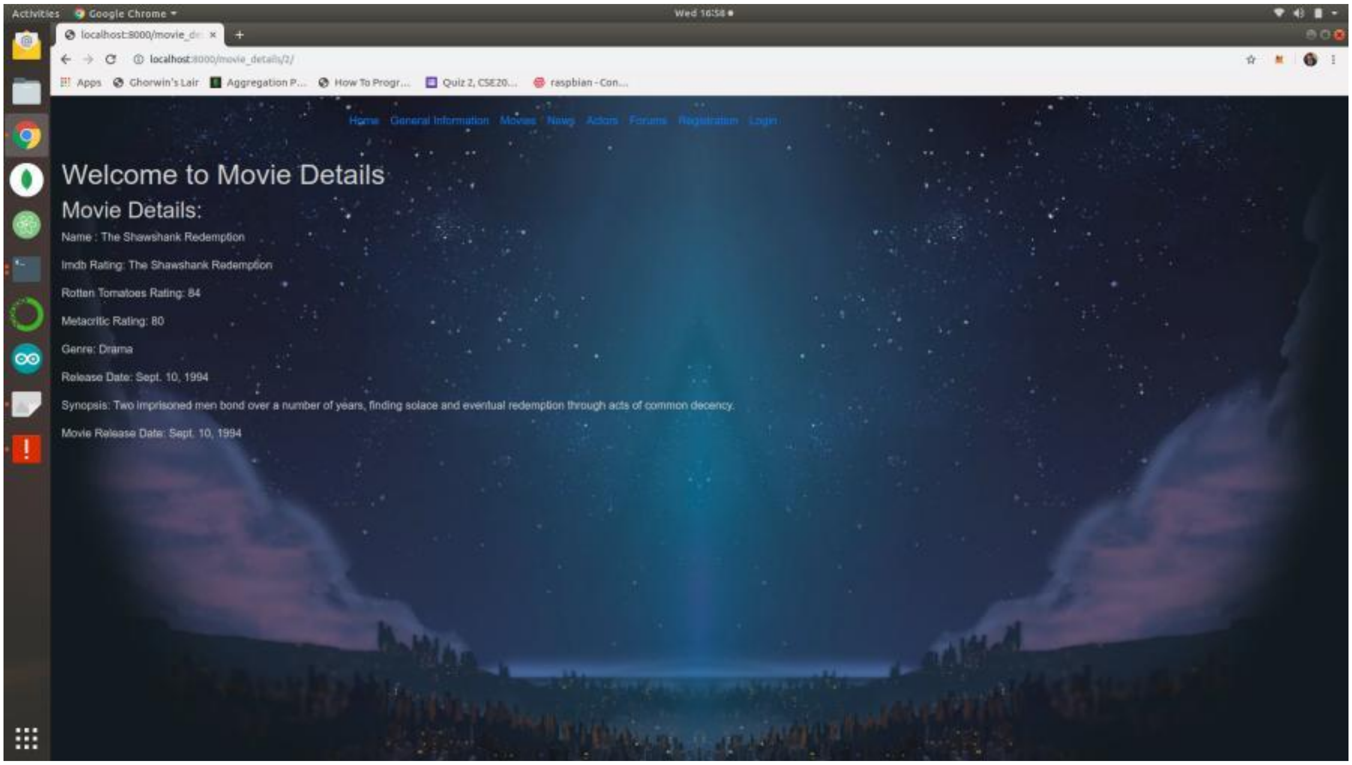
Figure 1: Home page for the website with the respective searches



Welcome to Movie List

1. The Shawshank Redemption

Figure 2: Search results for the sample movie search



Welcome to Movie Details

Movie Details:

Name : The Shawshank Redemption

Imdb Rating: The Shawshank Redemption

Rotten Tomatoes Rating: 84

Metacritic Rating: 80

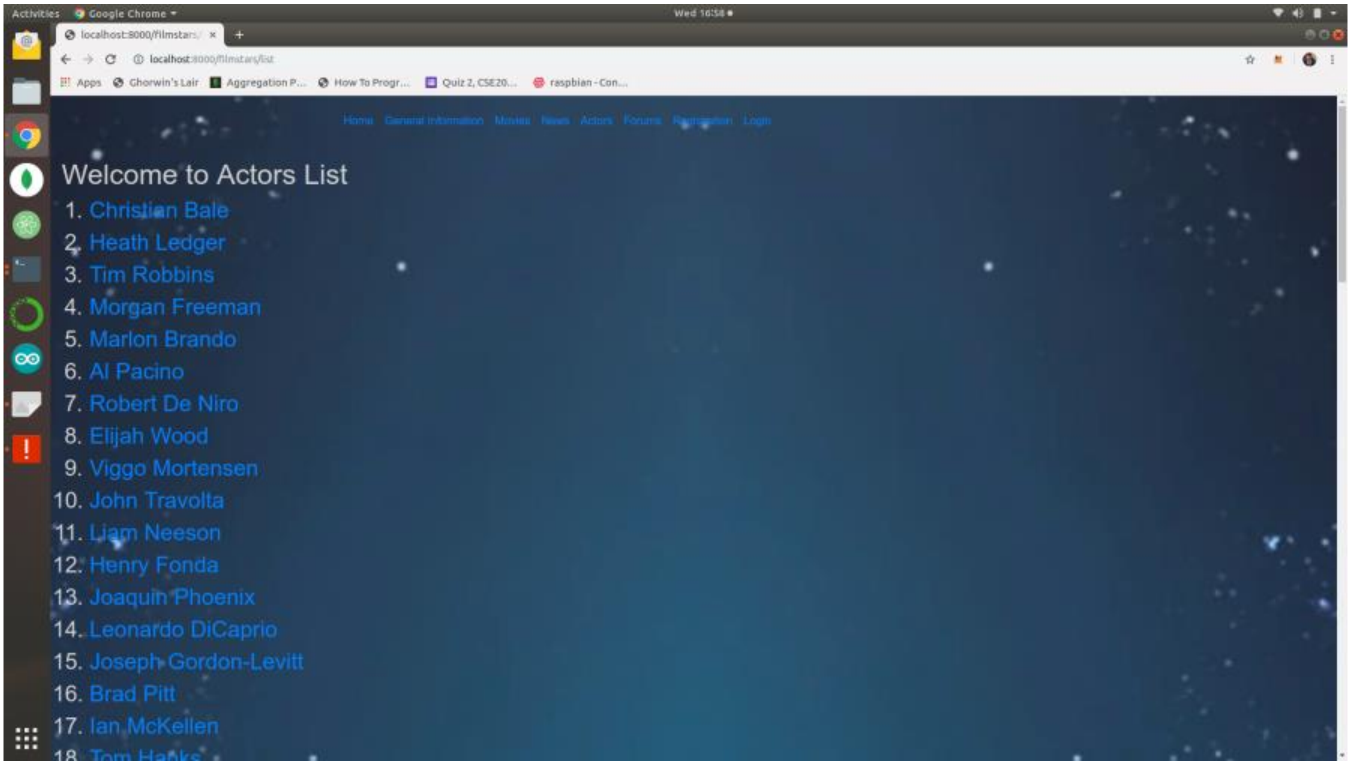
Genre: Drama

Release Date: Sept. 10, 1994

Synopsis: Two imprisoned men bond over a number of years, finding solace and eventual redemption through acts of common decency.

