

GIT Department of Computer Engineering CSE
222/505 - Spring 2021 / Final Project Report

Project Name: EMOVIETION



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1801042666 NEJDET DALASLAN
1801042693 MUHAMMET FİKRET ATAR
1901042709 AHMET BARIŞ EMRE DURAK
1901042709 AHMET BARIŞ EMRE DURAK
215008003003 BARIŞ ÖZCAN

PROBLEM DEFINITION

MOVIE DATABASE BY MOOD & FEELING

Many of us do not have enough time to do relaxing activities such as watching movies. Therefore, we are more selective for the movies we will watch. We do not want to be fooled by the trailers and the advice of our friends who have incompatible tastes. We are struggling choosing a movie fits their mood. 1-10 ranking is not giving much ideas about if the movie is chilling, depressing or motivational. We want to choose how the movie makes us feel.

Example Moods:

Funny

Romantic

Dramatic

Emotional

Inspiring

Motivational

Chilling

Exciting

Scary

USERS OF THE SYSTEM

Admin

- *adds/removes moderators
- *checks list of films
- *can see suggestions (adding/removing films) of moderators.
- *approves adding&removing a film and do this operation.
- *adds/removes moods
- *removes inappropriate audience from the system.

Moderator

- *suggest a movie to admin for “adding to” / ”removing from” system
- *review comments
- *remove comments that have tag as inappropriate *add general info about film.

Audience

- *Subscribe to the system
- *like or unlike comments to inform moderators for inappropriate comments.
- *list films and comments

*react to movies with different moods

*add comments

*Score Movies.

REQUIREMENTS IN DETAILS

4.1 Functional System Requirements:

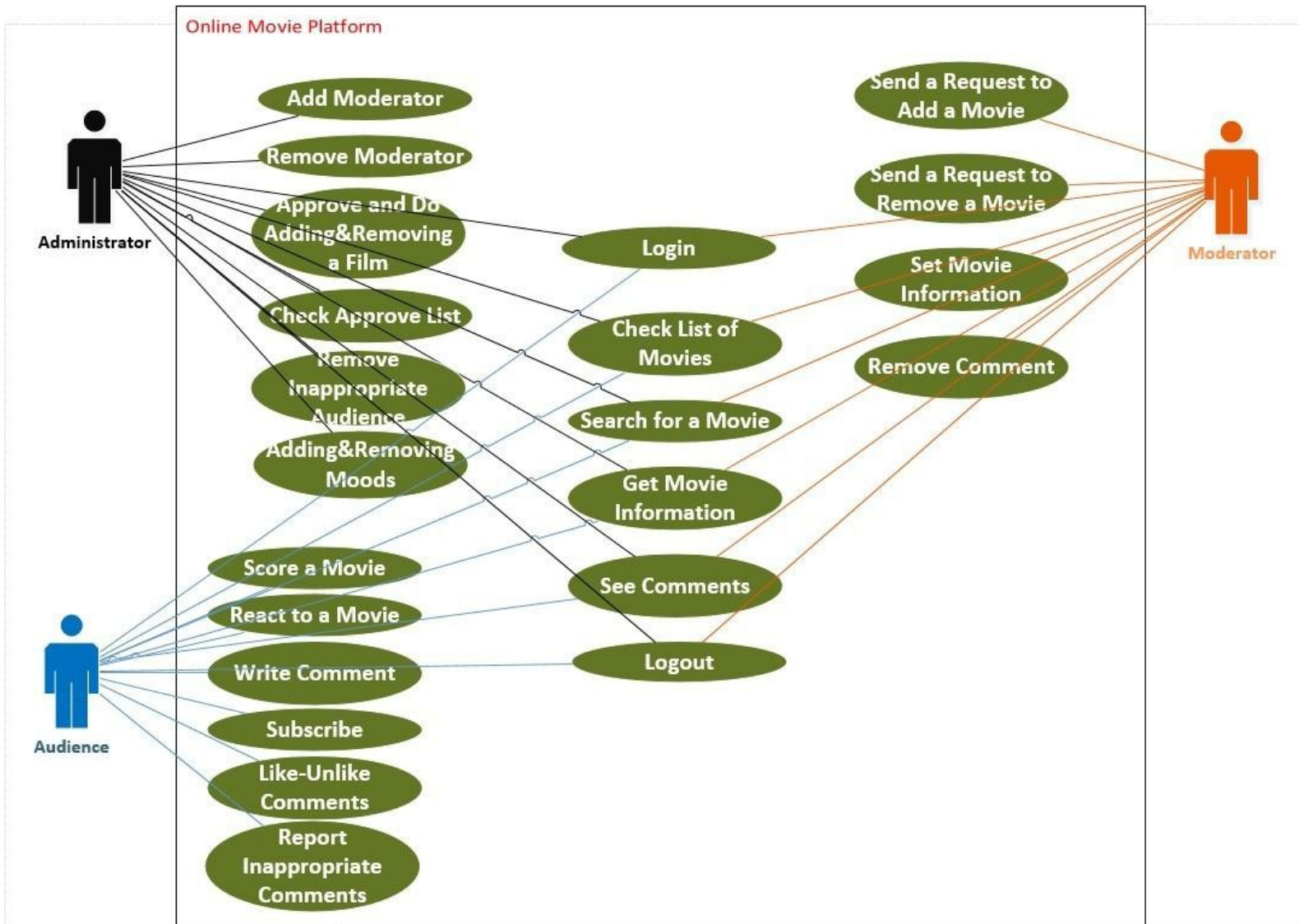
- 1)Admin shall be able to add and remove moderators.
- 2)Admin shall be able to check list of films.
- 3)Admin shall be able to see suggestions (adding/removing films) of moderators.
- 4)Admin shall be able to approve adding&removing a film and do this operation.
- 5)Admin shall be able to add&remove moods.
- 6)Admin shall be able to remove inappropriate audience from the system.
- 7) Moderator shall be able to suggest a movie to admin for “adding to” / ”removing from” system.
- 8) Moderator shall be able to review comments.
- 9) Moderator shall be able to remove comments that have tag as inappropriate.

- 10) Moderator shall be able to add general info about film.
- 11) Audience shall be able to subscribe to the system.
- 12) Audience shall be able to like or unlike comments and they are able to tag them as inappropriate.
- 13) Audience shall be able to list films and comments.
- 14) Audience shall be able to react to movies with different moods.
- 15) Audience shall be able to add comments and grade them.
- 16) Audience shall be able to score a Movie.

4.1 Non-Functional System Requirements:

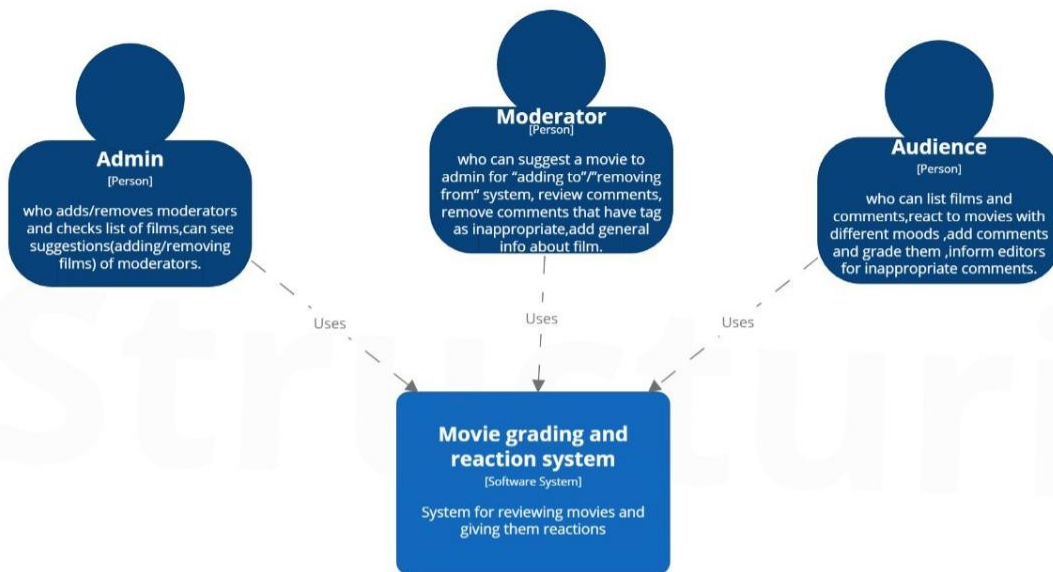
- 1) Software should be able to compile with “javac” on a linux distribution.
- 2) System needs some real data for films at the beginning, this requirement is provided by kaggle-imdb datasets. We found the most suitable dataset and integrated it into our system.
- 3) System-Users’ information and movies’ information are kept in two separate files. when program runs, we check the users’ information validation with the help of this user-information file, if a new user is added then user-information file is updated. Other file should have movies’ information, if administrator adds/removes a movie with the help of suggestion of moderators then our movie-information file is updated. Briefly, at the beginning of the program, we need two different files for keeping users’ and movies’ information.

USE-CASE DIAGRAM



C4 MODEL

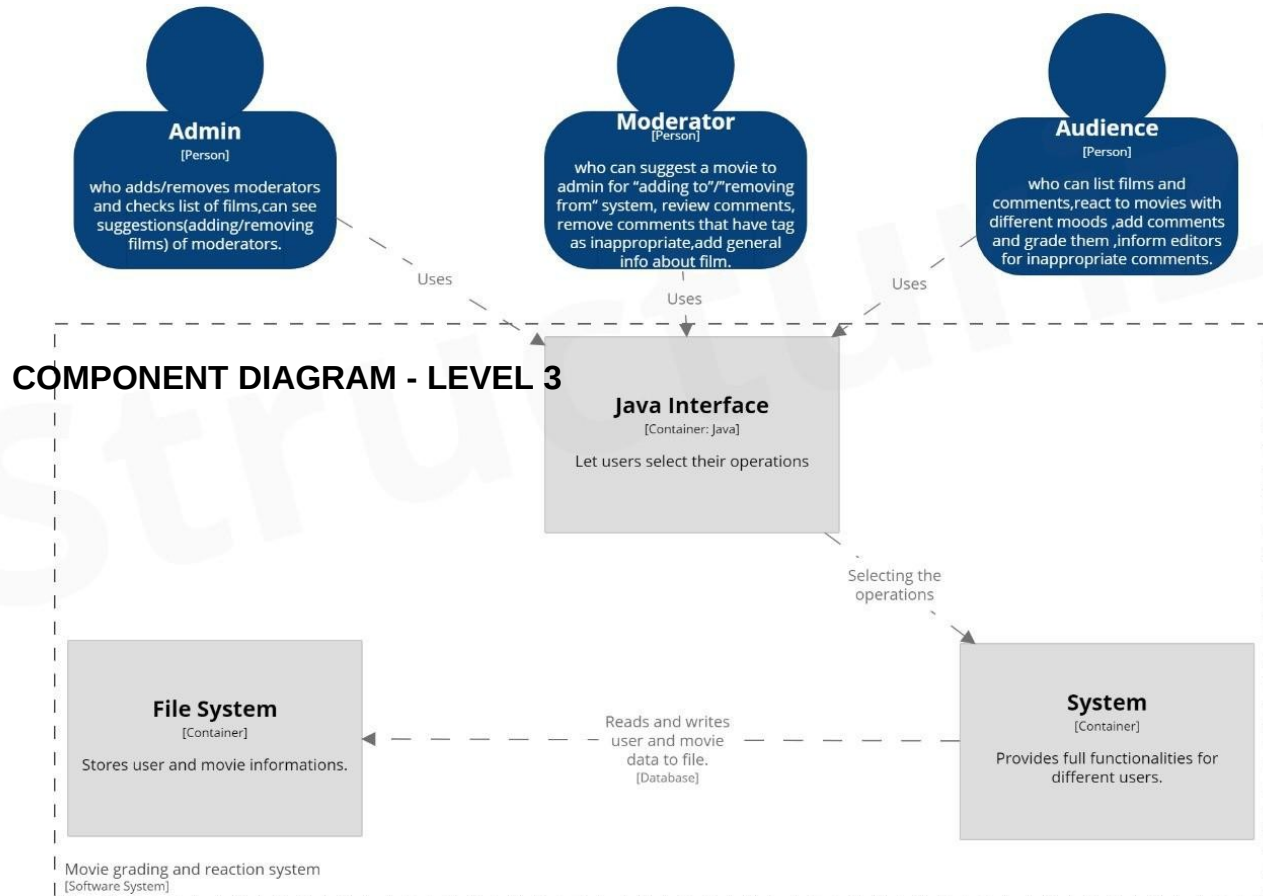
CONTEXT DIAGRAM - LEVEL 1



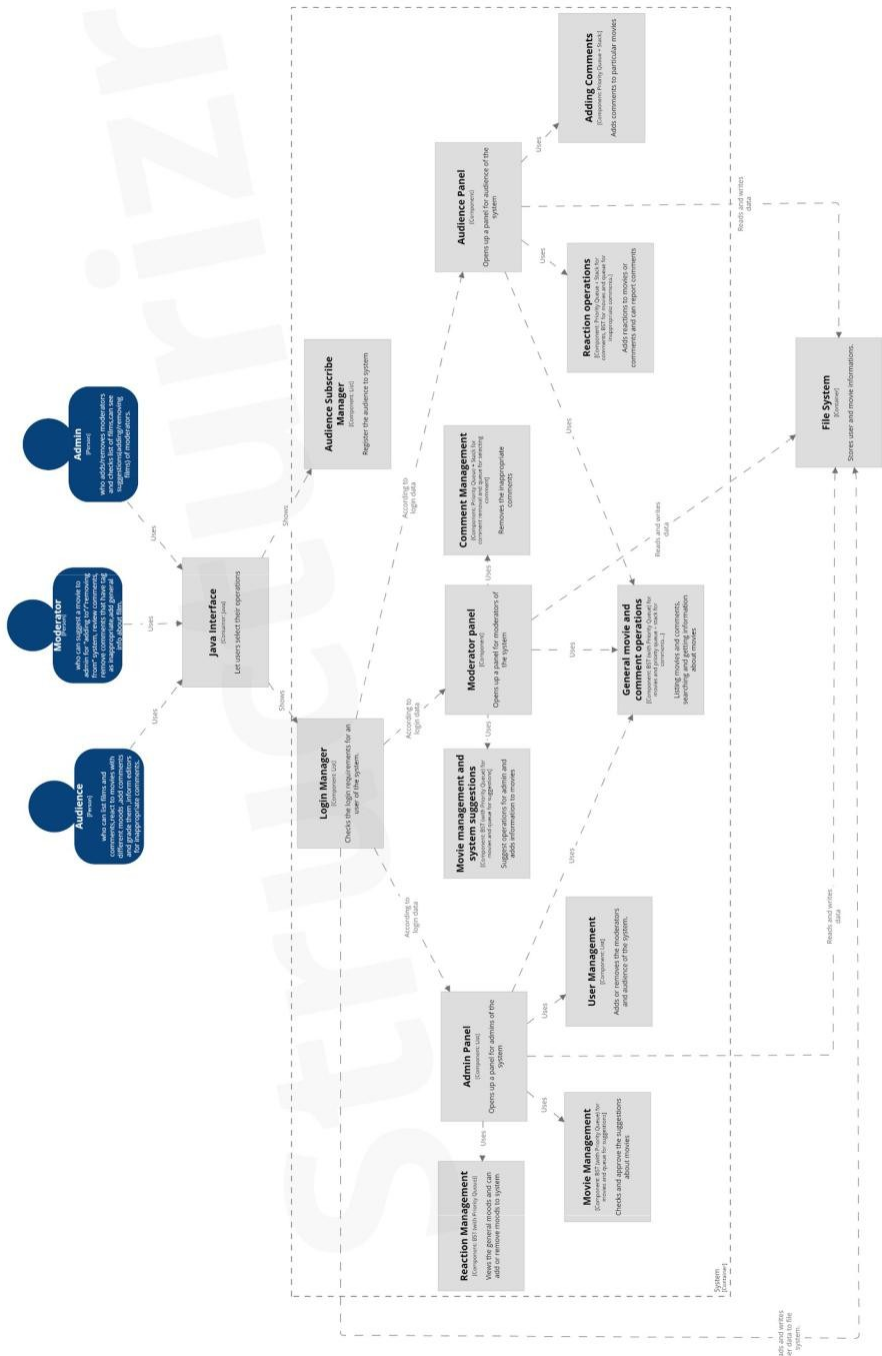
System Context diagram for Movie grading and reaction system

9 Mayıs 2021 Pazar 17:02 GMT+03:00 | Try Structurizr for free at structurizr.com

CONTAINER DIAGRAM - LEVEL 2



COMPONENT DIAGRAM - LEVEL 3



Component diagram for Movie grading and reaction system - System

Explanation of the data structures with details:

Login Manager: We are storing the users as HashSet in the system. Since we are checking users data to let them login we are using HashSet in login manager component.

Audience Subscribe Manager: This component adds new audience to system and we are storing our audience in HashSet structure so it is using HashSet structure.

Reaction Management: We store our reactions in enum and think them as .

Movie management and system suggestions: In this component suggestions are stored in queues so it will use queues in this component and for the information operation it will use BST because we used it for storing the movies.

Comment Management: This component finds the comment from the queue that has the reported comments and removes them from the queue structure.

Movie Management: We store our movies in arraylist.

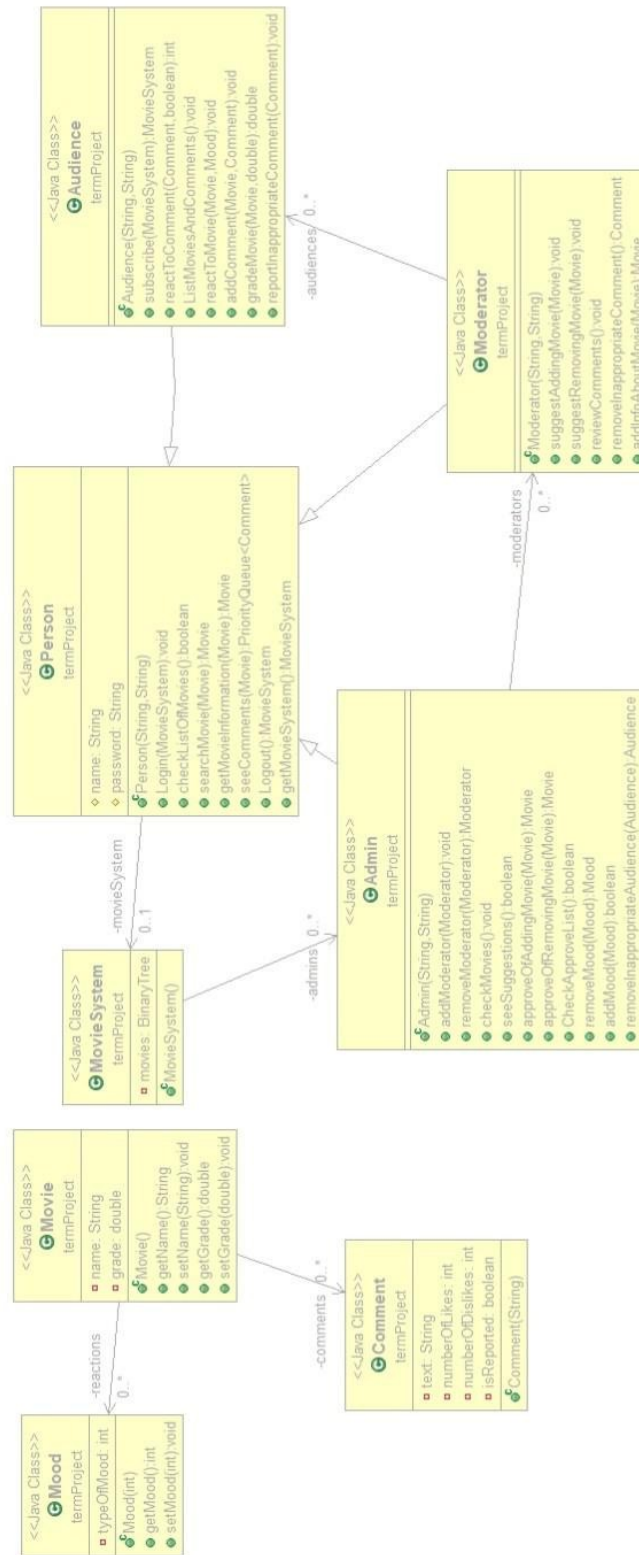
User Management: This component uses list because we are storing our users in list structure. And this component can add or remove them from the system.

General movie and Comment Operations: This component uses BST for searching, listing movies and uses stack + priority queue for listing comments.

Reaction Operations: This component uses BST for listing the movies to react and stack + priority queue to listing comments to react.

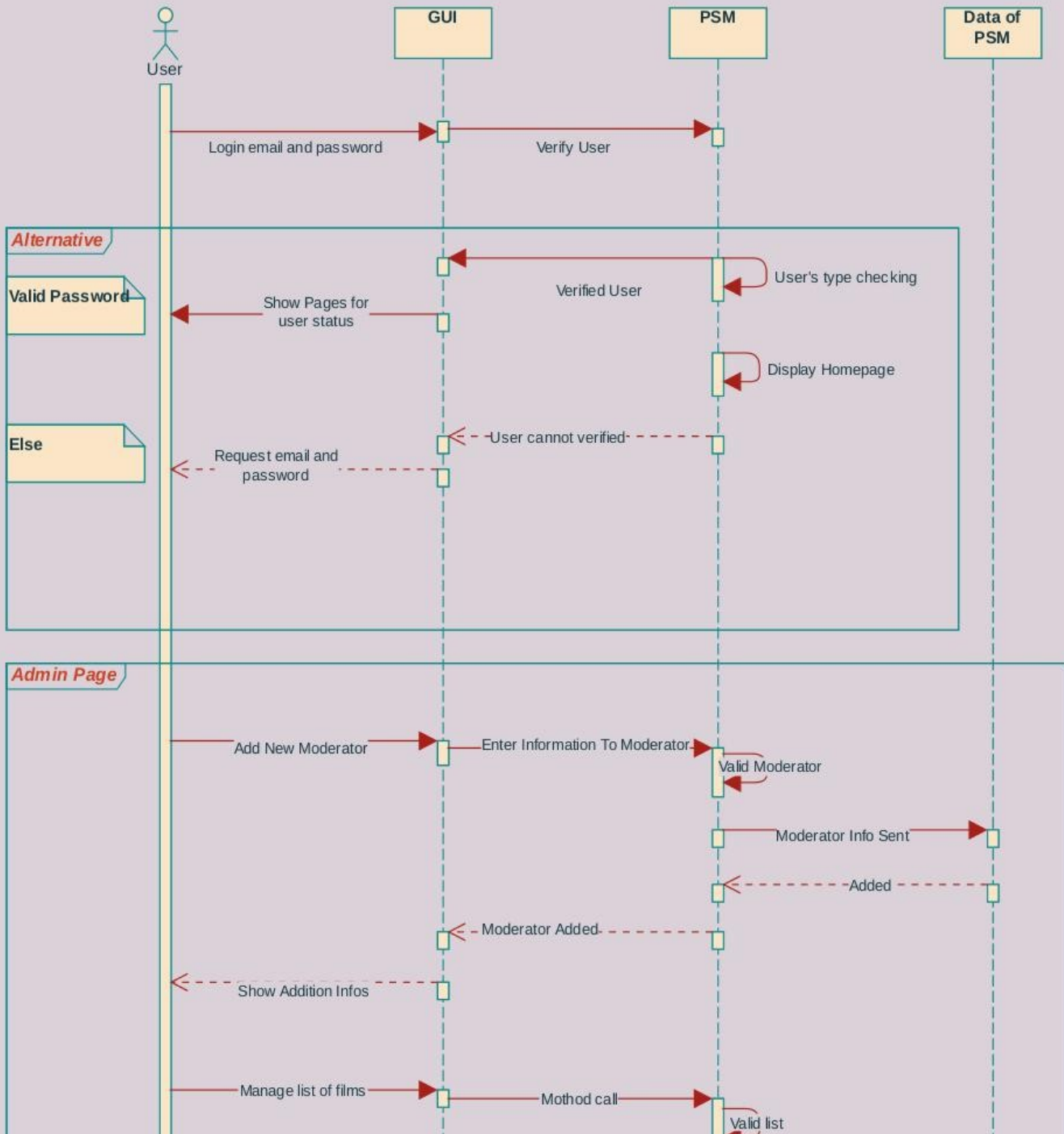
Adding Comments: Since comments are stored in both priority queue and stack we are using those structures in this component.