Movie Release Date: Sept. 10, 1994

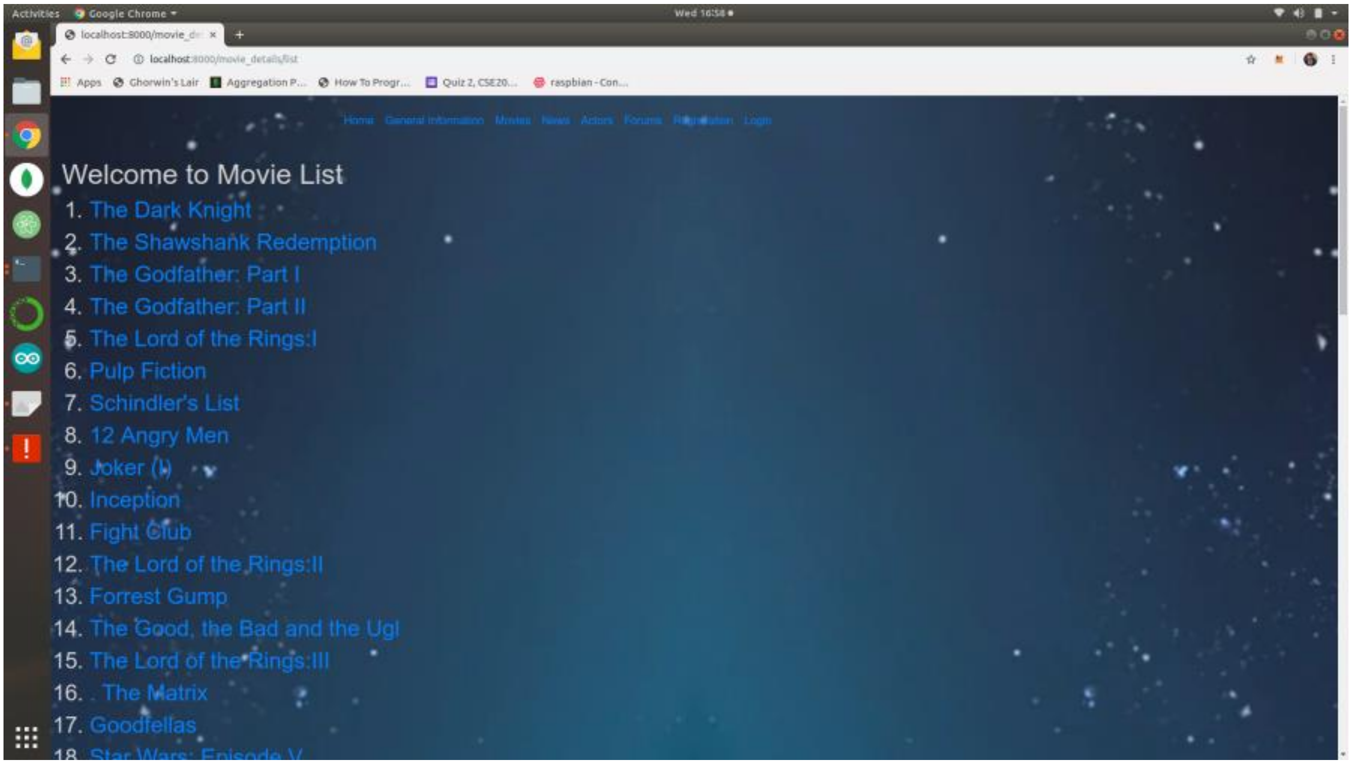
Figure 3: Movie Details of a Sample movie



Welcome to Actors List

1. Christian Bale
2. Heath Ledger
3. Tim Robbins
4. Morgan Freeman
5. Marlon Brando
6. Al Pacino
7. Robert De Niro
8. Elijah Wood
9. Viggo Mortensen
10. John Travolta
11. Liam Neeson
12. Henry Fonda
13. Joaquin Phoenix
14. Leonardo DiCaprio
15. Joseph Gordon-Levitt
16. Brad Pitt
17. Ian McKellen
18. Tom Hanks