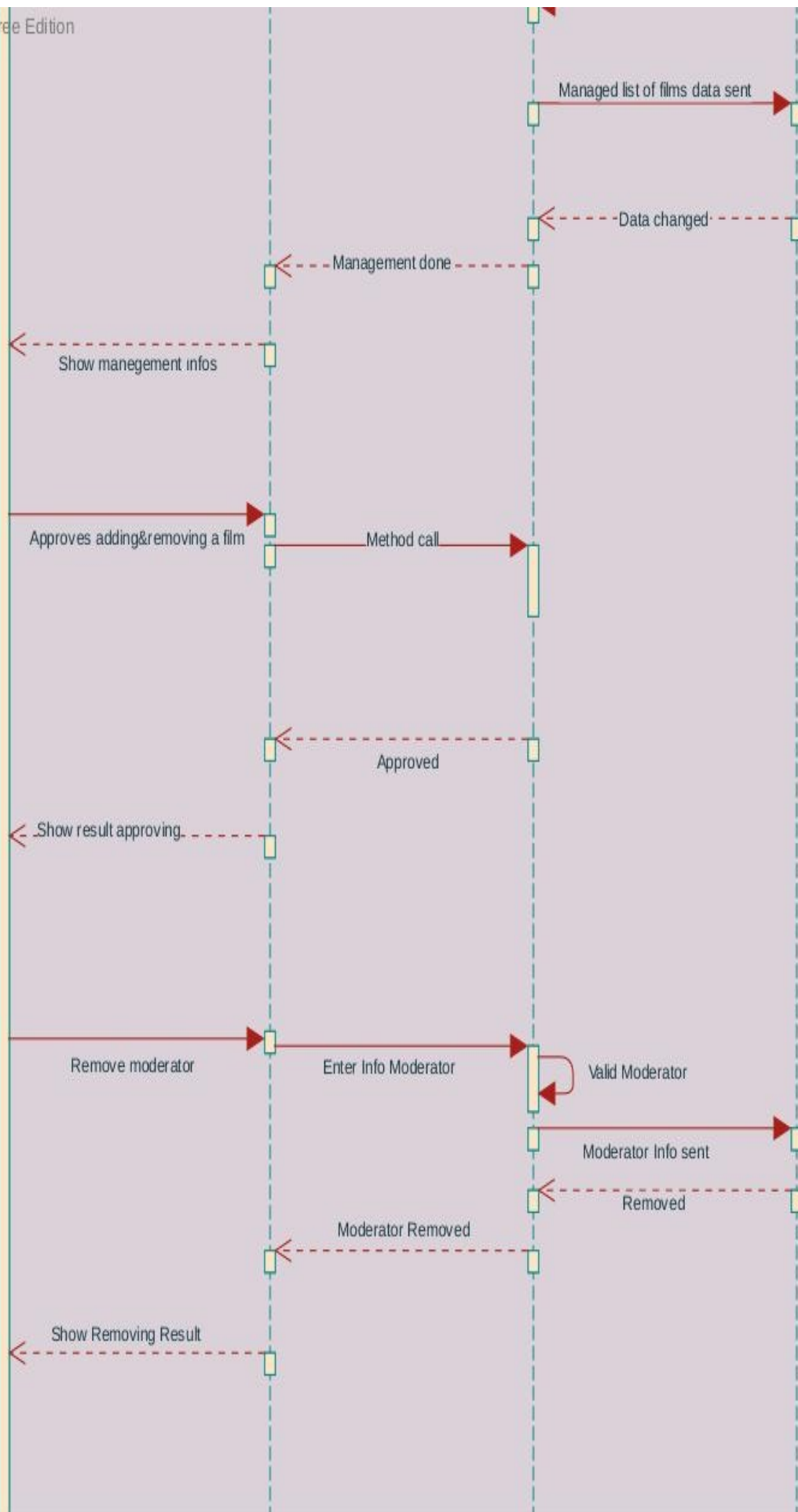
CLASS DIAGRAMS

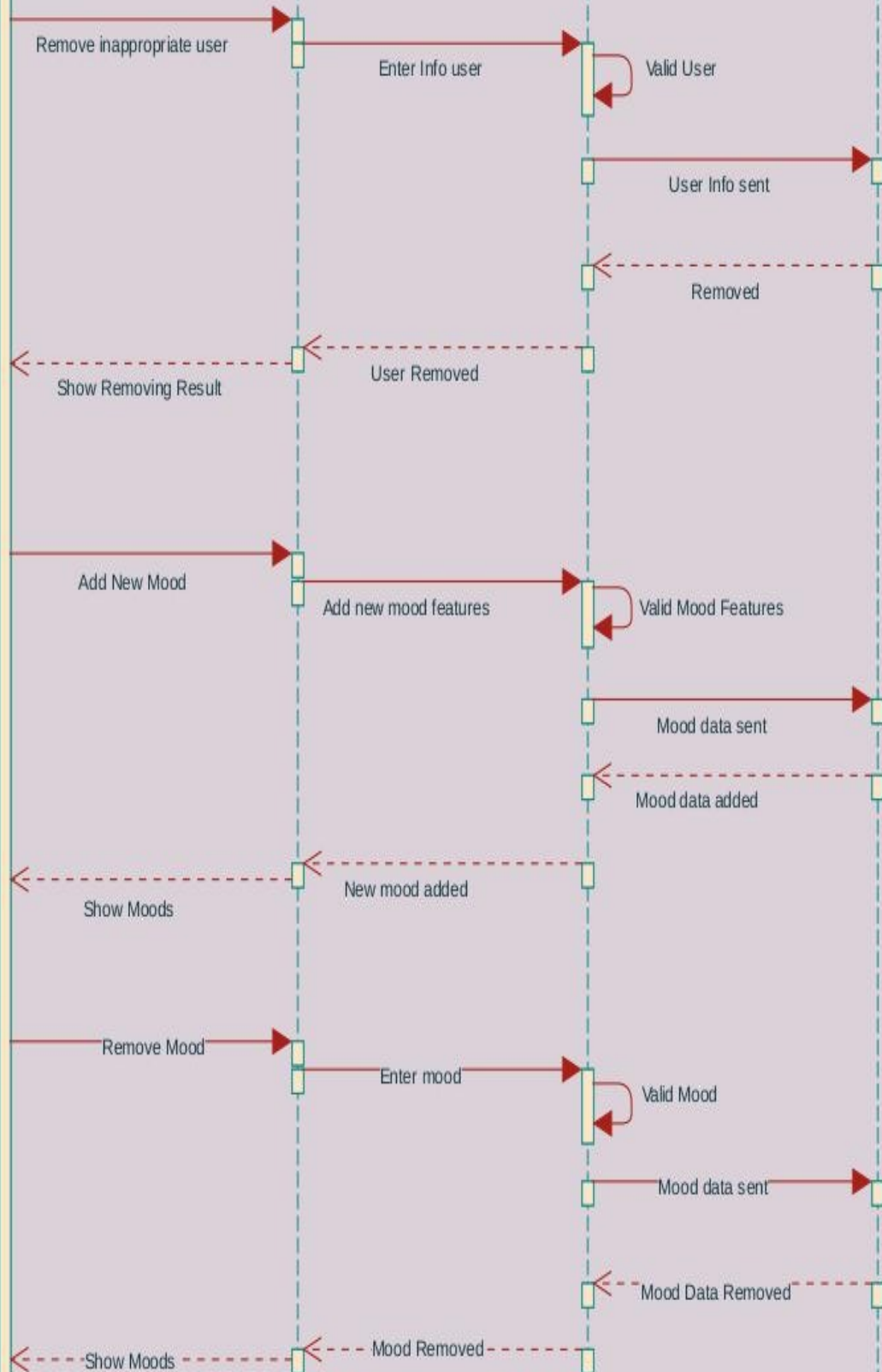


SEQUENCE DIAGRAMS

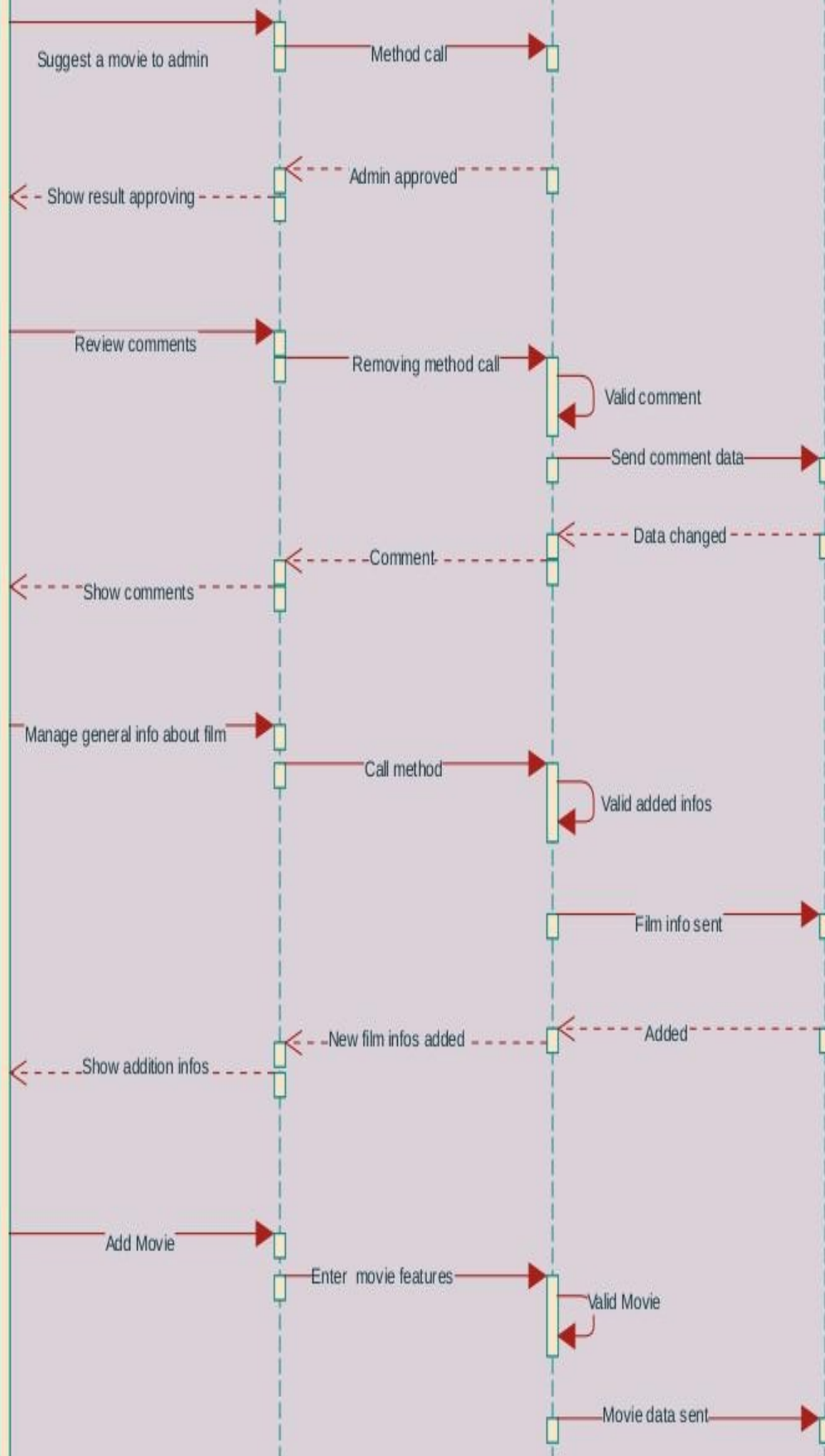
Visual Paradigm Online Free Edition

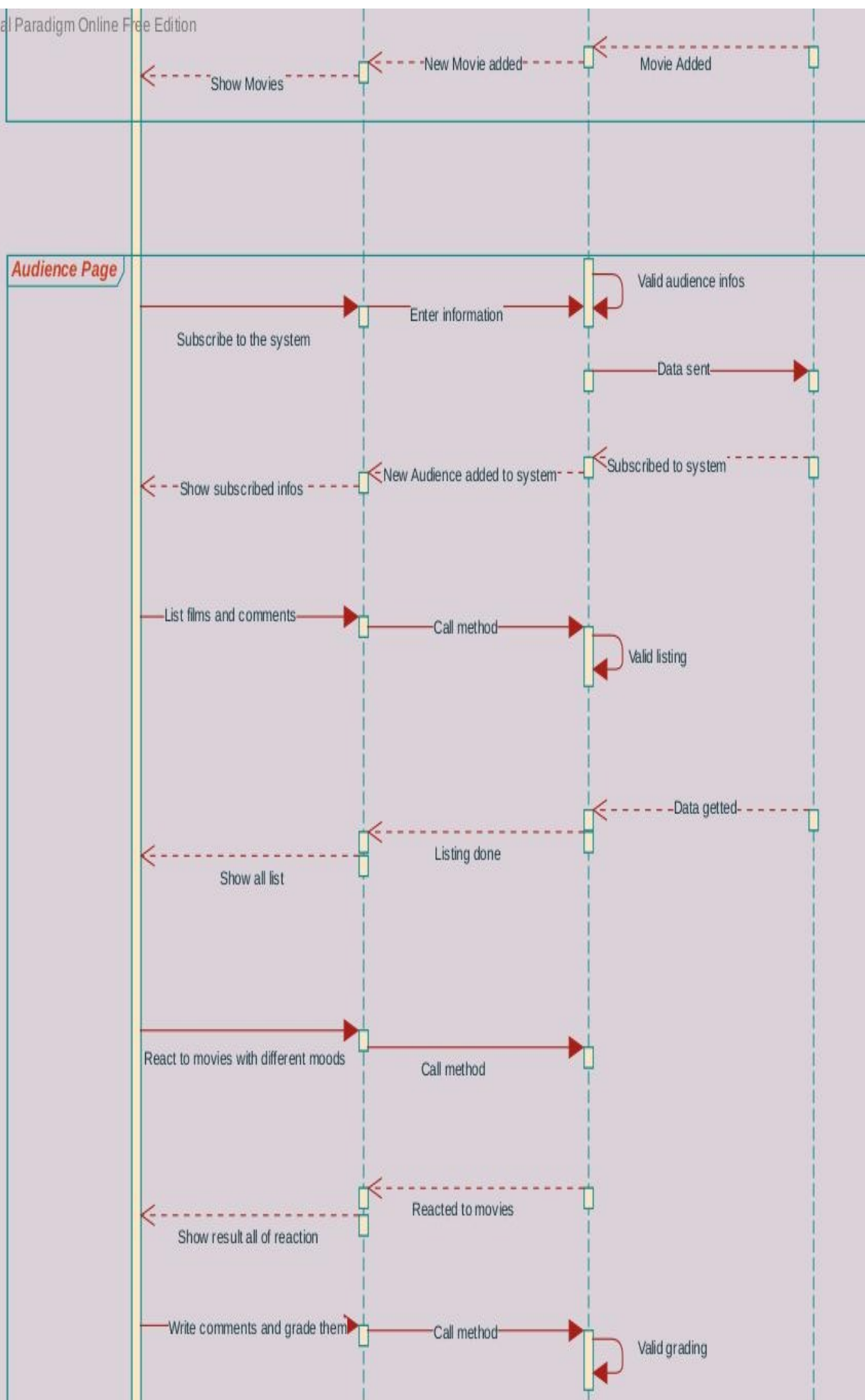


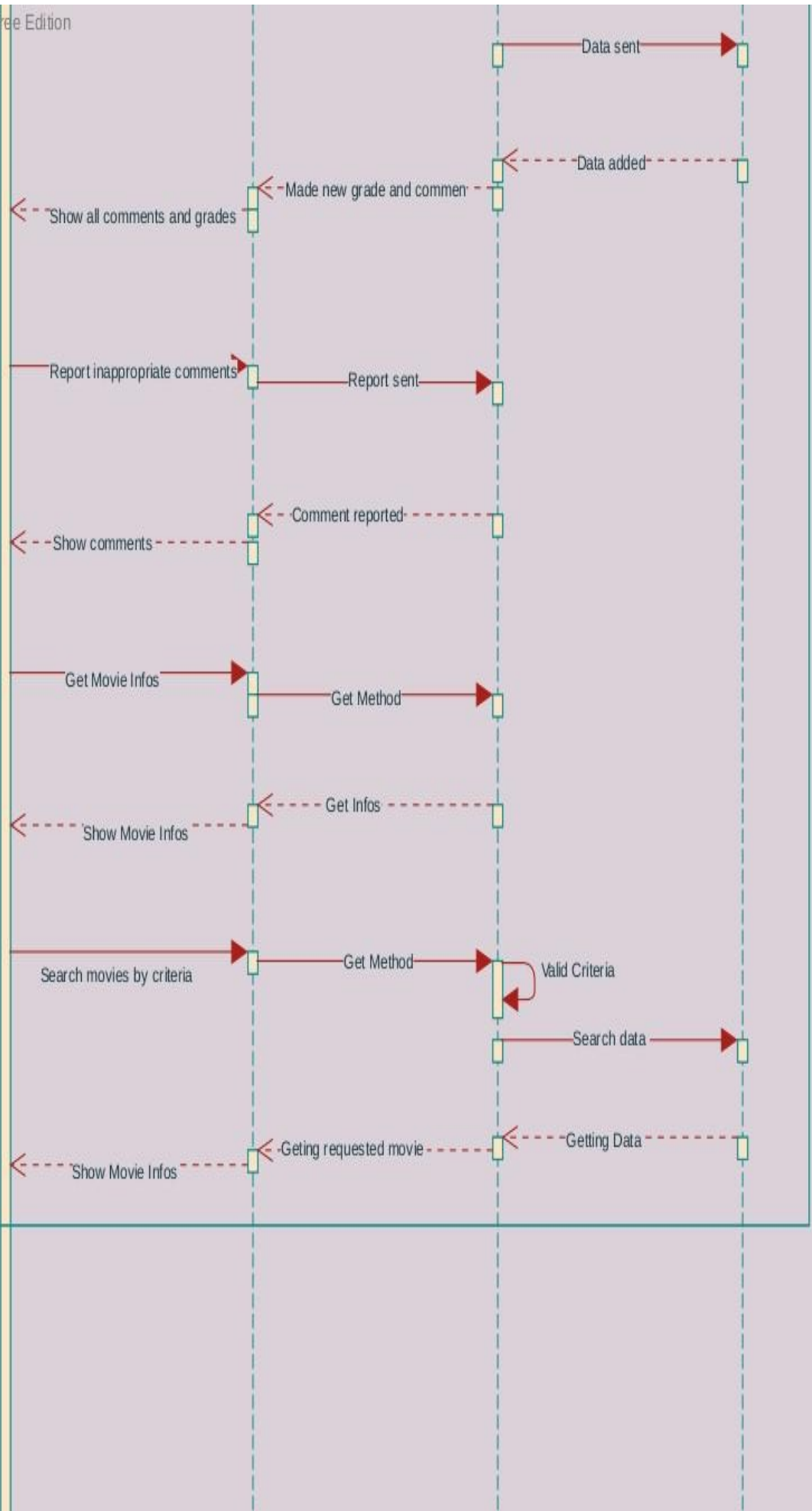


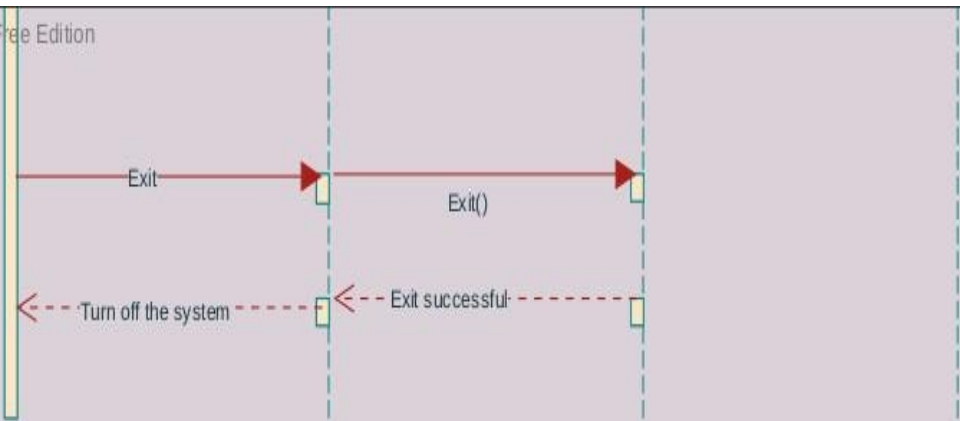


Moderator Page



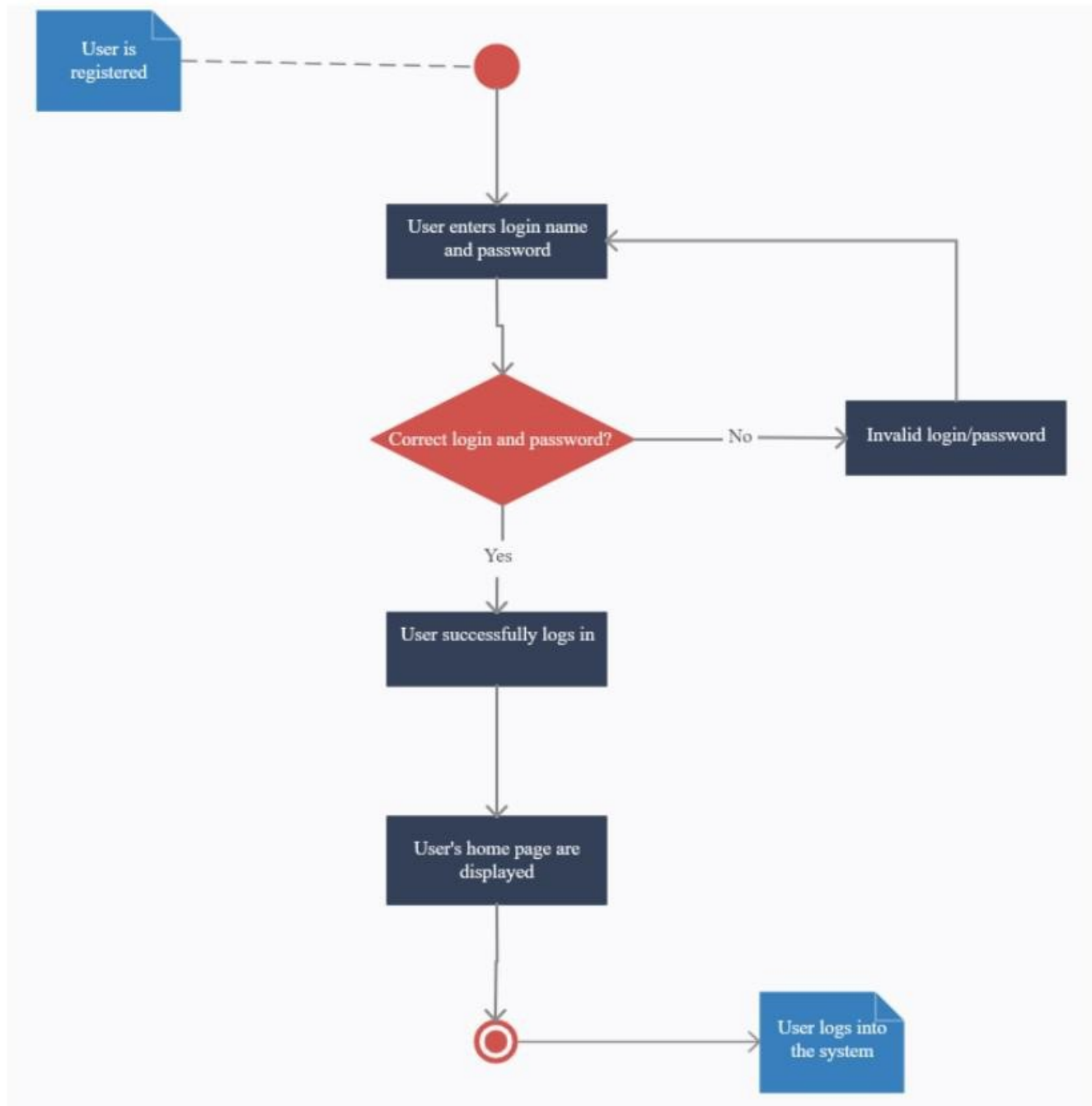




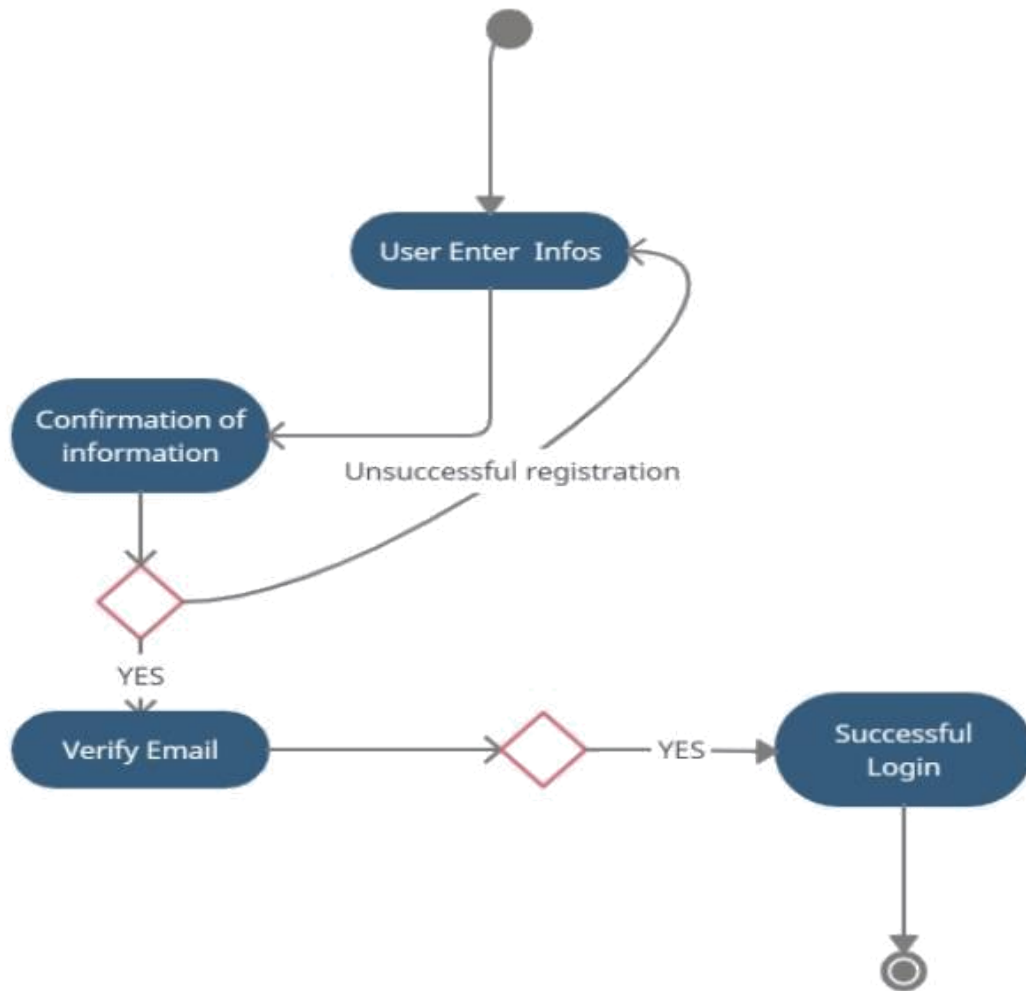


ACTIVITY DIAGRAM

Login Activity;