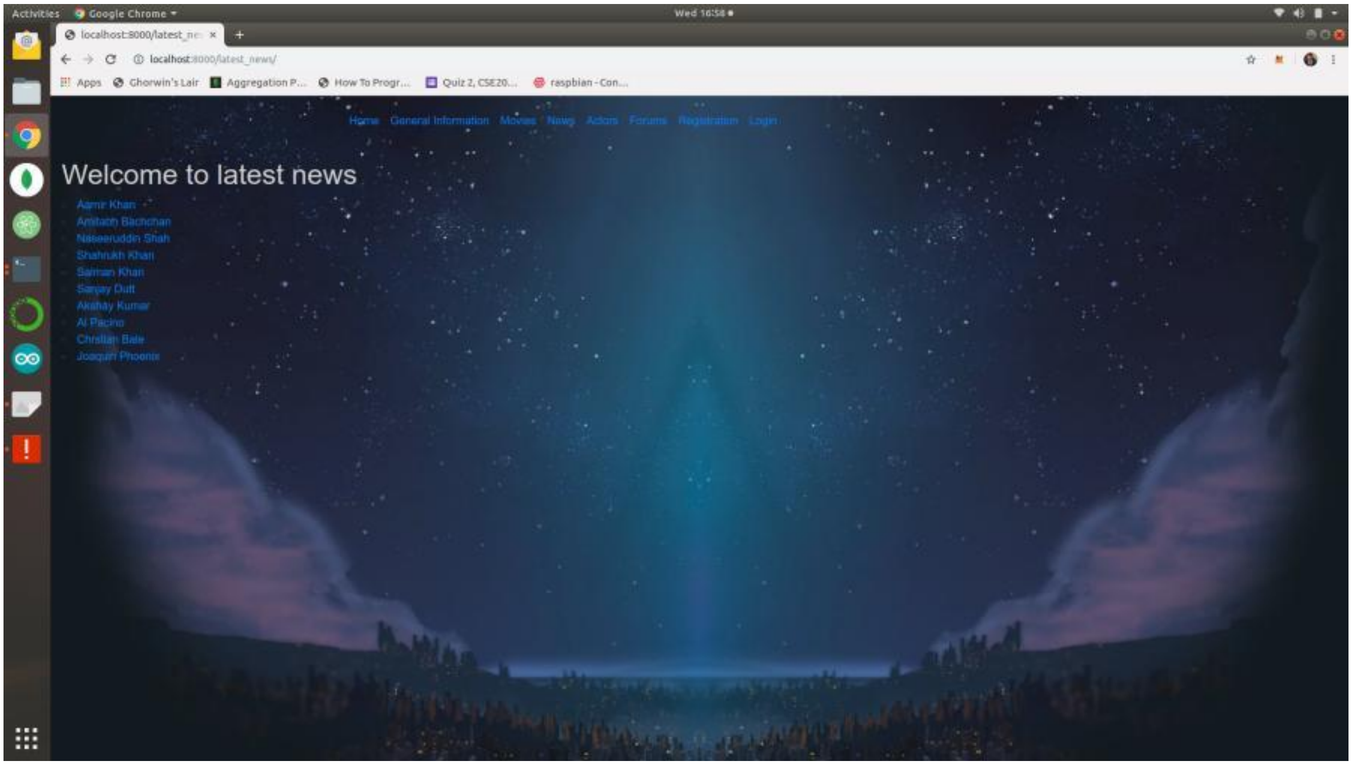
Figure 4: Complete list of Actors in Search



Welcome to Movie List

1. The Dark Knight
2. The Shawshank Redemption
3. The Godfather: Part I
4. The Godfather: Part II
5. The Lord of the Rings:I
6. Pulp Fiction
7. Schindler's List
8. 12 Angry Men
9. Joker (I)
10. Inception
11. Fight Club
12. The Lord of the Rings:II
13. Forrest Gump
14. The Good, the Bad and the Ugl
15. The Lord of the Rings:III
16. The Matrix
17. Goodfellas
18. Star Wars: Episode V

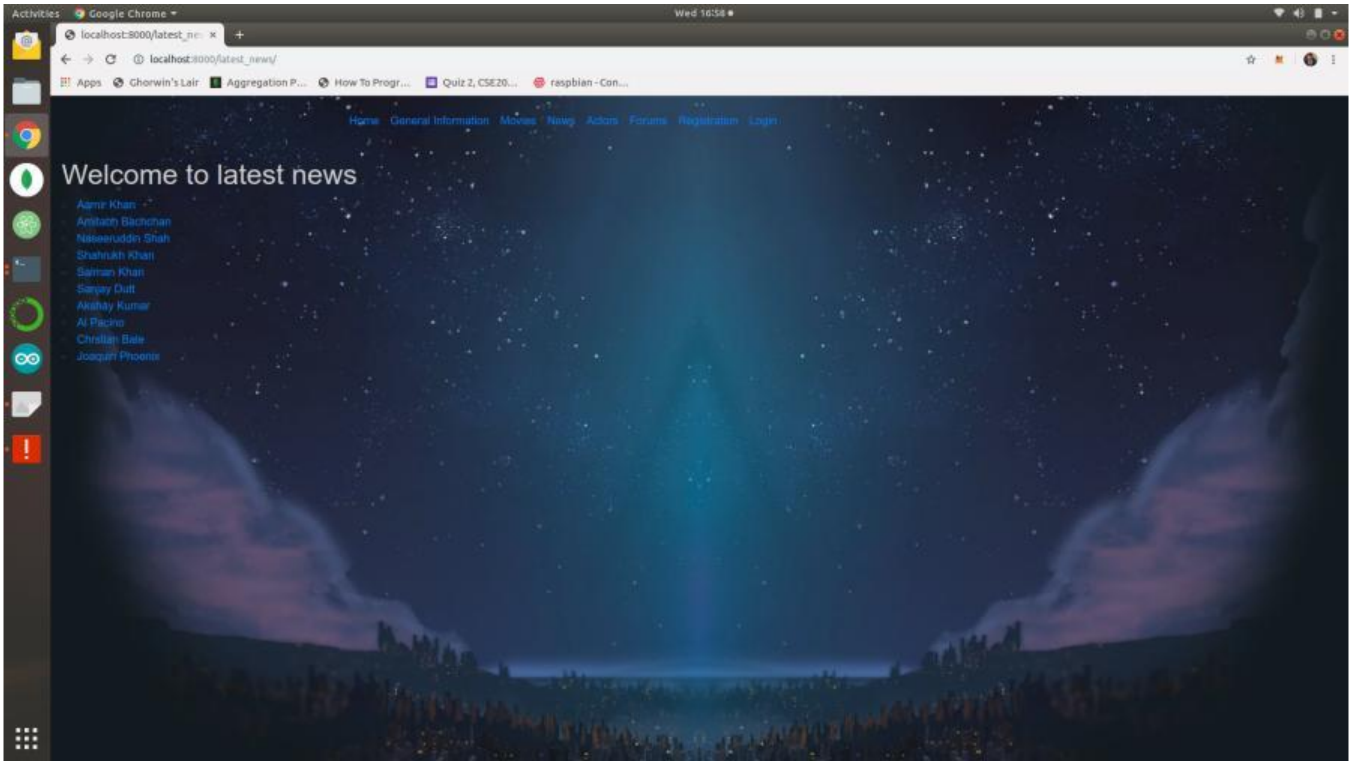
Figure 5: Complete listing of movies in Search