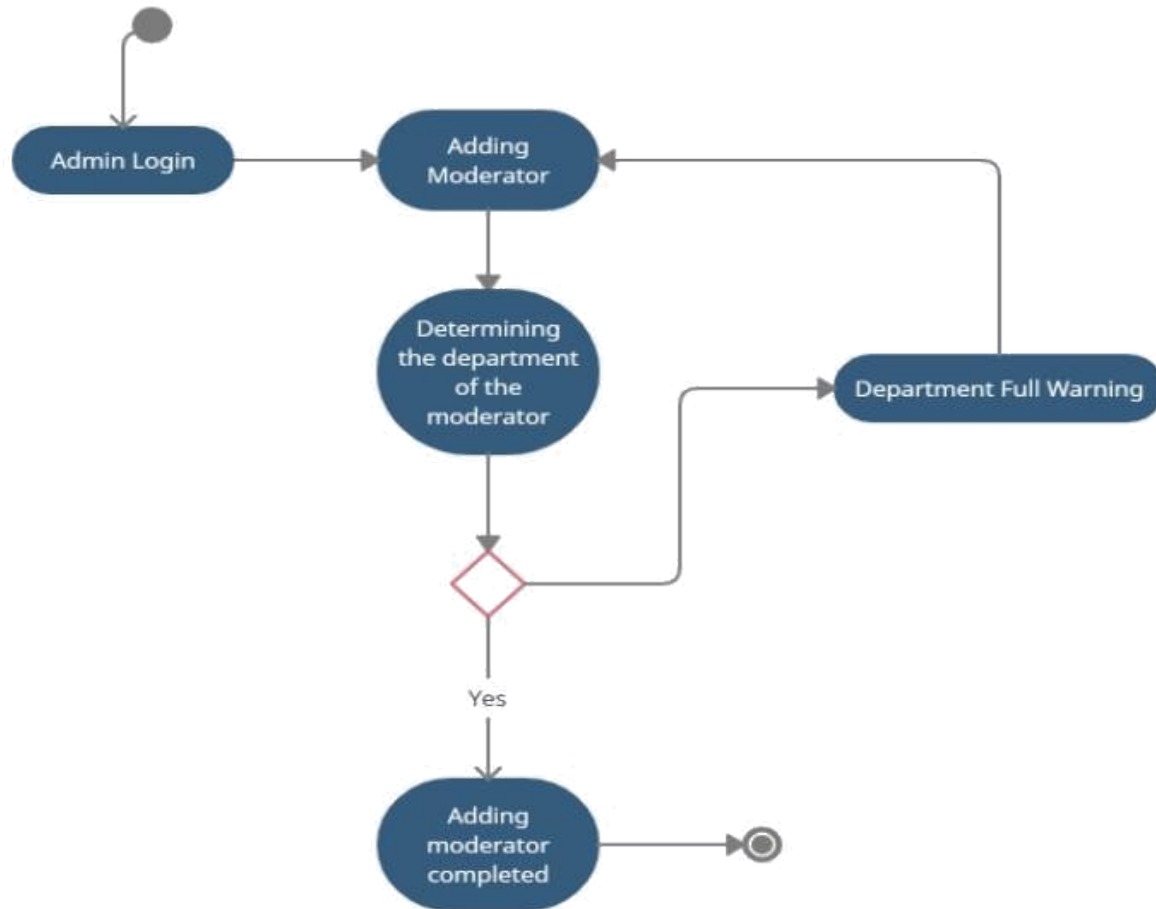


User Registration Activity;

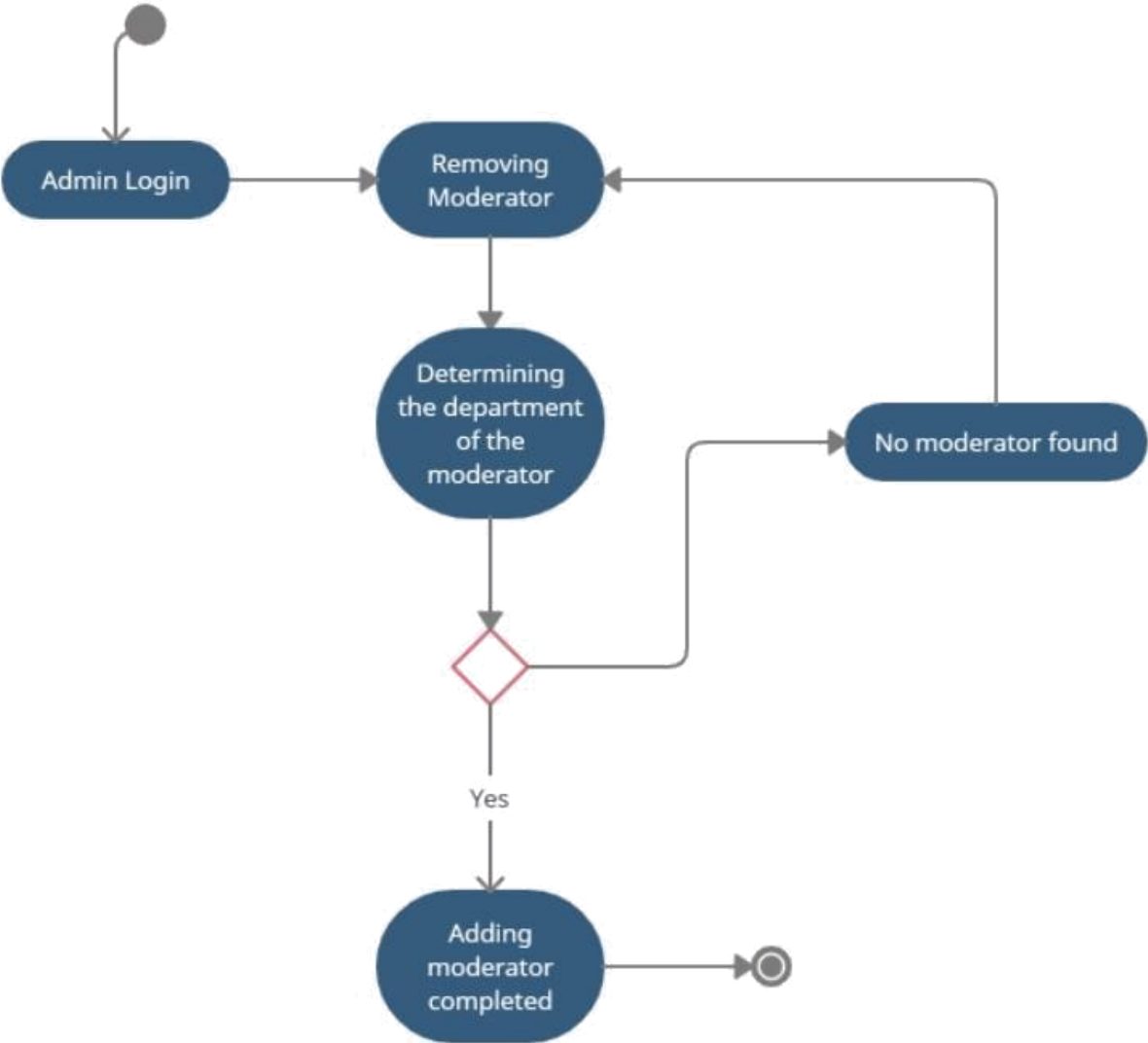


Adds/Removes Moderators Activity ;

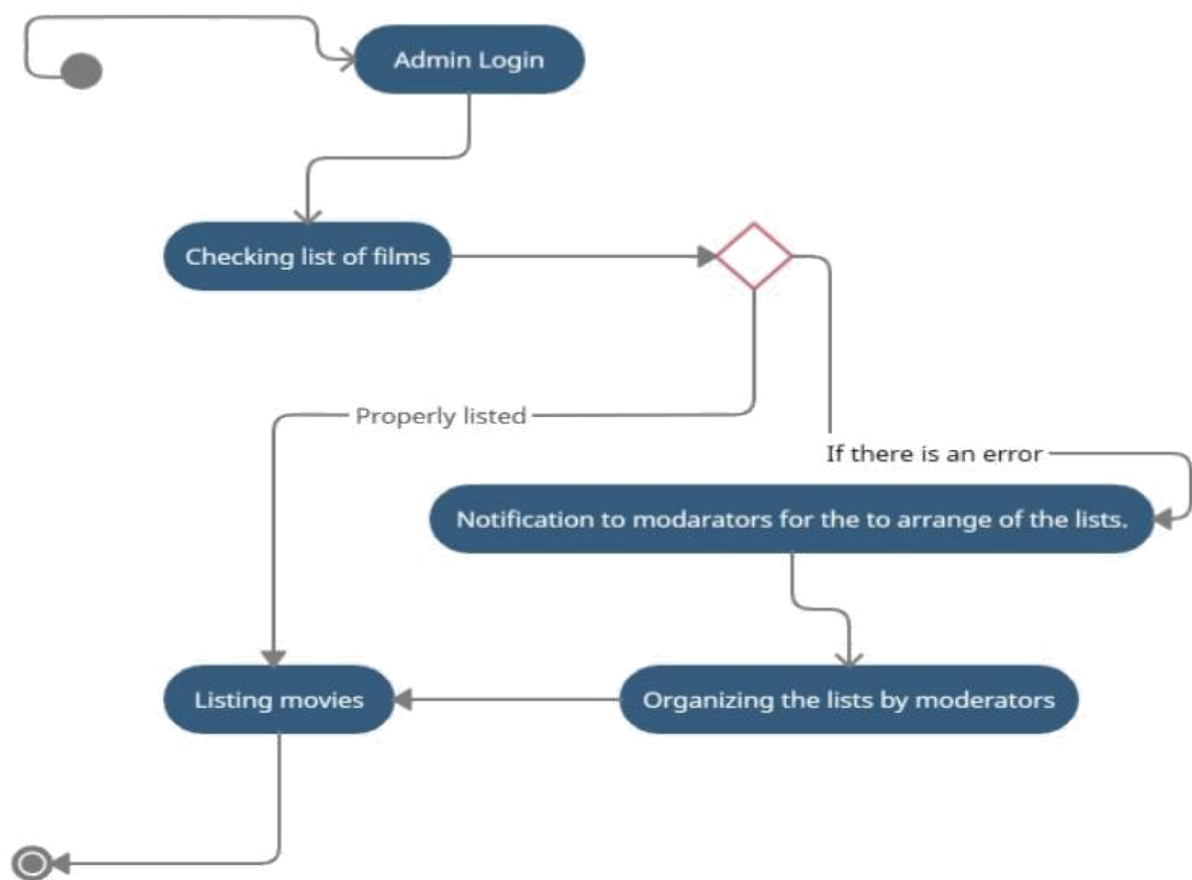
Add;



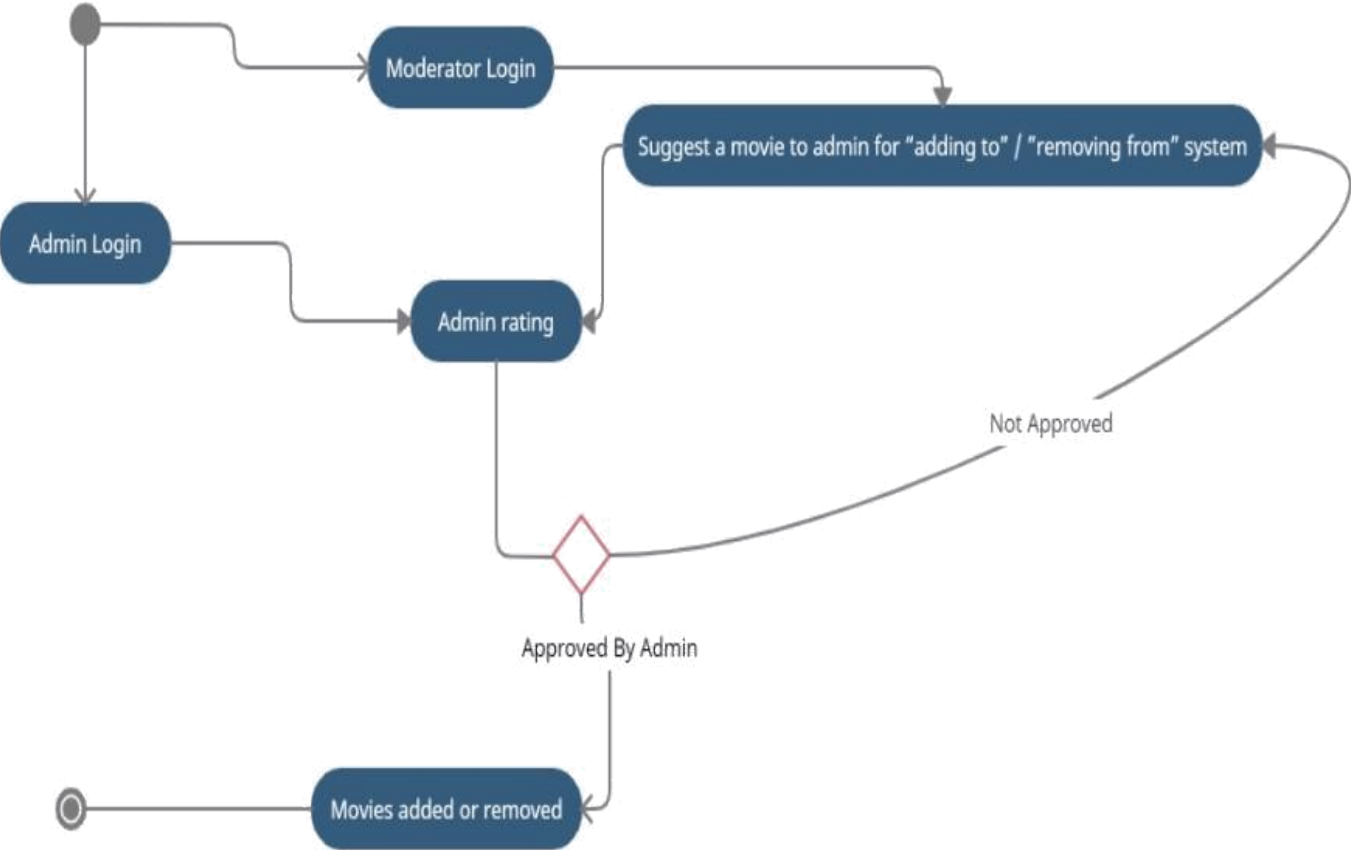
Remove;



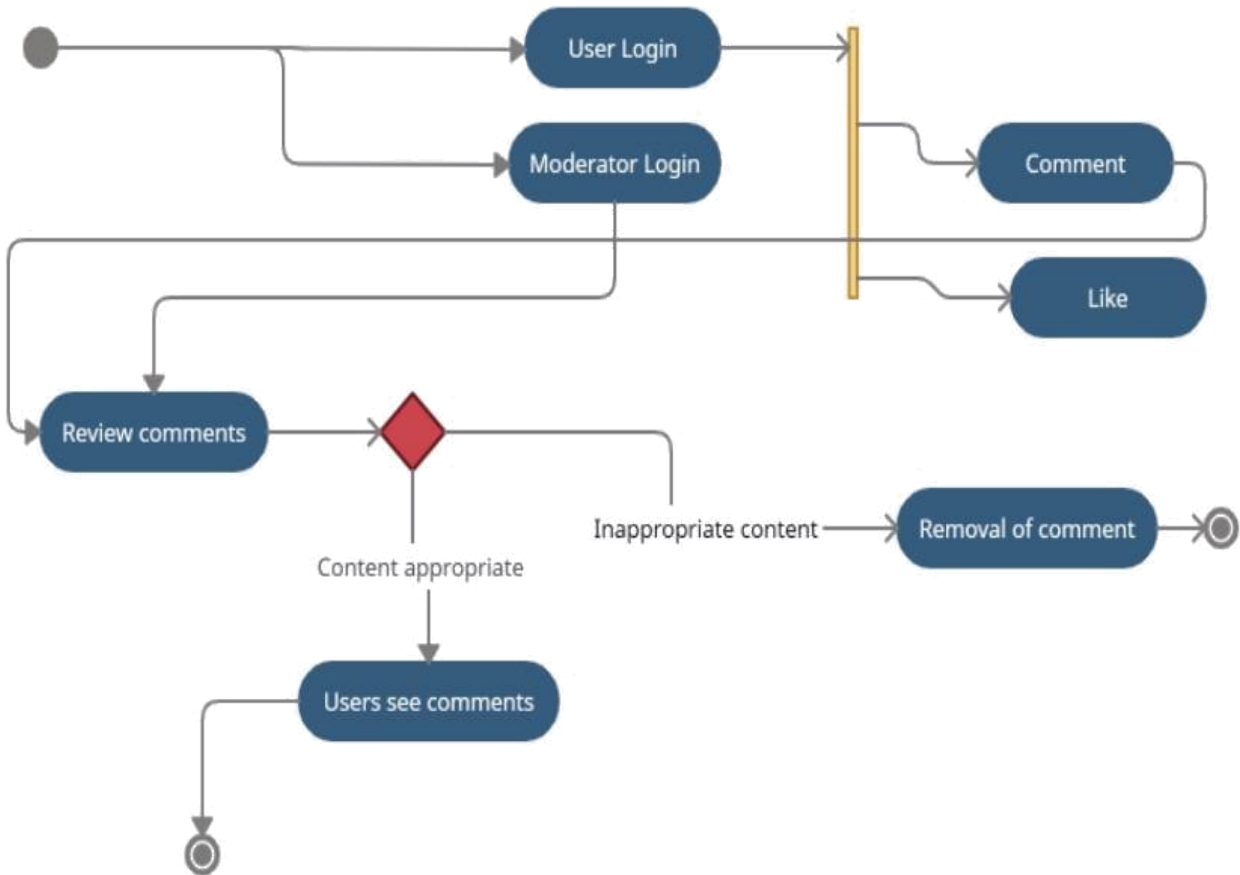
Listing check activity;



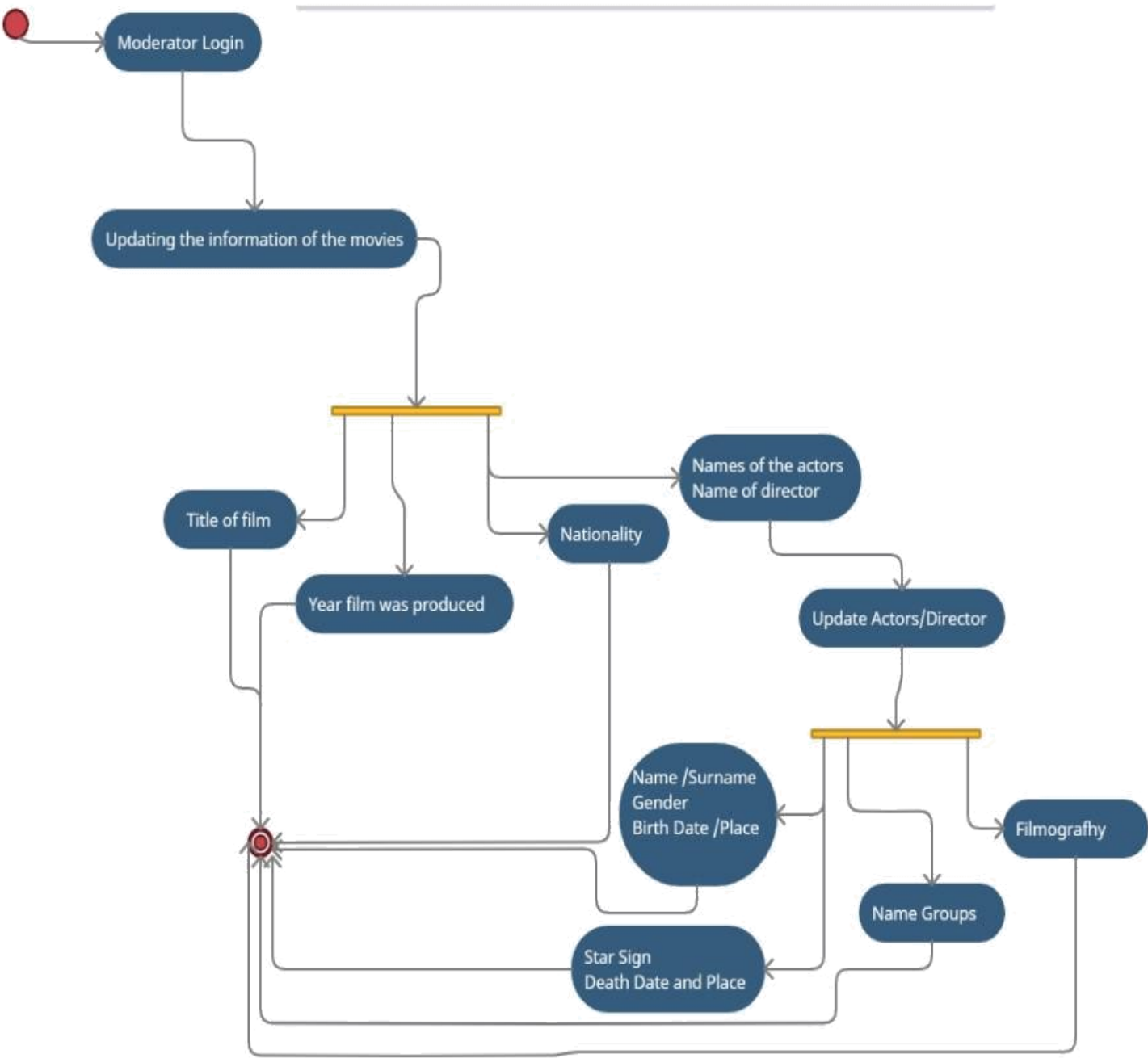
Adding&removing a film activity;



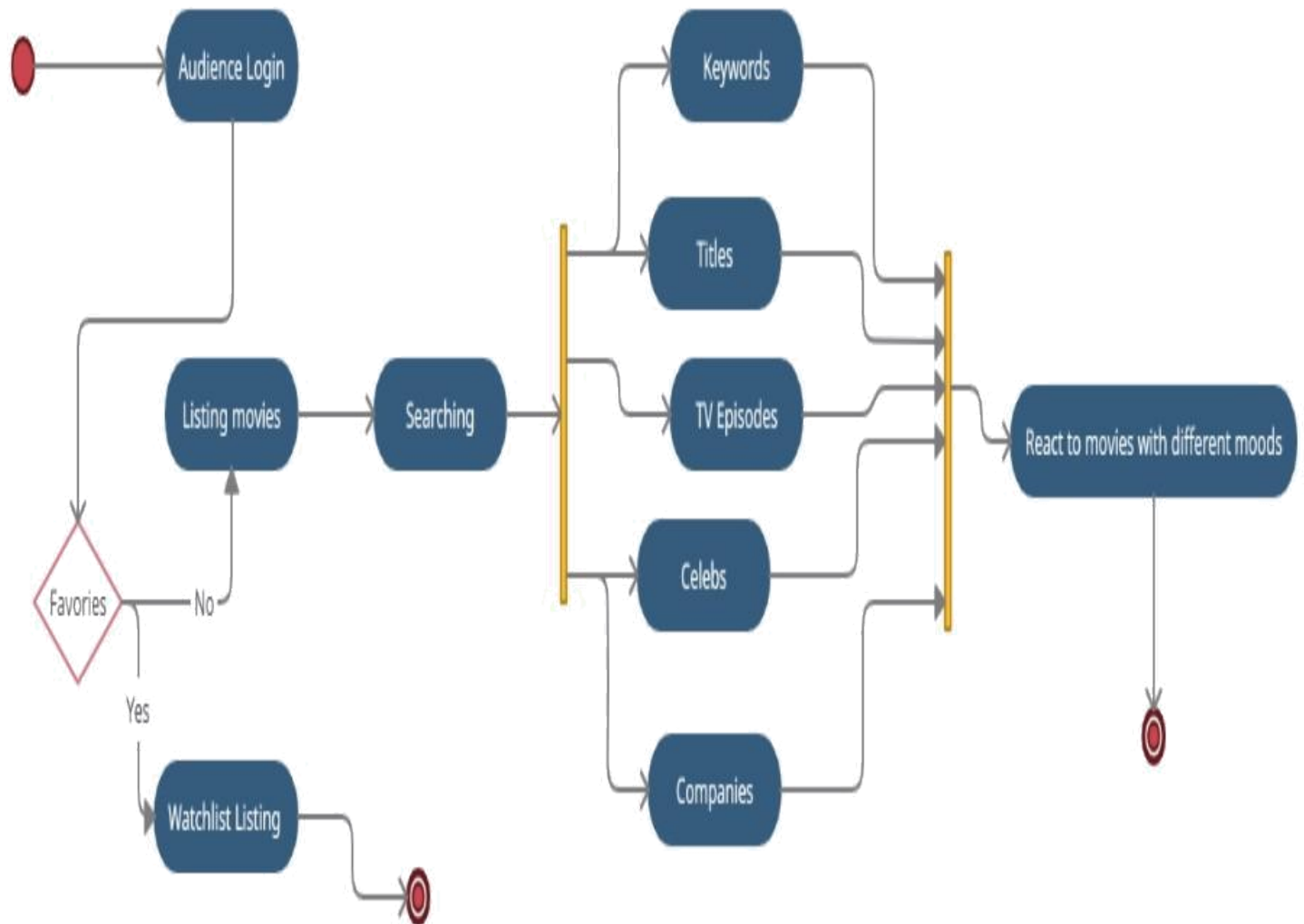
Review comments activity;