Welcome to latest news

- Aamir Khan
- Amitabh Bachchan
- Naseeruddin Shah
- Shahrukh Khan
- Salman Khan
- Sanjay Dutt
- Akshay Kumar
- Al Pacino
- Christian Bale
- Joaquin Phoenix

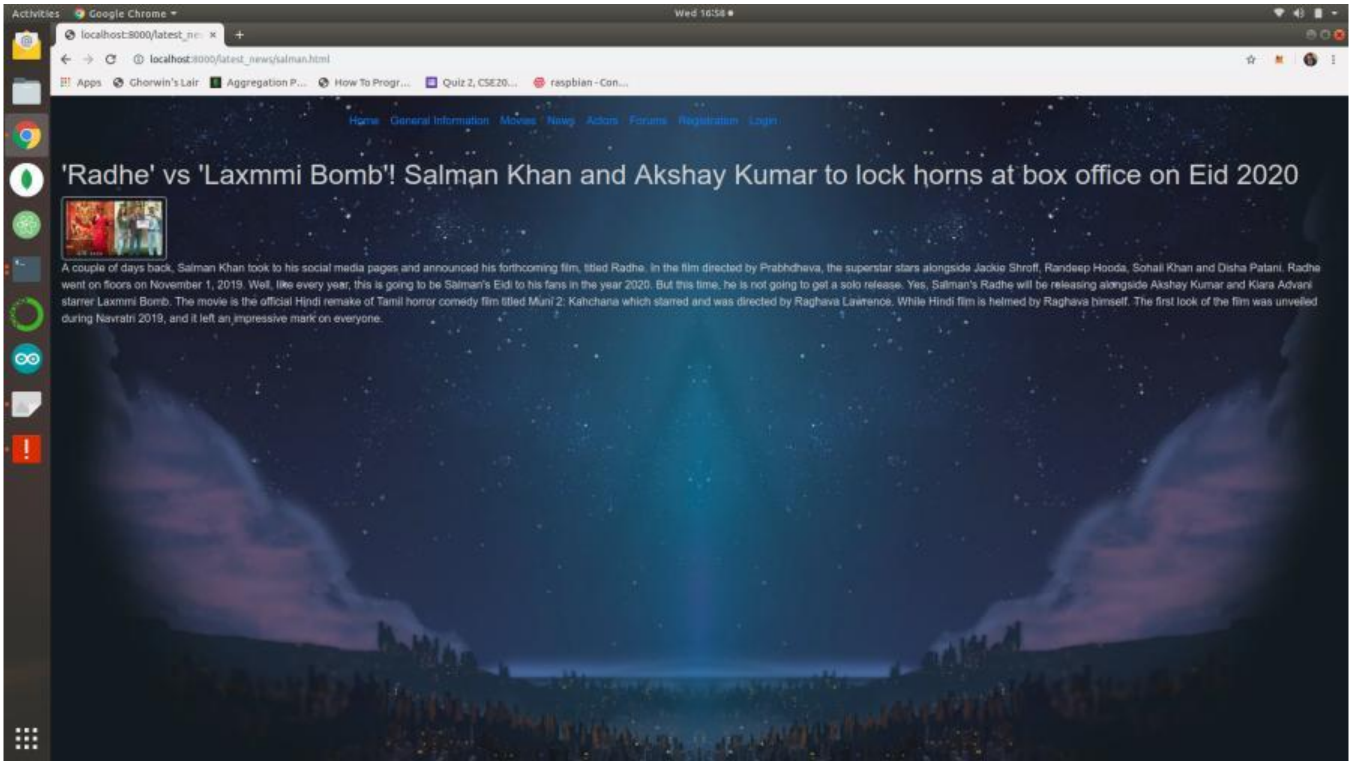
Figure 6: Latest News sorted by actor names and dates



Welcome to latest news

- Aamir Khan
- Amitabh Bachchan
- Naseeruddin Shah
- Shahrukh Khan
- Salman Khan
- Sanjay Dutt
- Akshay Kumar
- Al Pacino
- Christian Bale
- Joaquin Phoenix

Figure 7: Latest News List of particular movie



'Radhe' vs 'Laxmmi Bomb'! Salman Khan and Akshay Kumar to lock horns at box office on Eid 2020

A couple of days back, Salman Khan took to his social media pages and announced his forthcoming film, titled Radhe. In the film directed by Prabhdheva, the superstar stars alongside Jackie Shroff, Randeep Hooda, Sohail Khan and Disha Patani. Radhe went on floors on November 1, 2019. Well, like every year, this is going to be Salman's Eidi to his fans in the year 2020. But this time, he is not going to get a solo release. Yes, Salman's Radhe will be releasing alongside Akshay Kumar and Kiara Advani starrer Laxmmi Bomb. The movie is the official Hindi remake of Tamil horror comedy film titled Muni 2: Kahchana which starred and was directed by Raghava Lawrence. While Hindi film is helmed by Raghava himself. The first look of the film was unveiled during Navratri 2019, and it left an impressive mark on everyone.

Figure 8: News Details of a sample news

8. Conclusion and Future Scope

With this, we have implemented the Mood Analyser and explained the intricacies of the working of a sample database. For production usage, Django can be connected to various backend services to handle larger amount of data. One of the future scope lies in the fact that the user enters his mood and more amount of parameters can be used to predict what movies that user wants to watch without violation of his/her privacy

Adding on to the functionalities of the website, in the future, a Database Management System could be used to allow individual users to personalise their viewed content using CRUD based methodology and also sort or filter the content. Users can add, modify, delete their list of to-be-watched/on progress/etc style of movies. A rating system would also be provided for all the completed movies by the user. Other than their personal list, the user can also be updated on the movie industry by seeing the latest news provided.

9. Work Break Down

Team Member Registration Number	Name	Work Assigned
18BCE0668	Abhaas Goyal	Experiment and Data Analysis Architecture of The Proposed Model
18BCE0699	Vatsal Gupta	Architecture of The Proposed Model Frontend Development
18BCE0719	Ravi Prakash	Database Creation Frontend Development

10. Key Contacts and Stakeholders

Name	Registration Number	Phone Number
Abhaas Goyal	18BCE0668	9560612364
Ravi Prakash	18BCE0719	9102904391
Vatsal Gupta	18BCE0699	8452970675

11. References

[1] https://docs.djangoproject.com/en/2.2/
[2] https://www.ibm.com/watson/services/tone-analyzer/
[3] https://uoa-eresearch.github.io/eresearch-cookbook/recipe/2014/11/26/python-virtual-env/
[4] https://docs.oracle.com/cd/B12037_01/server.101/b12170/ch1.htm
[5] https://www.phpmyadmin.net/

12. REVIEW EVALUATION

COMPONENT	MARKS	MEMBER 1	MEMBER 2	MEMBER 3	MEMBER 4	MEMBER 5
Report	10					
Project Implementation	25					
Presentation	15					
TOTAL	50 MARKS					