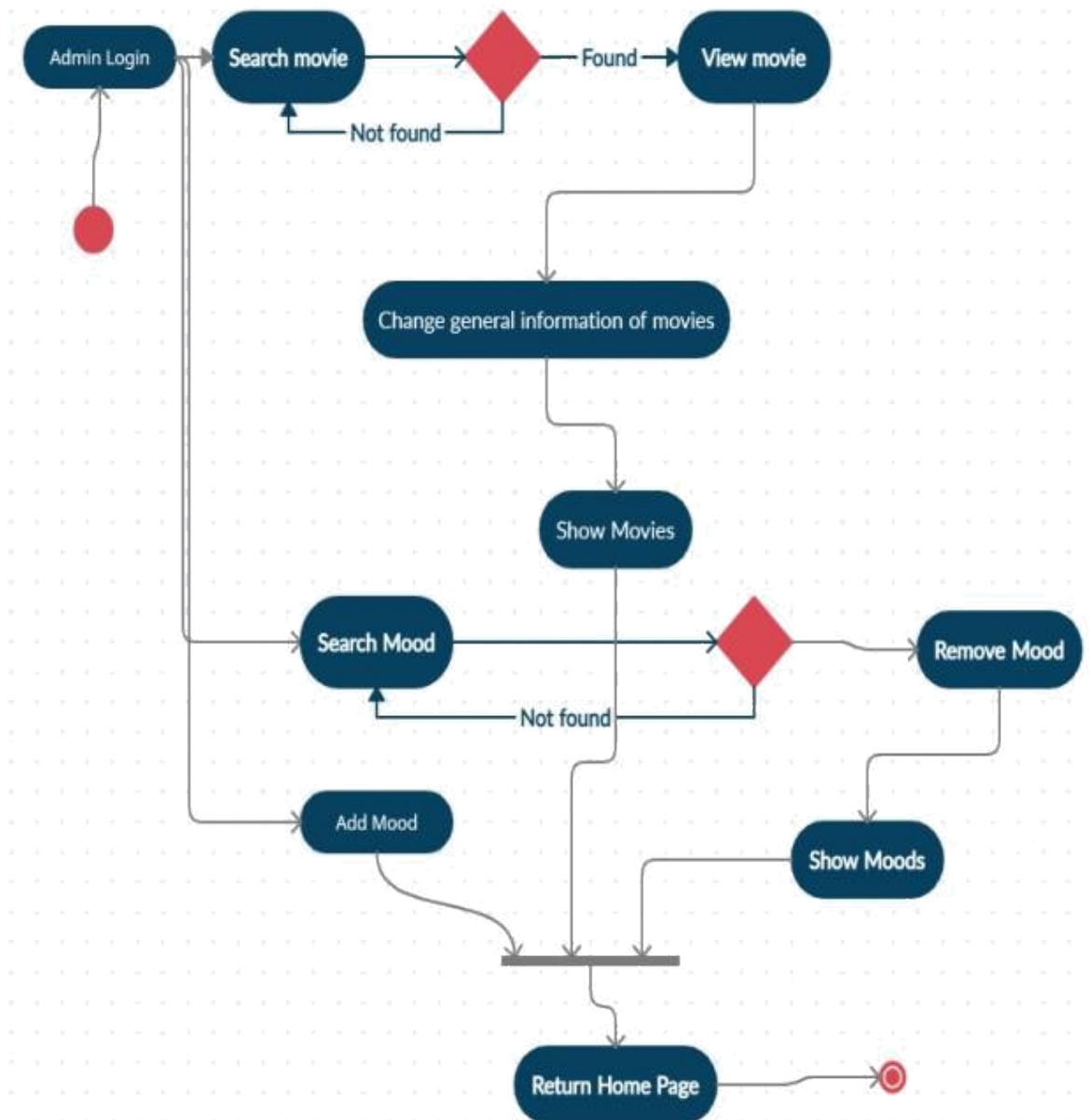
Add general info activity;



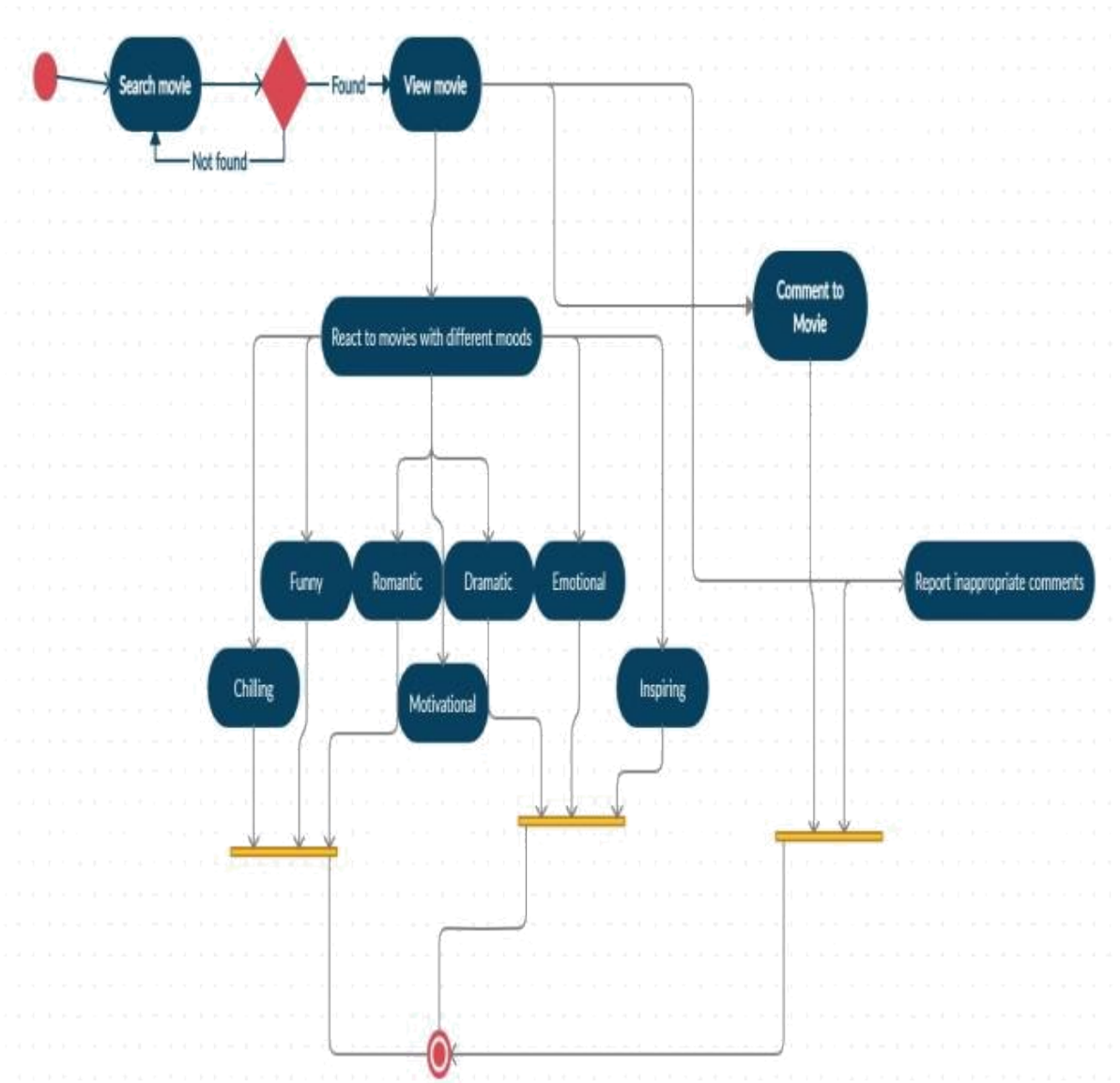
React to movies with different moods;



Manage Mood Activity ;



Add comments and grade activity;



THE NON-TRIVIAL IMPLEMENTATION DETAILS:

To implement operations of the Administrator, we extended the Administrator class from the User class, Administrator class' constructor takes his/her name and surname to initialize. We use "addModerator" method to add new Moderator. addModerator Method uses constructor of Moderator and add new moderator to the system. "removeModerator" method uses the list of moderator and remove the moderator object which is given as parameter. "addingMovie" method uses the BSTTree (with PriorityQueue) data structure of the movies and add a new movie. "checkApproveList" method checks the lists of Moderator's adding/removing request to do this operation. Also, Administrator class can check the list of movies to see all of the movies like other users do. In this case Administrator class uses "listMovies" method to see all of the movies with using BSTTree(with PriorityQueue) data structure of movies. "removeAudience" method uses the list of Audience and remove a specific audience object which is given as parameter. "addMood" and "removeMethod" also have similar implementations with "removeAudience" but "removeMood" uses list of moods and remove a specific mood from this list and "addMood" also uses the same list of moods and add a new mood on it. "Login" method is common for all of the Users and this method checks the validity of e-mail and password with using some helper functions and allow or disallow to user for entering the system."searchMovie" method is common for all of the Users and it uses the data structure of movies to find a specific movie's on the list."getMovieInfo" is also one of the common method of Users. It uses "searchMovie" method of the user class and if movie is found then prints its information with using the objects of movies data structure. "seeComments" method is also common method and it uses hybrid(PriorityQueue + Stack) data structure of comments to show them.

To Implement operations of the Audience,we extended the Audience class from the User class, “subscribe” method uses the constructor of audience. This constructor takes name,surname,email and password information as parameters and initialize it.”addComment” method uses hybrid(PriorityQueue + Stack) data structure of comments and add a new comment on it. ”scoreMovie” method uses BST(with Priority Queue) data structure of the movies and and scores the movies.

To implement operations of the Moderator, we extended the Moderator class from the User class, Moderator class’ constructor takes his/her name and surname to initialize. Moderator has “requestAddMovie” and “requestRemoveMovie” methods and they are used by “addMovie”,”removeMovie” and “checkApproveList” methods in the Administrator class as helper methods.”setMovieInfo” method uses BST(with Priority Queue) data structure and uses setter of Movie in this way it adds information for movies.”removeComment” methods uses the hybrid(Priority Queue + Stack) data structure of the comments and removes the specific comments from this data structure.

*Hybrid(Priority Queue + Stack) data structure uses stack for “unlike” comments and Priority Queue for “like” comments.

TEST CASES

Who is responsible	Test Case #	Test Case Description	Test Data	Expected Result
Audience	1	Check response when valid email and password is entered	Email: asdqwe@email.com Password: 1234asdq	Login should be successful
Audience	2	Check response when movie name is entered	Movie name: Batman	List all movies associated with the name
Audience	3	Check response when movie information is wanted	Exact name of Movie: Batman V Superman	List all info about the movie
Audience	4	Check response when prompted to list comments	Exact name of Movie: Batman V Superman	List all comments

Audience	5	Check the response when prompted to comment	Exact name of Movie: Batman V Superman Comments: Nice!	Add comment to list
Audience	6	Check the response when prompted to grade	Exact name of Movie: Batman V Superman Grade: 9	Add grade to list
Audience	7	Check the response when prompted to report a comment	Comment ID:128876	Add comment to report queue
Moderator	8	Check movie insertion requests		Lists all movies to be added
Moderator	9	Check movie insertion requests		Lists all movies to be deleted

Moderator	10	Check inappropriate comments		Lists all reported comments
Moderator	11	Adds information about the movie	Info: {genre:comedy}	Add information to movie
Admin	12	Adds moderator to system	Moderator object	Add moderator to moderator list
Admin	13	Remove moderator from system	Moderator object	Remove moderator from moderator list
Admin	14	Check all movies in the system		List all movies to check

Admin	15	Check all suggestions from moderators		List all suggestions
Admin	16	Approve suggestions	SuggestionID: 12	Approved suggestion will be added to list
Admin	17	Check approved suggestions		List all approved suggestions
Admin	18	Remove inappropriate Audience	Audience object	Audience list is updated and audience is removed which is given as parameter.
Admin	19	Adding a mood	Name of the mood that you want to add	Mood is added to its data structure and mood types are updated.
Admin	20	Removing a mood	Name of the mood that you want to remove	Mood is removed from its data structure and mood types are updated.

CHANGES - (CHANGES FOR FINAL REPORT)

Our design was changed a little bit because we had some problems on our design decisions. For users(admin,moderator and audience) we decided to use arrayList at the beginning but after that we change it with hashSet because we thought that it will be more efficient and easy to implement. Our class diagram also changed a little bit because we started to design our class diagram before we started coding. That's why, our class diagram design changed when we started coding. We used arrayList for movie class instead of BST(actually we designed it according to BST but after that we decided to use arrayList). We used queue data structure for the comments.

Screenshots for Test Cases:

```
Please select a movie
1
Movie{,0,1. The Shawshank Redemption (1994),R,142 m
common decency.", "Director: Frank Darabont | Stars:
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
```

```
Please select a movie
1
Movie{,0,1. The Shawshank Redemption (1994),R,142
common decency.", "Director: Frank Darabont | Star
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
1
Movie{,0,1. The Shawshank Redemption (1994),R,142
common decency.", "Director: Frank Darabont | Star
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
2
Enter your score for the movie
10
Movie{,0,1. The Shawshank Redemption (1994),R,142
common decency.", "Director: Frank Darabont | Star
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
3
Type your mood for the movie
```

```
4
Enter your comment to add to selected movie.
xxxx
Movie{,0,1. The Shawshank Redemption (1994),R,142 min,D
common decency.", "Director: Frank Darabont | Stars: Tim
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
5
1) Comment:xxxx
Like:0
Dislike:0
Not Reported!!

1
Comment:xxxx
Like:0
Dislike:0
Not Reported!!

1) Like comment
2) Dislike comment
3) Report Comment
4) Return
1
Comment:xxxx
Like:1
Dislike:0
Not Reported!!

1) Like comment
2) Dislike comment
3) Report Comment
4) Return
4
```



```

1) Register
2) Login
3) Exit
2
1) Login as Admin
2) Login as Moderator
3) Login as User
4) Exit
2
Please enter your name: Mod
Please enter your password: 1234
1)Add Movie Suggestion
2)Remove Movie Suggestion
3)Delete Inappropriate Comment
4)Set Info About a Movie
5)Exit

```

```

3) Votes: 47, 485 | Gross: $1.11M
235) Movie{,233,236. Before Sunset (2004),R,80 min,"Drama, Romance",8.1,90,"Nine years after Jesse and Celine first met, they encounter each other again on the French leg
of Jesse's book tour.", "Director: Richard Linklater | Stars: Ethan Hawke, Julie Delpy, Vernon Dobtcheff, Louise Lemoine Torr??s", "Votes: 230, 917 | Gross: $5.82M"
236) Movie{,234,237. Munna Bhai M.B.B.S. (2003),Not Rated,156 min,"Comedy, Drama, Musical",8.1,,A gangster sets out to fulfill his father's dream of becoming a doctor., "D
irector: Rajkumar Hirani | Stars: Sanjay Dutt, Arshad Warsi, Gracy Singh, Sunil Dutt", "Votes: 72, 534"
237) Movie{,235,238. Memories of Murder (2003),Not Rated,132 min,"Action, Crime, Drama",8.1,82,"In a small Korean province in 1986, two detectives struggle with the case
of multiple young women being found raped and murdered by an unknown culprit.", "Director: Bong Joon Ho | Stars: Kang-ho Song, Sang-kyung Kim, Roe-ha Kim, Jae-ho Song", "
Votes: 131, 346 | Gross: $0.01M"
238) Movie{,236,239. Dil Chahta Hai (2001),Not Rated,183 min,"Comedy, Drama, Romance",8.1,, "Three inseparable childhood friends are just out of college. Nothing comes bet
ween them - until they each fall in love, and their wildly different approaches to relationships creates tension.", "Director: Farhan Akhtar | Stars: Aamir Khan, Saif Ali
Khan, Akshaye Khanna, Preity Zinta", "Votes: 65, 835 | Gross: $0.30M"
239) Movie{,237,240. Kill Bill: Vol. 1 (2003),R,111 min,"Action, Crime, Thriller",8.1,69,"After awakening from a four-year coma, a former assassin wreaks vengeance on th
e team of assassins who betrayed her.", "Director: Quentin Tarantino | Stars: Uma Thurman, David Carradine, Daryl Hannah, Michael Madsen", "Votes: 983, 871 | Gross: $70.10
M"
240) Movie{,238,241. Finding Nemo (2003),G,100 min,"Animation, Adventure, Comedy",8.1,90,"After his son is captured in the Great Barrier Reef and taken to Sydney, a timi
d clownfish sets out on a journey to bring him home.", "Directors: Andrew Stanton, Lee Unkrich | Stars: Albert Brooks, Ellen DeGeneres, Alexander Gould, Willem Dafoe", "V
otes: 933, 762 | Gross: $380.84M"
241) Movie{,239,242. Catch Me If You Can (2002),PG-13,141 min,"Biography, Crime, Drama",8.1,75,"A seasoned FBI agent pursues Frank Abagnale Jr. who, before his 19th birt
hday, successfully forged millions of dollars' worth of checks while posing as a Pan Am pilot, a doctor, and a legal prosecutor.", "Director: Steven Spielberg | Stars: Le
onardo DiCaprio, Tom Hanks, Christopher Walken, Martin Sheen", "Votes: 808, 593 | Gross: $164.62M"
242) Movie{,240,243. Amores Perros (2000),R,154 min,"Drama, Thriller",8.1,83,"A horrific car accident connects three stories, each involving characters dealing with loss,
regret, and life's harsh realities, all in the name of love.", "Director: Alejandro G. I??rritu | Stars: Emilio Echevarr??a, Gael Garc??a Bernal, Goya Toledo, ??lva
ro Guerrero", "Votes: 220, 525 | Gross: $5.38M"
243) Movie{,241,244. Neon Genesis Evangelion: The End of Evangelion (1997),TV-14,87 min,"Animation, Action, Drama",8.1,,Concurrent theatrical ending of the TV series Neon
Genesis Evangelion (1995), "Directors: Hideaki Anno, Kazuya Tsurumaki | Stars: Megumi Ogata, Megumi Hayashibara, Y??ko Miyamura, Kotono Mitsuishi", "Votes: 37, 141"
244) Movie{,242,245. Lagaan: Once Upon a Time in India (2001),PG,224 min,"Adventure, Drama, Musical",8.1,84,"The people of a small village in Victorian India stake their f
uture on a game of cricket against their ruthless British rulers.", "Director: Ashutosh Gowariker | Stars: Aamir Khan, Raghuvir Yadav, Gracy Singh, Rachel Shelley", "Votes:
103, 246 | Gross: $0.07M"
245) Movie{,243,246. The Sixth Sense (1999),PG-13,107 min,"Drama, Mystery, Thriller",8.1,64,"A boy who communicates with spirits seeks the help of a disheartened child psy
chologist.", "Director: M. Night Shyamalan | Stars: Bruce Willis, Haley Joel Osmment, Toni Collette, Olivia Williams", "Votes: 899, 294 | Gross: $293.51M"
246) Movie{,244,247. The Legend of 1900 (1998),R,169 min,"Drama, Music, Romance",8.1,, "A baby boy, discovered in 1900 on an ocean liner, grows into a musical prodigy,
never setting foot on land.", "Director: Giuseppe Tornatore | Stars: Tim Roth, Pruitt Taylor Vince, M??lanie Thierry, Bill Nunn", "Votes: 57, 916 | Gross: $0.26M"
247) Movie{,245,248. The Truman Show (1998),PG,103 min,"Comedy, Drama, Sci-Fi",8.1,90,"An insurance salesman discovers his whole life is actually a reality TV show.", "Direc
tor: Peter Weir | Stars: Jim Carrey, Ed Harris, Laura Linney, Noah Emmerich", "Votes: 918, 604 | Gross: $125.62M"
248) Movie{,246,249. Black Cat, White Cat (1998)",R,127 min,"Comedy, Crime, Romance",8.1,73,"Matko and his son Zare live on the banks of the Danube river and get by thro
ugh hustling and basically doing anything to make a living. In order to pay off a business debt Matko agrees to marry off Zare to the sister of a local gangster.", "Director:
Emir Kusturica | Stars: Bajram Severdzan, Srdjan 'Zika' Todorovic, Branka Katic, Florijan Ajdini", "Votes: 50, 107 | Gross: $0.35M"
249) Movie{,247,250. The Big Lebowski (1998),R,117 min,"Comedy, Crime, Sport",8.1,71,"Jeff ""The Dude"" Lebowski, mistaken for a millionaire of the same name, seeks res
titution for his ruined rug and enlists his bowling buddies to help get it.", "Directors: Joel Coen, Ethan Coen | Stars: Jeff Bridges, John Goodman, Julianne Moore, Stev
e Buscemi", "Votes: 719, 459 | Gross: $17.50M"
Please select a movie

```



```
1) Register
2) Login
3) Exit
2
1) Login as Admin
2) Login as Moderator
3) Login as User
4) Exit
3
Please enter your name: muhammed
Please enter your password: 1234
1) List Movies
2) Search for a movie
0) Exit
```

```
246) Movie{,244,247. The Legend of 1900 (1998), "Director: Giuseppe Tornatore", "Votes: 719, 459 | Gross: $17.50M", "Never setting foot on land.", "Director: Giuseppe Tornatore", "Votes: 719, 459 | Gross: $17.50M"
247) Movie{,245,248. The Truman Show (1998), "Director: Peter Weir | Stars: Jim Carrey, Ed Harris", "Votes: 719, 459 | Gross: $17.50M"
248) Movie{,246,"249. Black Cat, White Cat (1998), "Director: Emir Kusturica | Stars: Bajram Severdzan, Slobodan Ninkovic", "Votes: 719, 459 | Gross: $17.50M"
249) Movie{,247,250. The Big Lebowski (1998), "Director: Joel Coen | Stars: Jeff Bridges, John Goodman, George Clooney", "Votes: 719, 459 | Gross: $17.50M"
Please select a movie
```

```
Movie{,0,1. The Shawshank Redemption (1994),R,142 min,Drama,9.3,80,"Two im
common decency.", "Director: Frank Darabont | Stars: Tim Robbins, Morgan F
1) Get movie information
2) Score the selected movie
3) React to selected movie
4) Write Comment
5) See Comments
6) Return
5
1) Comment:xxxx
Like:1
Dislike:0
Reported!!

2) Comment:I like it!!!
Like:0
Dislike:0
Not Reported!!

3) Comment:Baba ak? yok
Like:0
Dislike:0
Not Reported!!

3
Comment:Baba ak? yok
Like:0
Dislike:0
Not Reported!!

1) Like comment
2) Dislike comment
3) Report Comment
4) Return
1
Comment:Baba ak? yok
Like:1
Dislike:0
Not Reported!!
```

Movie{,0,1. The Shawshank Redemption (1994),R,142 min,Drama
common decency.", "Director: Frank Darabont | Stars: Tim R

- 1) Get movie information
- 2) Score the selected movie
- 3) React to selected movie
- 4) Write Comment
- 5) See Comments
- 6) Return

3

Type your mood for the movie

Movie{,0,1. The Shawshank Redemption (1994),R,142 min,Drama
common decency.", "Director: Frank Darabont | Stars: Tim R

- 1) Get movie information
- 2) Score the selected movie
- 3) React to selected movie
- 4) Write Comment
- 5) See Comments
- 6) Return

4

Enter your comment to add to selected movie.

I like it!!!

Movie{,0,1. The Shawshank Redemption (1994),R,142 min,Drama
common decency.", "Director: Frank Darabont | Stars: Tim R

- 1) Get movie information
- 2) Score the selected movie
- 3) React to selected movie
- 4) Write Comment
- 5) See Comments
- 6) Return

4

Enter your comment to add to selected movie.

Baba akü yok

Movie{,0,1. The Shawshank Redemption (1994),R,142 min,Drama

```
1) Login as Admin
2) Login as Moderator
3) Login as User
4) Exit
3
Please enter your name: muhammed
Please enter your password: 1234
Welcome to the system muhammed
1) List Movies
2) Search for a movie
0) Exit
1
1) Movie{,,Title,Certificate,Duration,Genre,Rate,M
2) Movie{,0,1. The Shawshank Redemption (1994),R,1
of common decency.", "Director: Frank Darabont | St
3) Movie{,1,2. The Godfather (1972),R,175 min,"Cri
eluctant son.", "Director: Francis Ford Coppola | St
4) Movie{,2,3. The Dark Knight (2008),PG-13,152 mi
man must accept one of the greatest psychological
, Aaron Eckhart, Michael Caine", "Votes: 2, 260,
5) Movie{,3,4. The Godfather: Part II (1974),R,202
n, Michael, expands and tightens his grip on the
on", "Votes: 1, 107, 253 | Gross: $57.30M"
6) Movie{,4,5. The Lord of the Rings: The Return o
on's army to draw his gaze from Frodo and Sam as t
Orlando Bloom", "Votes: 1, 614, 369 | Gross: $377
7) Movie{,5,6. Pulp Fiction (1994),R,154 min,"Crip
```



```
Welcome to the system Ali
1) List Movies
2) Search for a movie
3) Add moderator
4) Remove Moderator
5) Approve adding or removing movie
6) Check remove list
0) Exit
3
Enter moderator name
Hasan
Enter moderators password
134
Welcome to the system Ali
1) List Movies
2) Search for a movie
3) Add moderator
4) Remove Moderator
5) Approve adding or removing movie
6) Check remove list
0) Exit
5
Invalid input please try again!
Welcome to the system Ali
1) List Movies
2) Search for a movie
3) Add moderator
4) Remove Moderator
5) Approve adding or removing movie
6) Check remove list
0) Exit
6
```

```
Welcome to the system Ali
1) List Movies
2) Search for a movie
3) Add moderator
4) Remove Moderator
5) Approve adding or removing movie
6) Check remove list
0) Exit
2
Enter the movie name to search
243. Amores Perros (2000)
This movie exists.
Welcome to the system Ali
1) List Movies
2) Search for a movie
3) Add moderator
4) Remove Moderator
5) Approve adding or removing movie
6) Check remove list
0) Exit
3
Enter moderator name
Hasan
Enter moderators password
134
```

UPDATED CLASS DIAGRAM FOR FINAL REPORT:

