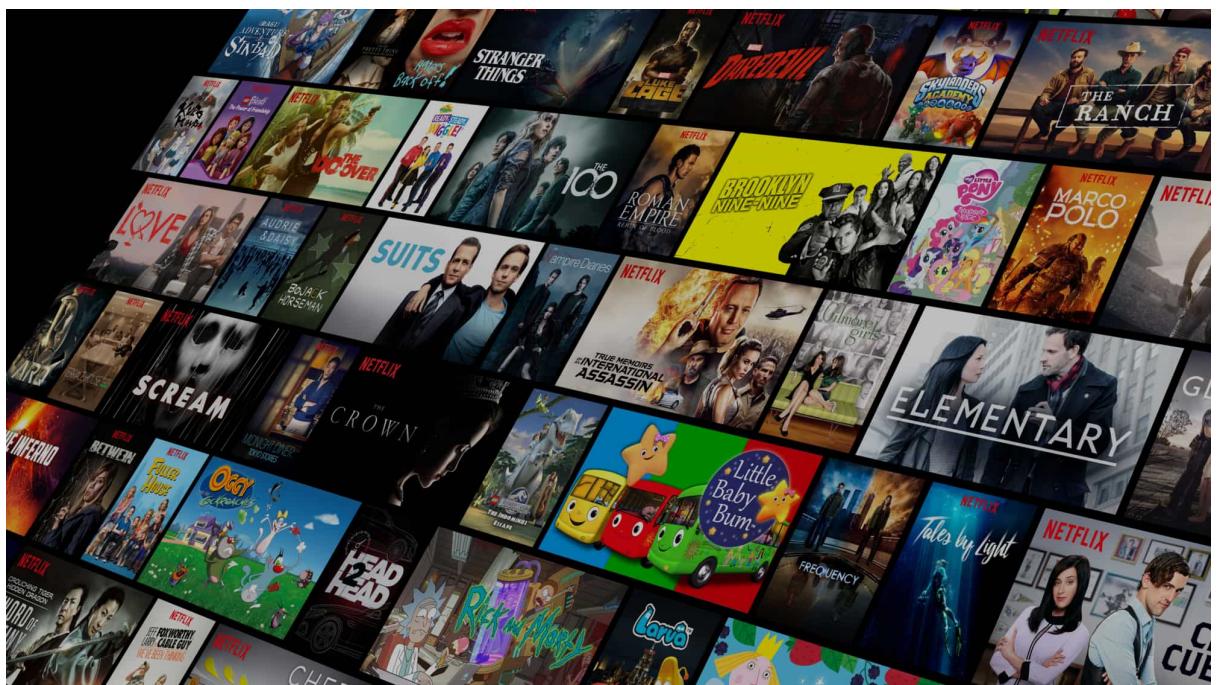


StreamR: Personalised Movie Database



IT414: Software Project Management

Mentor: Ami Pandat

Group 22

Team Members

<i>Name</i>	<i>ID</i>	<i>Role</i>
<i>Yash Ghaghada</i>	<i>201801042</i>	<i>Developer</i>
<i>Tipsi Jadav</i>	<i>201801091</i>	<i>Team Leader</i>
<i>Sudhanshu Mishra</i>	<i>201801114</i>	<i>Developer</i>

Table of Contents

1. Project Background	4
1.1 Purpose of the project	4
1.2 Scope of the project	4
1.2.1 General Instructions	4
1.2.2 Deliverables	4
1.2.3 Assumptions	5
1.3 Related Works	5
2. Requirements elicitation	6
2.1 User Research	6
2.2 User Stories	9
3. Perspective	10
3.1 End - users	10
3.2 Stakeholders	10
4. Project objectives	10
4.1 Business rules	10
4.2 UML Diagrams	11
4.2.1 Use-Case Diagram	11
4.2.2 Activity Diagram	12
4.3.3 Sequence Diagram	13
4.3 Assumptions, Dependencies, Time and Effort	15
4.3.1 Assumptions and Dependencies	15
4.3.2 Time and Effort Estimate	15
4.4 Critical Path	16
4.5 Project Plan	16
4.6 Design and implementation constraints	17
5. Risks associated with and it's mitigation strategies	17
6. UI/UX design of the complete system	17
7. System architecture model	20
8. Implementation Technologies	21
8.1 Frontend	21
8.2 Backend	21
8.3 Project Management	21
8.4 System Design	21
8.5 Deployment	21
9. Project contribution	22
10. Future enhancements to the system	22
11. Open/Unresolved Issues	22
12. Testing	23
12.1 Blackbox Testing(Manual)	23
12.2 GUI Testing(Manual)	25
13. Source Code	32

1. Project Background

1.1 Purpose of the project

People like watching and talking about movies. Cinematography, like music and hobbies, is an important element of their life. Movies are an excellent source of enjoyment. They certainly spice up life and are excellent antidepressants: choosing the appropriate film to watch when you're in a bad mood might literally save your day.

In the current scenario, a cinema lover has to visit many websites to get the basic information. There are websites like [IMDb](#) and [Rotten Tomatoes](#) that provide a lot of the data, but the user has to open at least 3-4 websites to see everything. As a result, this project was initiated with the goal of creating a one-stop destination for the user to view all of the data.

This website StreamR: Personalized Movie Database, allows users to login and rate movies in addition to obtaining the information given above.

1.2 Scope of the project

1.2.1 General Instructions

- A team will examine tasks and prepare basic project management documentation, such as estimates, a risk list and a milestones chart, from which we will be able to agree on the project's ultimate scope.
- A project manager will check on the project's progress on a weekly basis.
- A meeting will be conducted once every week to discuss the resources spend

1.2.2 Deliverables

- A web application should be delivered when the project is completed.
- A dynamic database should be made to contain information about old and current movies.
- Instructions on how to use the website must be provided in the user manual.
- A detailed software requirements specification document.

1.2.3 Assumptions

- A team of software developers will work on this project.
- The project will be completed within the time set out.
- The project will adhere to the technical restrictions set out.
- During the course of the project, a software process model will be followed.

1.3 Related Works

Before kickstarting our project we analyzed two of the most popular websites, IMDb and Rotten Tomatoes, to get an idea of what could and couldn't be done.

IMDB(Internet Movie Database) is one of the largest movie databases available on the web. It has detailed information about all the movies including movie showtimes and trailers. However, it omits information about online streaming. Rotten Tomatoes is another website that primarily displays a movie's cumulative reviewer score. It provides the basic movie data, streaming links, however it does not provide show times for movies currently showing in cinemas.

Metacritic, RogerEbert.com, IndieWire and ScreeRant are also some of the websites with similar purposes.

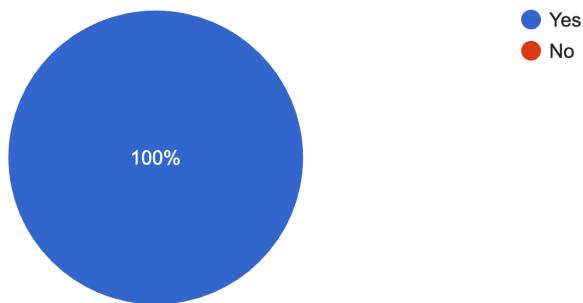
The Movie Database([TMDb](#)) is a movie and TV show database developed by its community. Since 2008, the community has contributed every piece of information. TMDb offers an API key for accessing its database, which we utilised in this project.

2. Requirements elicitation

2.1 User Research

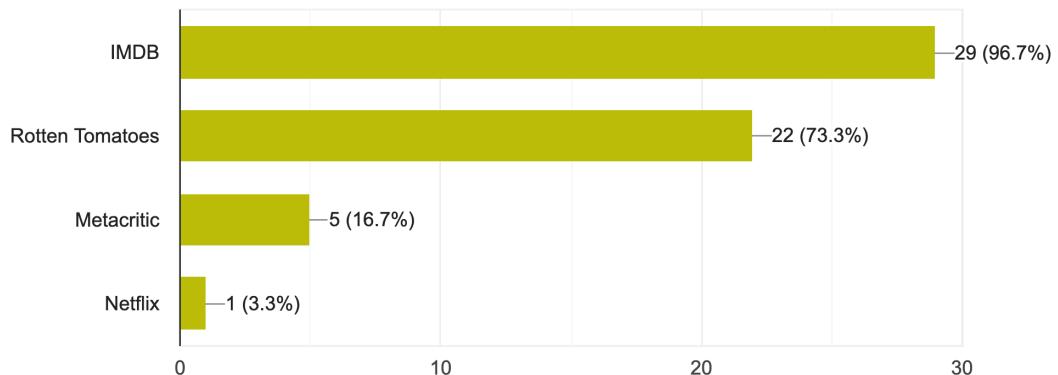
1) Are you aware that some websites are specifically designed to provide Movie reviews?

30 responses



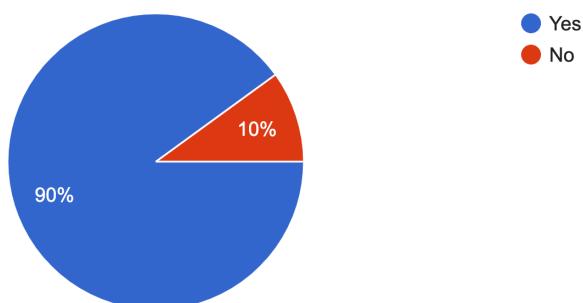
2) If yes, then which websites do you visit more often to see Movie reviews?

30 responses



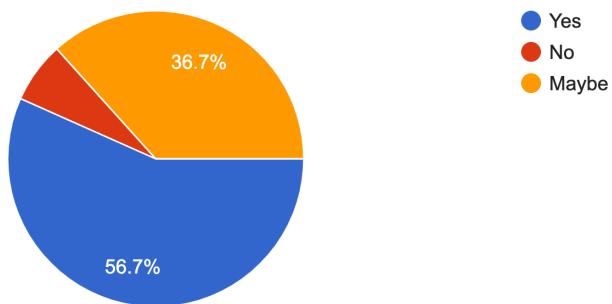
3) Are you aware that, in addition to popular ratings, these websites also provide cast, crew, and award-related information?

30 responses



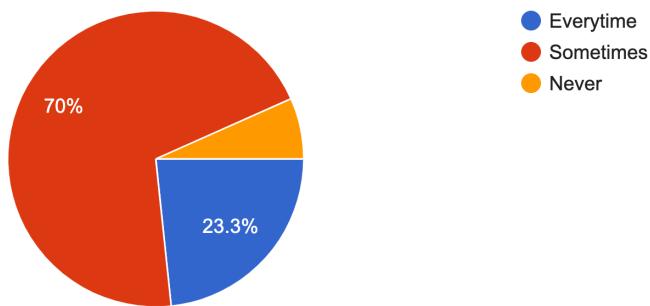
4) If yes, do you think that this information plays a role while choosing a Movie to watch?

30 responses



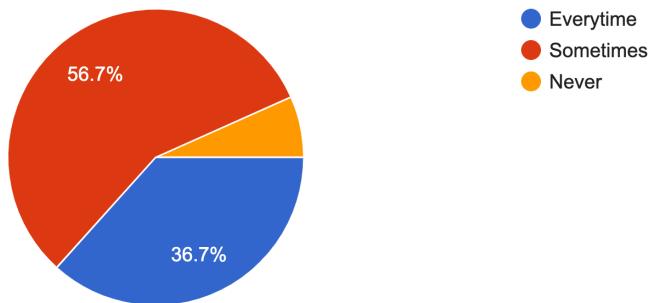
5) Do popular ratings matter to you while choosing a Movie to watch?

30 responses



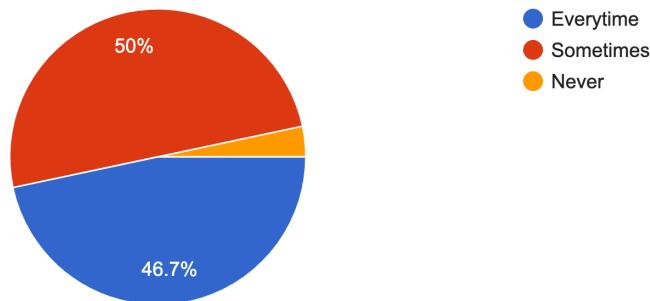
6) Do you consider reviews of your friends or colleagues while choosing a Movie to watch?

30 responses



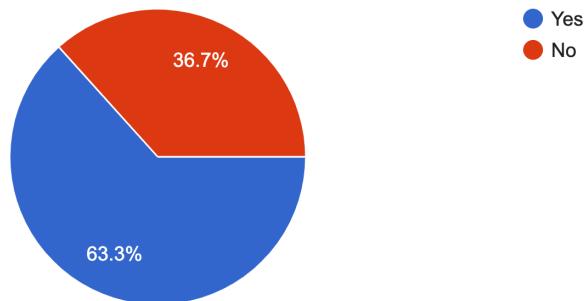
7) Do you discuss Movies with your friends or colleagues?

30 responses



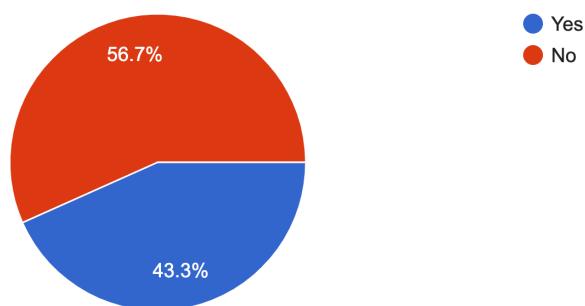
8) Do you maintain a personal watchlist?

30 responses



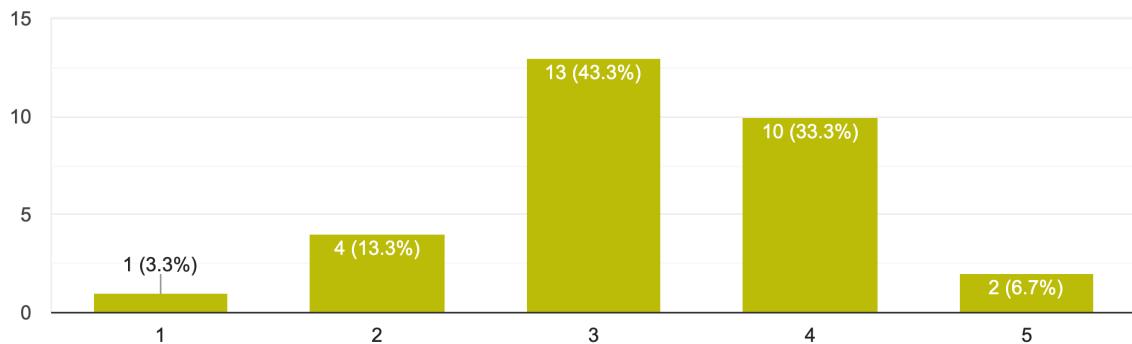
9) If yes, do you maintain a separate watchlist for the Movies you are currently watching and going to watch in the future?

30 responses



10) On a scale of 1 - 5, do you think it takes a lot of time to analyze different reviews and make a decision if a Movie or TV Show is worth watching?

30 responses



2.2 User Stories

Note:- *User stories have been prioritised using the MoSCoW method*

1) Must have - M

- As a user, I must have a personal profile page so that my friends will be able to reach me and vice versa
- As a user, all movies must have a dedicated page so that I can see the rating and brief background of the movie

2) Should have - S

- As a user, I should be able to register a new account so that I can login into the application
- As a user, I should be able to login with username and password so that I can interact with the application

3) Could have - C

- As a user, I could comment/see reviews to the movies so that I can participate in the community.

4) Would have - W

- As a user, I would have access to reviews made about that movie from the StreamR community.

3. Perspective

3.1 End - users

- Cinema lovers
- Film critics
- Data miners
- 3rd party softwares/websites

3.2 Stakeholders

- Movie shows producers
- Movie theatres
- OTT platforms
- Software developers
- Database providers
- Hosting service provider

4. Project objectives

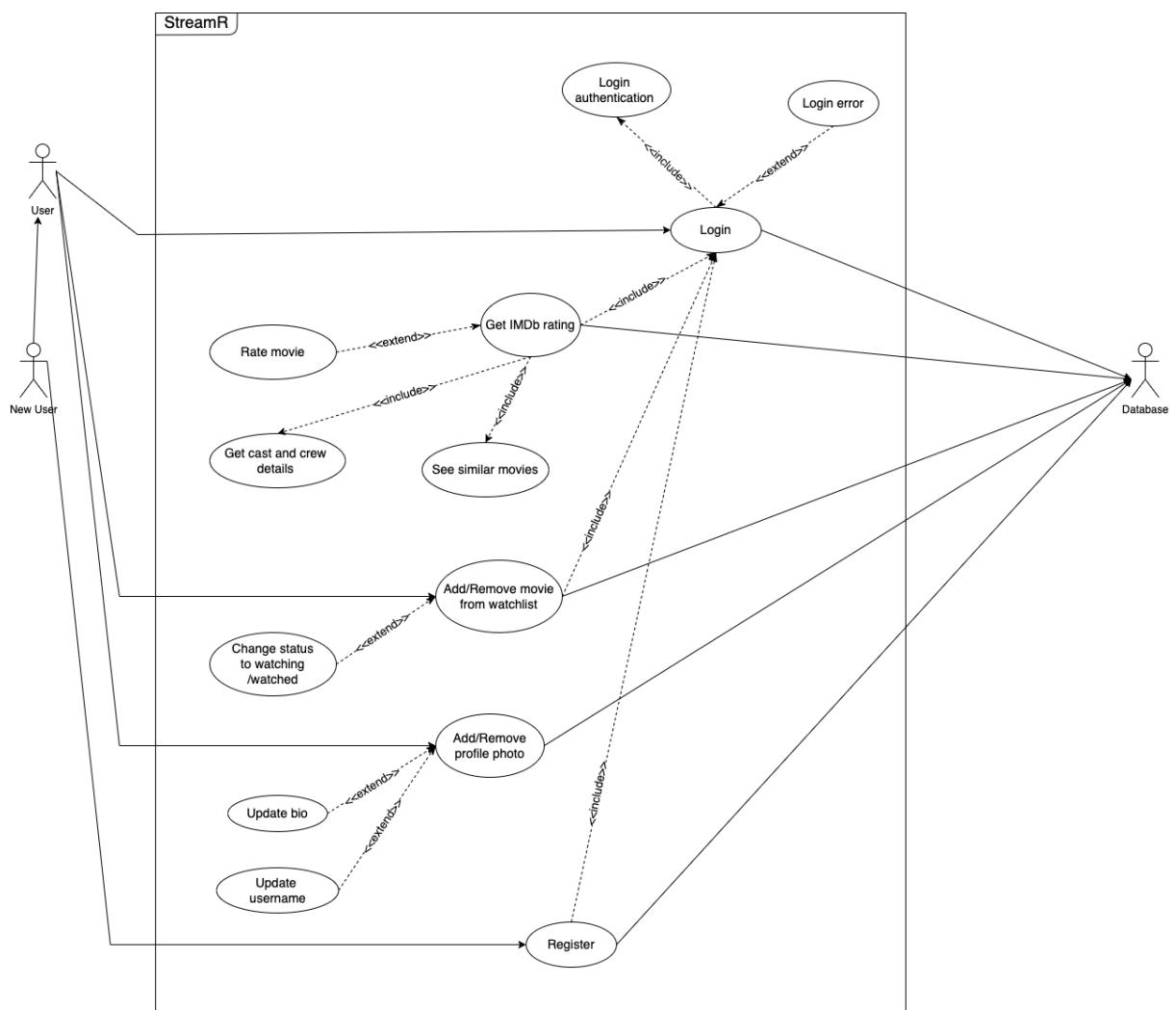
4.1 Business rules

- *License and Site Access:* StreamR or its content providers grant you limited access to use the StreamR Services for personal and non-commercial purposes, including access to digital content available through the StreamR Services, and not to download (other than page caching) or modify this site, or any portion of it, unless StreamR expressly authorised you to do so in writing.
- *Personal Information and cookies:* We utilise your personal information to provide the StreamR Services, improve functionality, assess performance, correct problems, and improve the StreamR Services' usability and effectiveness.
- *Your Account:* You are responsible for keeping the security of your login credentials and restricting access to your computer if you use any StreamR Service, and you agree to take responsibility for any actions that occur under your account or password.

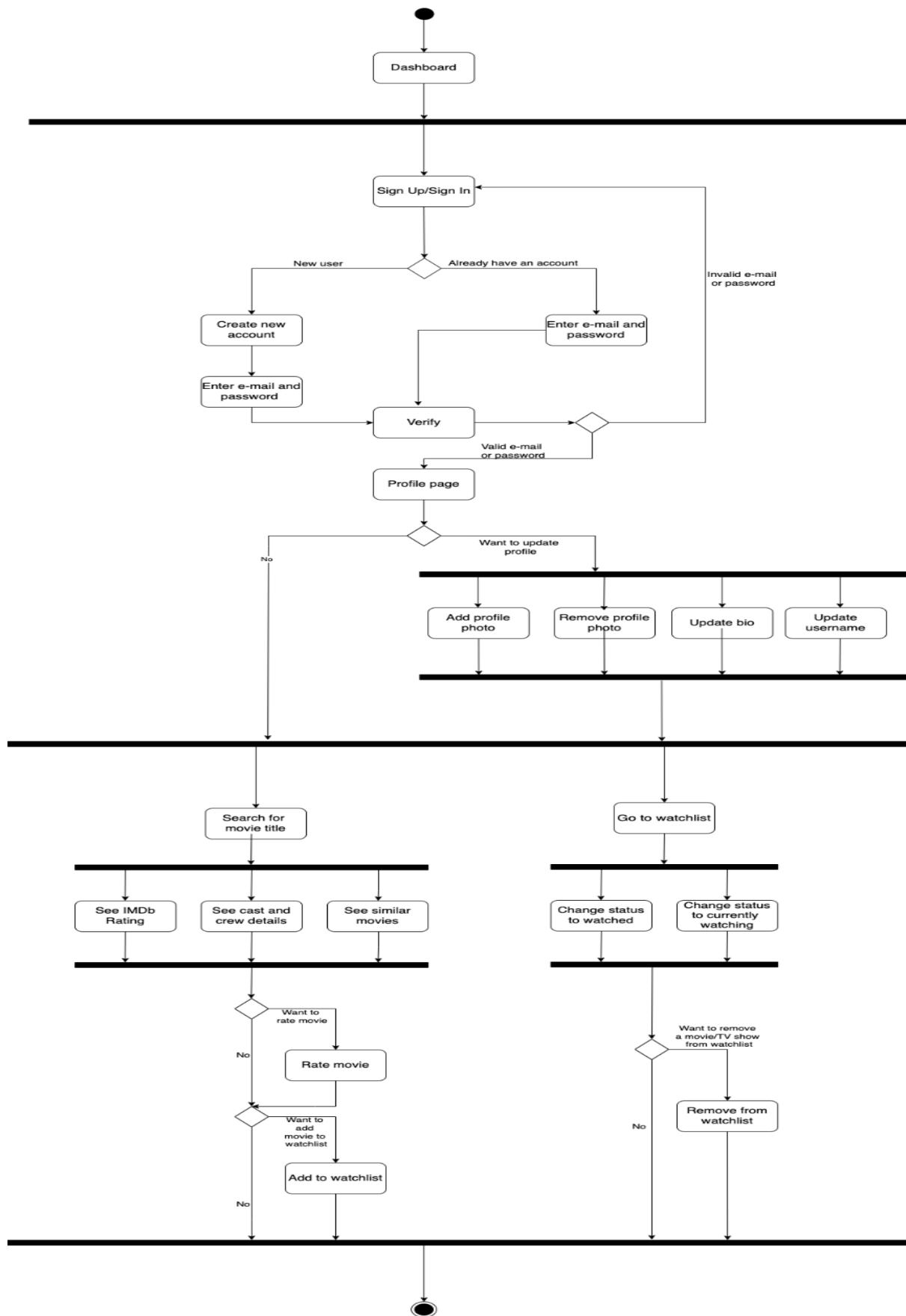
- *Reviews, Comments, Communications, and Other Content:* Visitors may post reviews, comments, and other content, as well as submit suggestions, ideas, comments, questions, or other information, as long as the content is not illegal, obscene, threatening, defamatory, infringing on property rights, or containing software viruses, political campaigning, or commercial solicitation.
- *Copyright:* StreamR owns all material on this site and made available through any StreamR Service, including text, graphics, logos, button icons, pictures and data compilations.

4.2 UML Diagrams

4.2.1 Use-Case Diagram

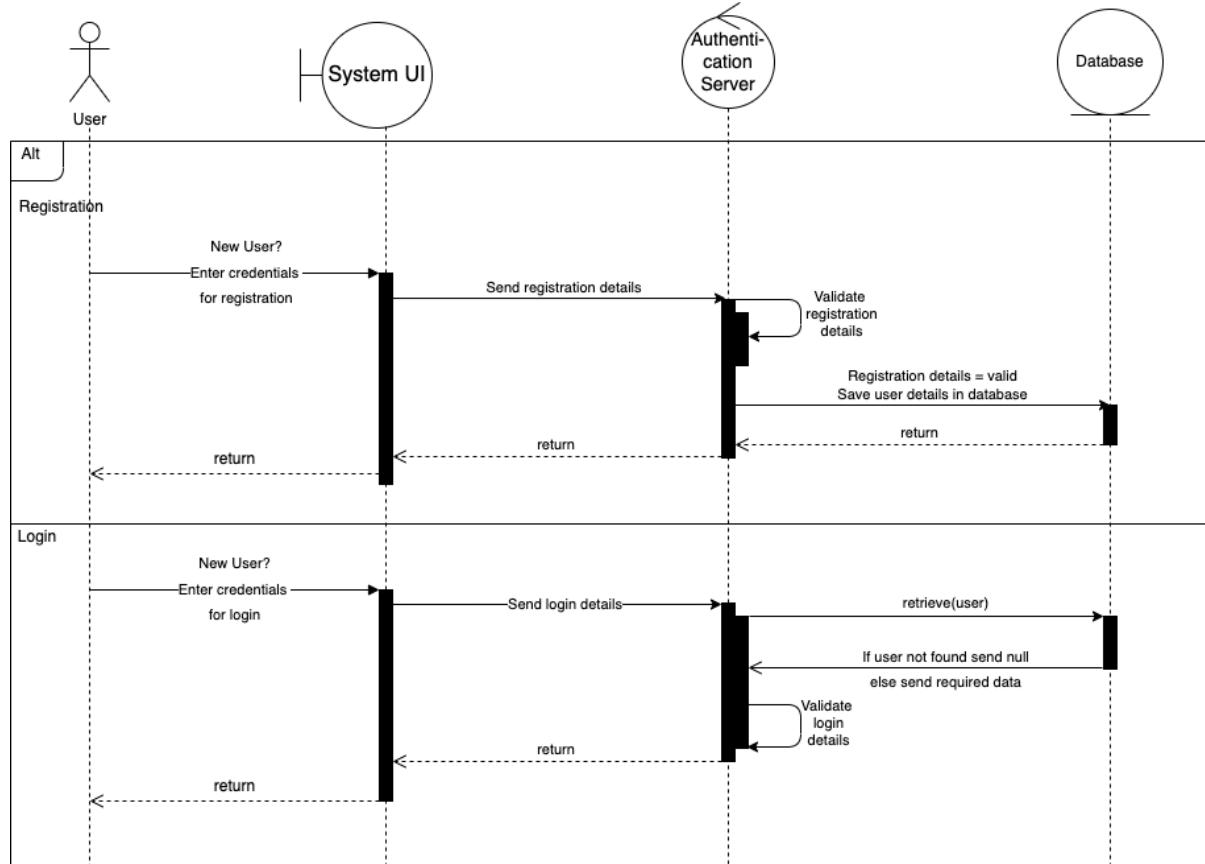


4.2.2 Activity Diagram

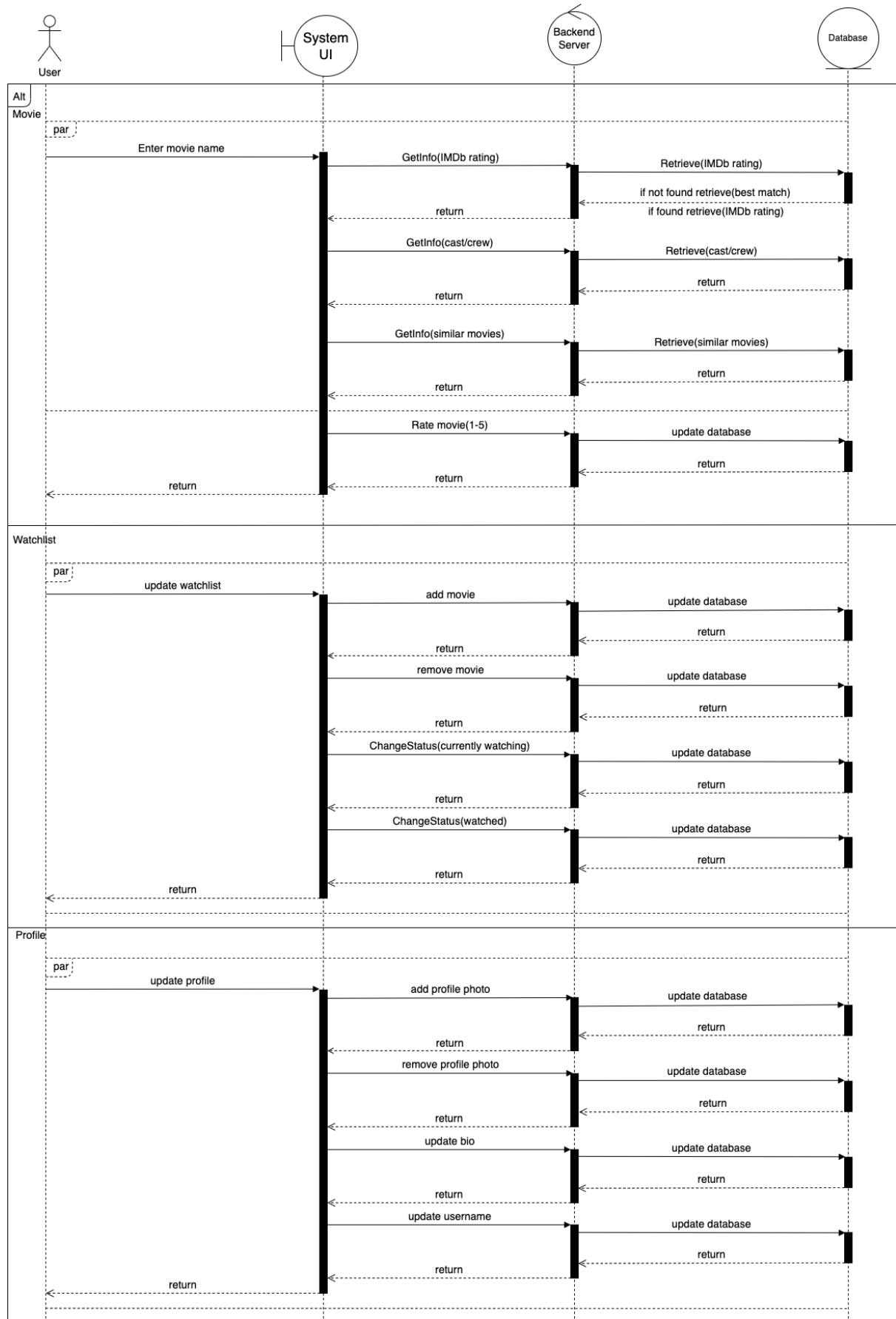


4.3.3 Sequence Diagram

1) Before Login/Registration



2) After Login/Registration



4.3 Assumptions, Dependencies, Time and Effort

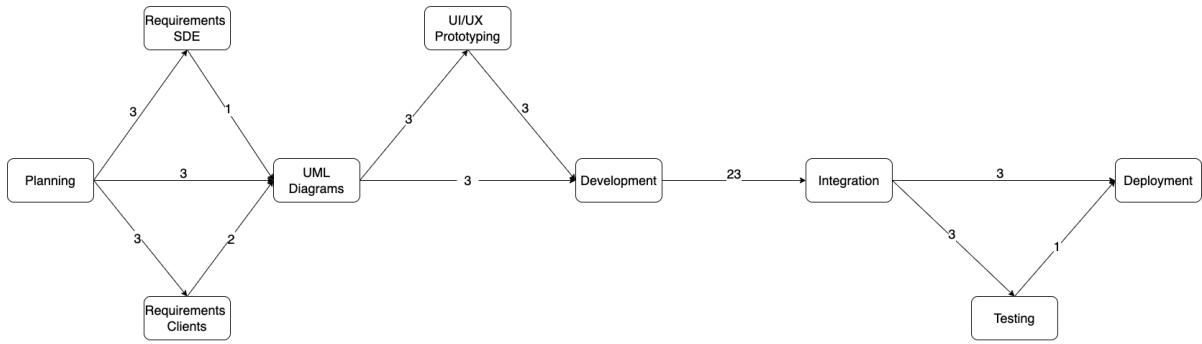
4.3.1 Assumptions and Dependencies

- End-users are assumed to follow the minimal software and hardware requirements.
- End-users are assumed to utilise sites under optimal conditions.
- End-users have reliable internet connectivity.
- End-users are assumed to be aware of the sites' functionalities.

4.3.2 Time and Effort Estimate

Project Deliverables	Estimated Days	Estimates Hours
Planning	3 days	5 hours
Requirements(SDE)	1 days	2 hours
Requirement elicitation	2 days	7 hours
UI/UX prototyping	3 days	10 hours
UML Diagrams	3 days	11 hours
Frontend Development	14 days	48 hours
Backend Development	23 days	95 hours
Integration	3 days	9 hours
Testing	1 days	4 hours
Project report	2 days	9 hours
	55 days	200 hours

4.4 Critical Path



Critical Path:

Planning -> Requirements(Clients) -> UML Diagrams -> UI/UX Prototyping -> Development -> Integration -> Testing -> Deployment

Time duration = 38 days

4.5 Project Plan

Epic	OCT	NOV	DEC
	Requirements Phase	Development phase	Testing Phase
MOV-4 Requirements Phase			
MOV-5 Create Google form	DONE TIPSI JADAV		
MOV-6 Create UML diagrams	DONE TIPSI JADAV		
MOV-7 Create Prototype based on Requirements...	DONE SUDHANS...		
MOV-8 Frontend Phase			
MOV-10 Create Search bar	DONE YASH GHA...		
MOV-11 Determine size of Posters	DONE SUDHANS...		
MOV-12 Determine size of cast and crew dp	DONE TIPSI JADAV		
MOV-13 Create size background using CSS	DONE SUDHANS...		
MOV-15 Create the "Enter" button	DONE YASH GHA...		
MOV-14 Determine text size to be used	DONE SUDHANS...		
MOV-9 Backend Phase			
MOV-17 Recomended Movies	DONE YASH GHA...		
MOV-18 Web Scraping	DONE YASH GHA...		
MOV-19 Reviews	DONE TIPSI JADAV		
MOV-16 Sentiment Analysis	DONE TIPSI JADAV		
MOV-20 Testing Phase			
MOV-23 Black Box testing	IN PROGRESS		
MOV-22 GUI testing	IN PROGRESS		
MOV-21 Future Updates			
MOV-24 Bug Fixes based on User feedback	TO DO		

4.6 Design and implementation constraints

- There will only be Graphical User Interface (GUI)
- Only the search bar and the movie details section has been developed
- This has been implemented using Flask as it's framework
- As for its front end, HTML, CSS and JS have been used
- And for it's API, TMDB has been used

5. Risks associated with and it's mitigation strategies

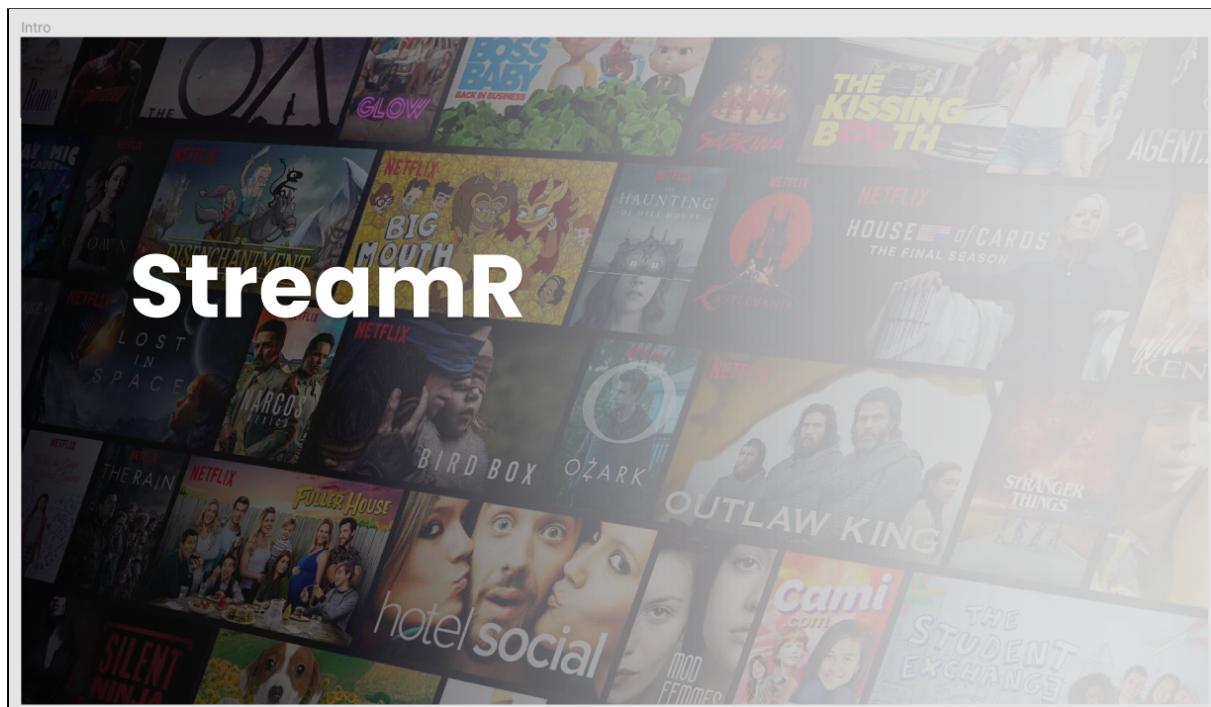
Some of the risks that we faced were:

- Lack of time management, and we were able to mitigate this by assigning certain times, where our meetings would be held
- A lot of the technologies used were relatively new to all the members and we were able to mitigate this by taking our time and explaining certain tools to each other.

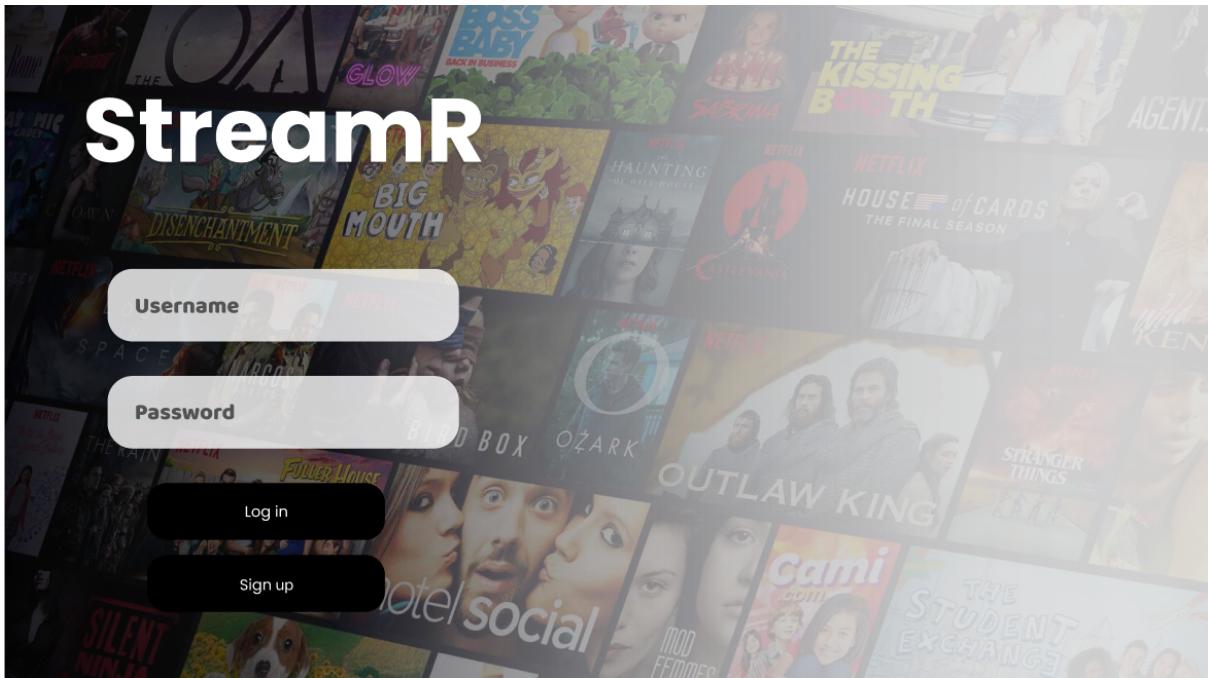
6. UI/UX design of the complete system

Figma design

- Intro



- Log in



- Dashboard

The dashboard screen for StreamR has a dark theme. On the left, a sidebar titled 'Home.' contains icons for 'Dashboard', 'Shows', 'Friends', 'News', and 'Settings', along with a 'Logout' button at the bottom. The main area starts with a 'Hello User!' message and a search bar. Below this are three summary boxes: '4,137 Episodes Watched', '112 Plan to Watch', and '304 Total Entries'. A 'Score Distribution' chart shows the number of unranked shows per score: 1 (1), 6 (22), 8 (54), 9 (50), and 10 (15). To the right, a calendar for October 25, 2021, shows the current date as 25. A list of top-rated shows is displayed, starting with 'takip Destiny' (1d 6h 34m, Score: 8.09, Ranked #436) and 'Komi San wa, Komyushou desu.' (2d 6h 34m, Score: 8.49, Ranked #116).

- About show page

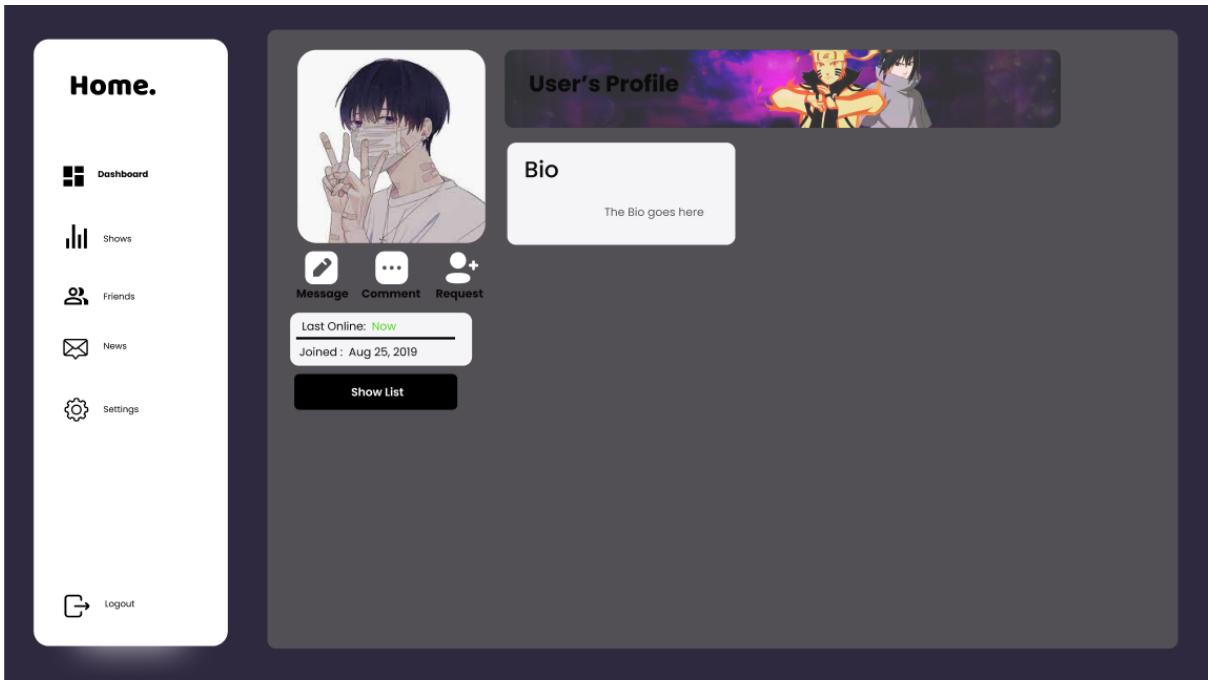
The screenshot shows the MyAnimeList.net interface for the anime 'Komi San wa, Komyushou desu.' (Komi San Can't Communicate). The left sidebar is titled 'Home.' and includes links for Dashboard, Shows, Friends, News, and Settings, along with a Logout button. The main content area features the title 'Komi San wa, Komyushou desu.' and the subtitle 'Komi San Can't Communicate.' Below the title is a large image of the main character, Shouko Komi, sitting on the floor. The page has tabs for Details, Videos, Episodes, Reviews, Stats, Characters & Staff, and Pictures. Under the Details tab, it shows a score of 8.49, 118 episodes, 572 members, and 296,667 users watching. There are dropdown menus for 'Watching' and 'Score'. The Synopsis section describes Shouko's communication disorder and her first day at Ritsuka High School. It also mentions her friend Hitorio Itoh and his efforts to help her. The Opening Theme is "Cinderella (シンデレラ)" by Cider Girl, and the Ending Theme is "Sympathy (シンパシー)" by Kitri (eps 1) and "Hikare Inochi (ヒカライノチ)" by Kitri (eps 2-).

- Watch List

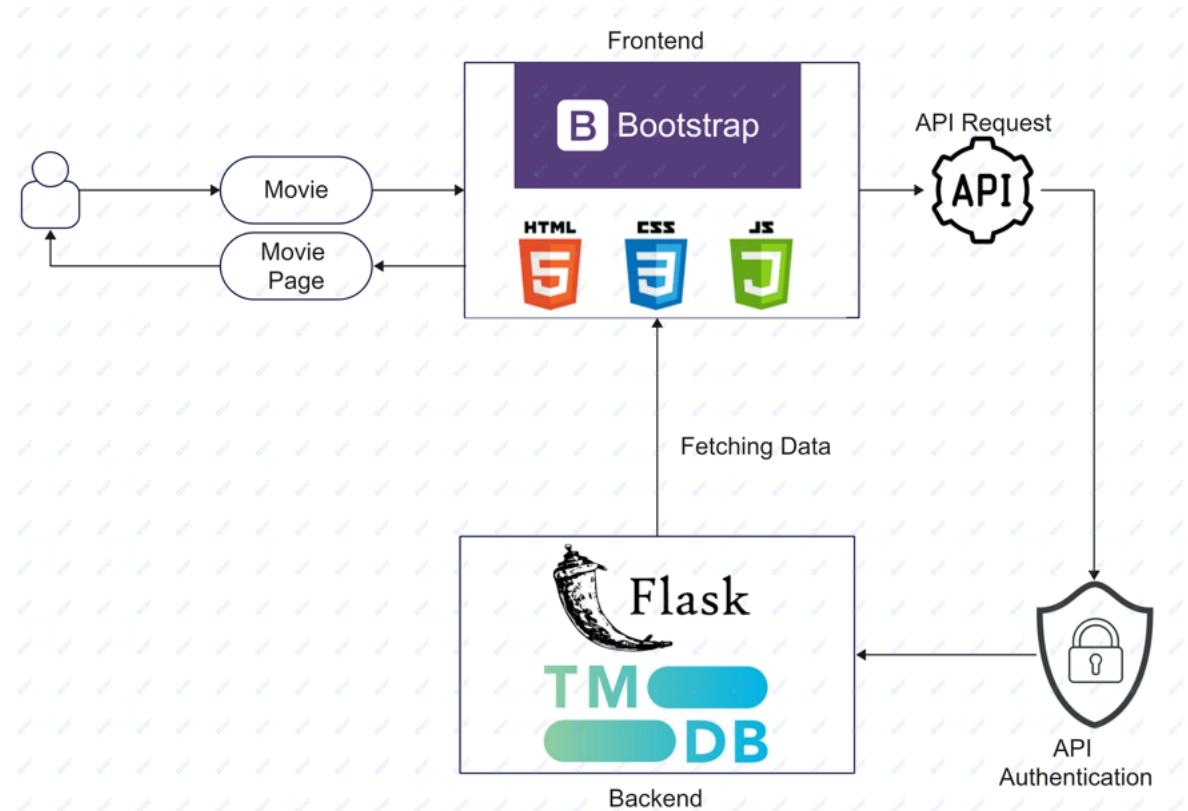
The screenshot shows the MyAnimeList.net interface for the user's watch list. The left sidebar is identical to the home page. The main content area displays a table titled 'All Anime' with columns for #, Poster, Anime Title, Type, Progress, Premiered, Score, and Status. The table lists five anime entries:

#	Poster	Anime Title	Type	Progress	Premiered	Score	Status
1		Gintama	TV	114 / 201	Spring 2006	9	Watching
2		Komi-san wa, Comyushou desu.	TV	2 / [3]	Fall 2021	-	Watching
3		takt.op Destiny	TV	0 / [3]	Fall 2021	-	PTW
4		Kimetsu no Yaiba: Mugen Ressha-hen	TV	2 / [3]	Fall 2021	-	On hold
5		Mushoku Tensei Season 2	TV	4 / [4] 12	Fall 2021	-	Watching

- Profile page



7. System architecture model



8. Implementation Technologies

8.1 Frontend

- HTML
- CSS
- JavaScript
- Bootstrap

8.2 Backend

- Flask
- Machine Learning
- Web Scraping
- TMDb Database

8.3 Project Management

- GitHub
- Jira

8.4 System Design

- Figma
- Diagrams.net

8.5 Deployment

- Heroku

9. Project contribution

Name	Contributions
Yash	<ul style="list-style-type: none">• Documentation - User stories, System Architecture, Black box testing• Development - Backend logic
Tipsi	<ul style="list-style-type: none">• Documentation - Google form, UML diagrams, Business rules• Development - Sentiment Analysis, Recommender System
Sudhanshu	<ul style="list-style-type: none">• Documentation - UI/UX Prototyping, GUI Testing, Risk analysis• Development - HTML and CSS of every page

10. Future enhancements to the system

- User page analysis
- Video clip/ Movie Trailers
- Photos from the movie
- Discussion Forum
- Friends List like Facebook
- Link to OTT platform
- Including TV and Anime shows in database

11. Open/Unresolved Issues

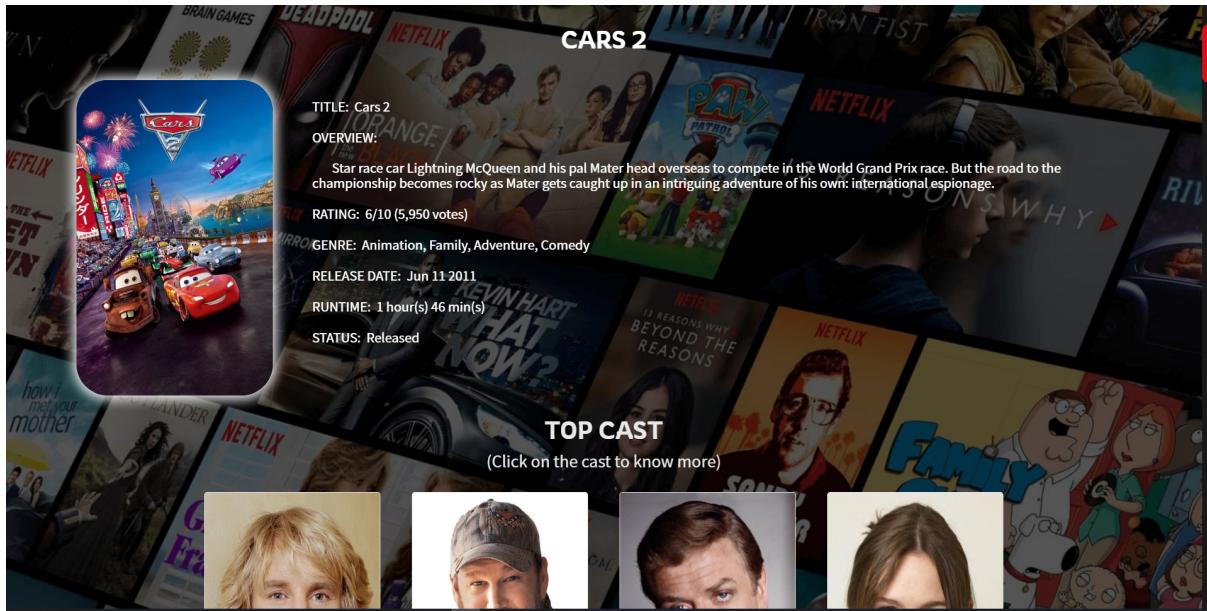
Backend of following functionalities:

- Login/Signup
- Watchlist
- Profile page

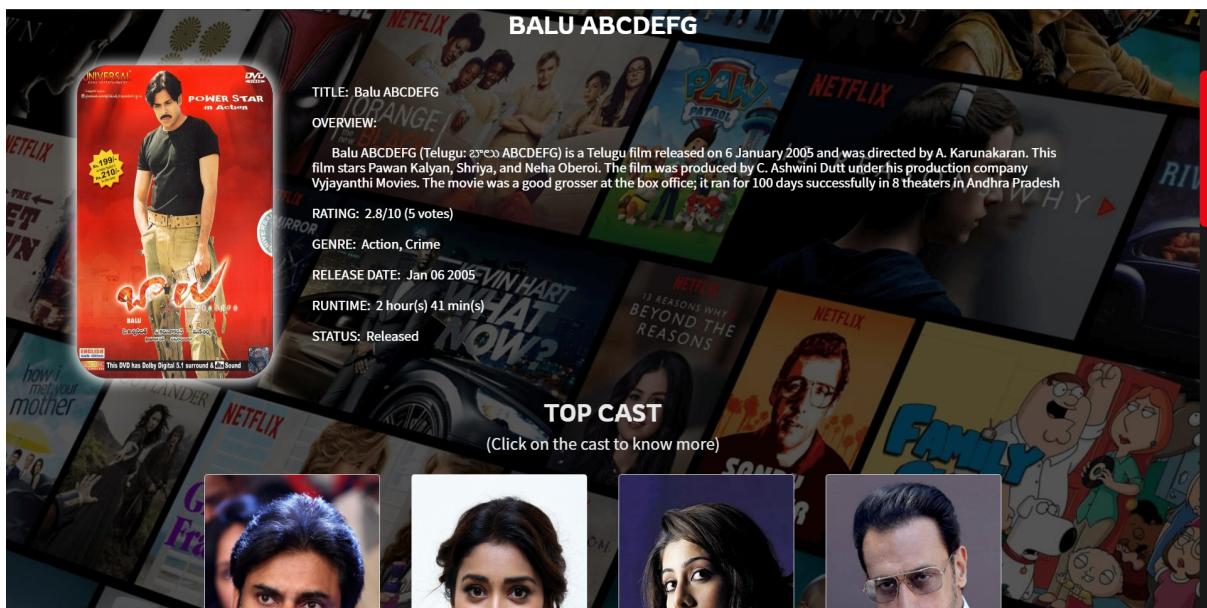
12. Testing

12.1 Blackbox Testing(Manual)

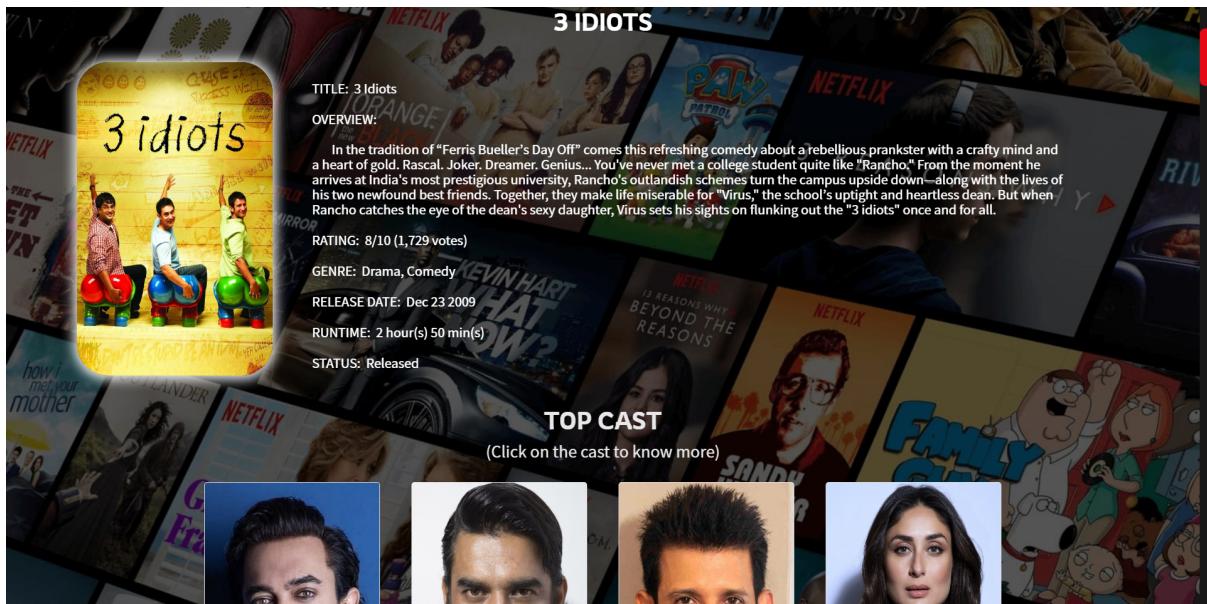
- If Movie named with input exists (Searched query: Cars 2):
Output: Movie page of the required movie(Output movie: Cars 2)



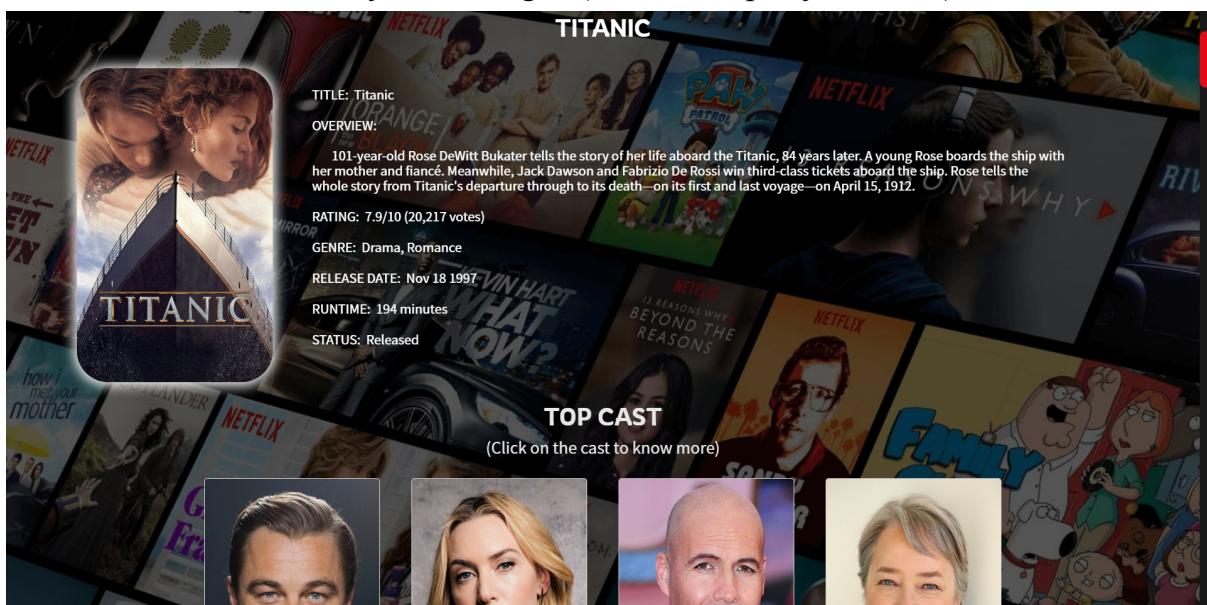
- If Movie named with input does not exist (Searched query: abcde):
Output: Movie page which is closest match to the input(Output movie: Balu abcdefg)



- If movie is of bollywood origin (Searched query: 3 Idiots)

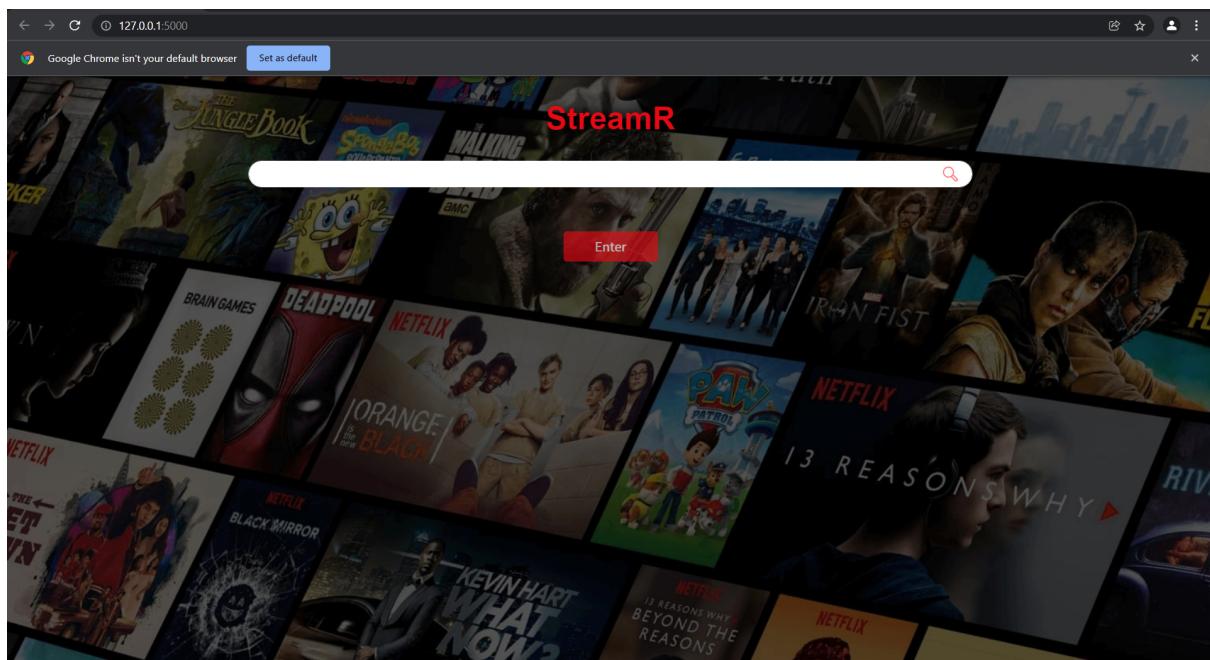
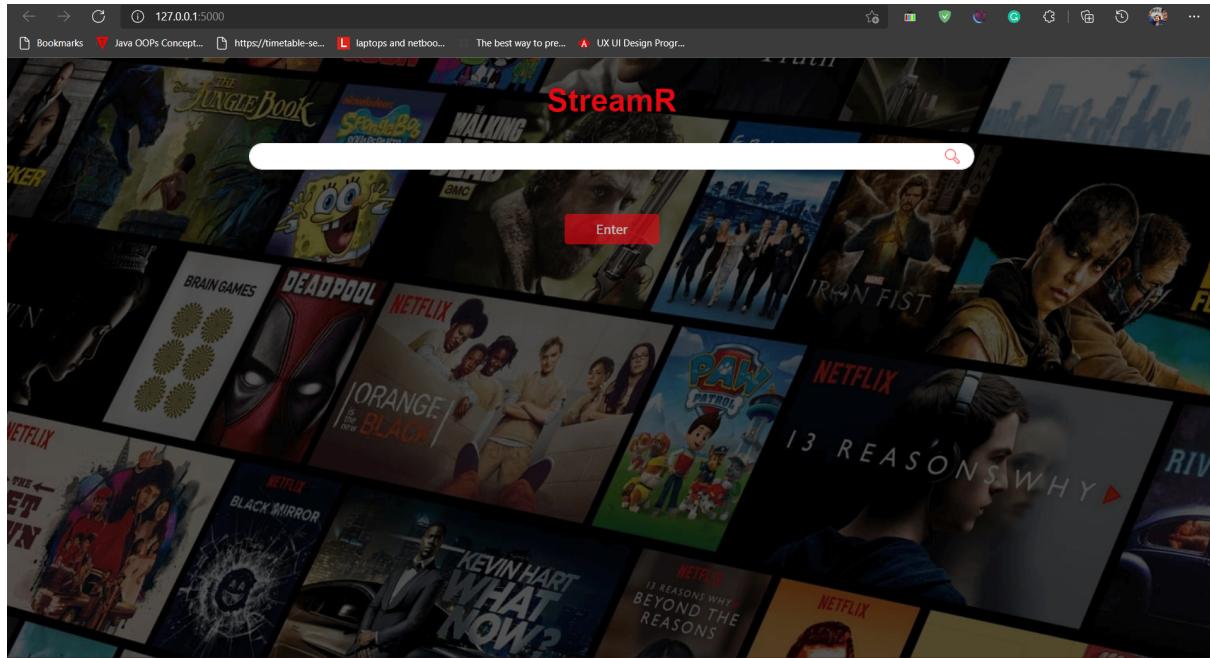


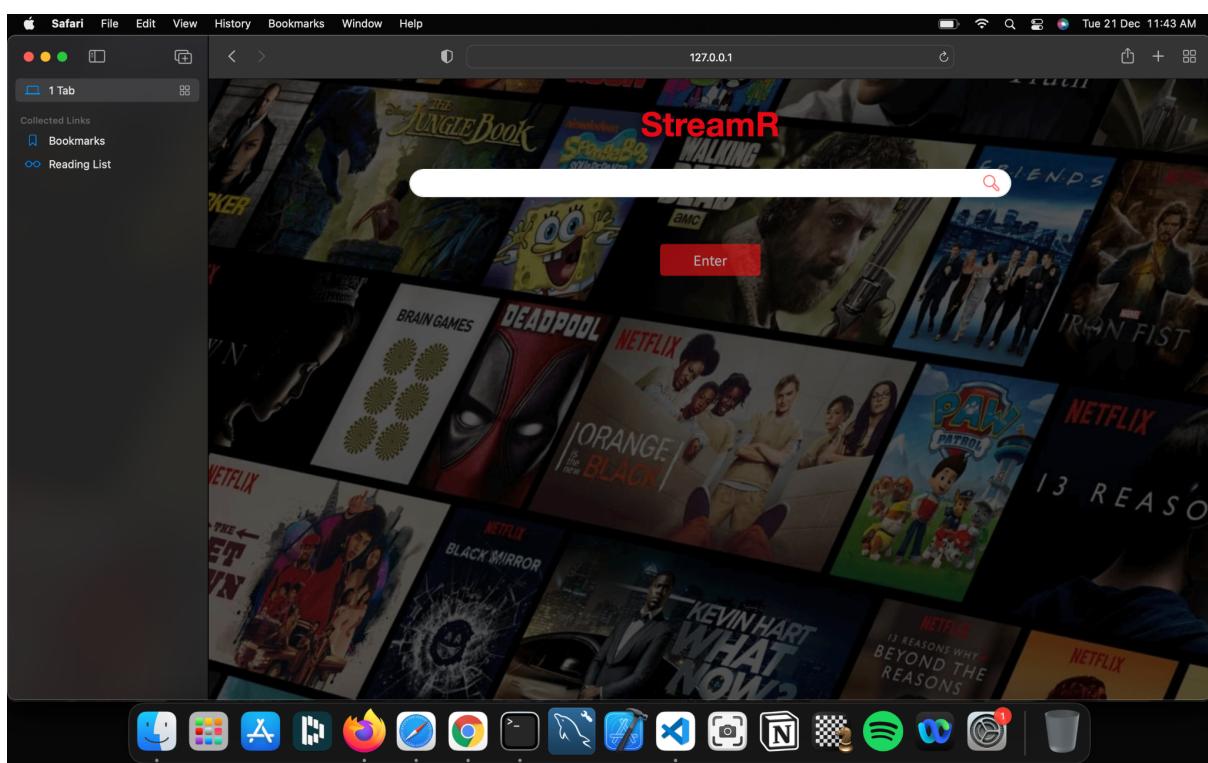
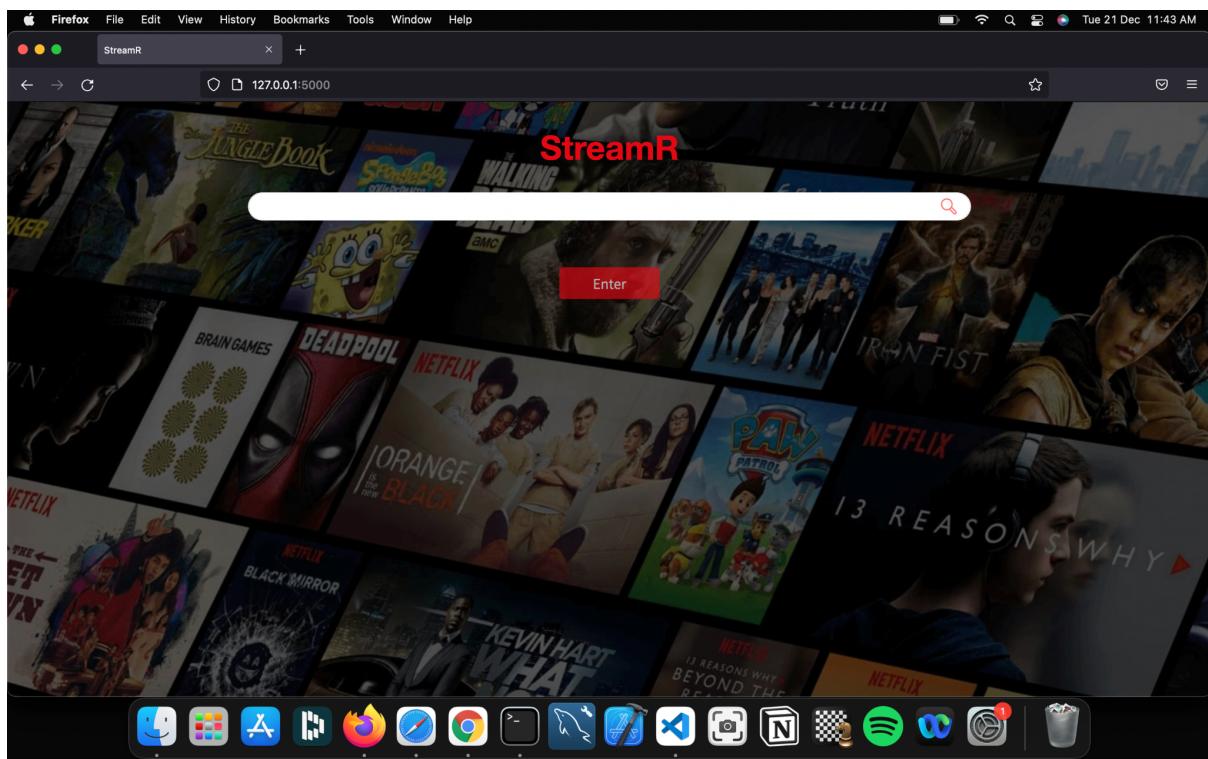
- If movie is of hollywood origin (Searched query: Titanic)



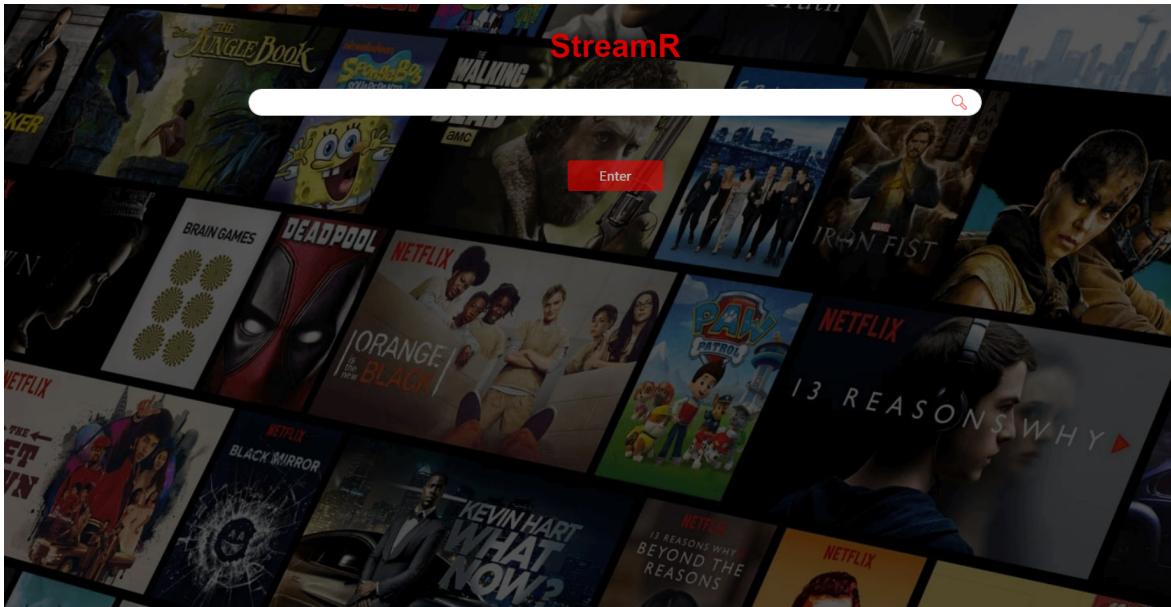
12.2 GUI Testing(Manual)

- The site can open in Microsoft Edge, Chrome, FireFox and Safari

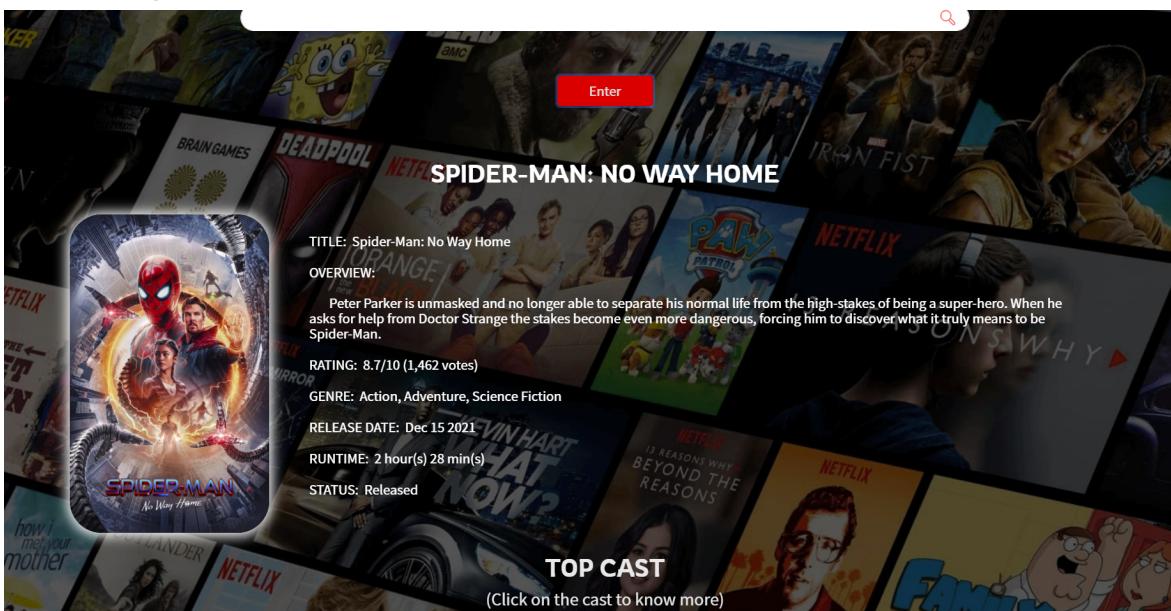




- We are first presented with the home screen of the site where a search bar and below it an “Enter” Button is present.



- On searching a movie, we are first presented with the movie title alongside a few details about the movie and below it the cast and crew along with reviews about the movie.



**BENEDICT WONG
AS WONG**

**TONY REVOLORI
AS EUGENE 'FLASH' THOMPSON**

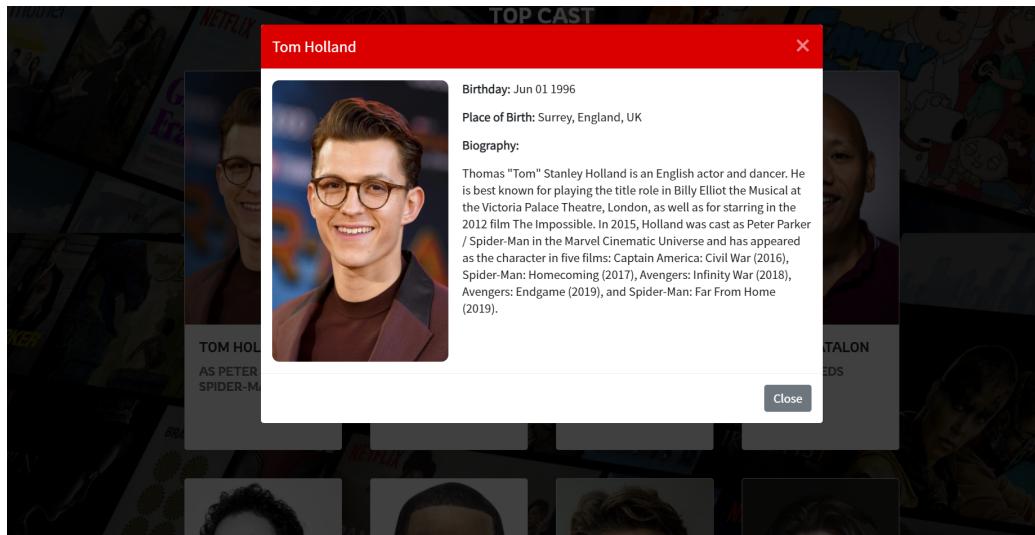
USER REVIEWS

Comments	Sentiments
This Spiderman is really fantastic. It captivated me right from the start, and I was entranced every second. There's adventure, friendship, team spirit, love, empathy, and brotherhood. The people in the cinema clapped and cheered multiple times, at the appearance of key characters and at big hint of what the future holds for Spiderman. I loved every second of it!	Positive : 😊
Don't watch the trailers. Just watch the movie. I'm not going to say much. It's amazing. And I'm in complete disbelief that it actually happened. Well-made, well-acted, well-directed. Fun, funny and crazy. Can't wait to watch it again. (1 viewing, opening night 12/16/2021)	Positive : 😊
They did it! A Spider-Man trilogy finally stuck the landing! Spider-Man: No Way Home is an impressive culmination of the films that came before it, with an engaging storyline, exciting action, laugh out loud moments, and dramatic consequences. The beginning climb is a little slow, but it's an exhilarating ride once things get swinging. I don't exactly know how this movie will hold up after multiple viewings, as there are some plot points that don't quite make sense when you start to think about them, but I thoroughly enjoyed myself this first time.	Positive : 😊
It was very enjoyable to watch in the cinema. The expected theories turned out to be true. Acting was great. The script was pretty good. I will watch it for the second time) It was the best Spiderman movie in my opinion. It's also one of the best Marvel movies. Be sure to watch it in the cinema!	Positive : 😊

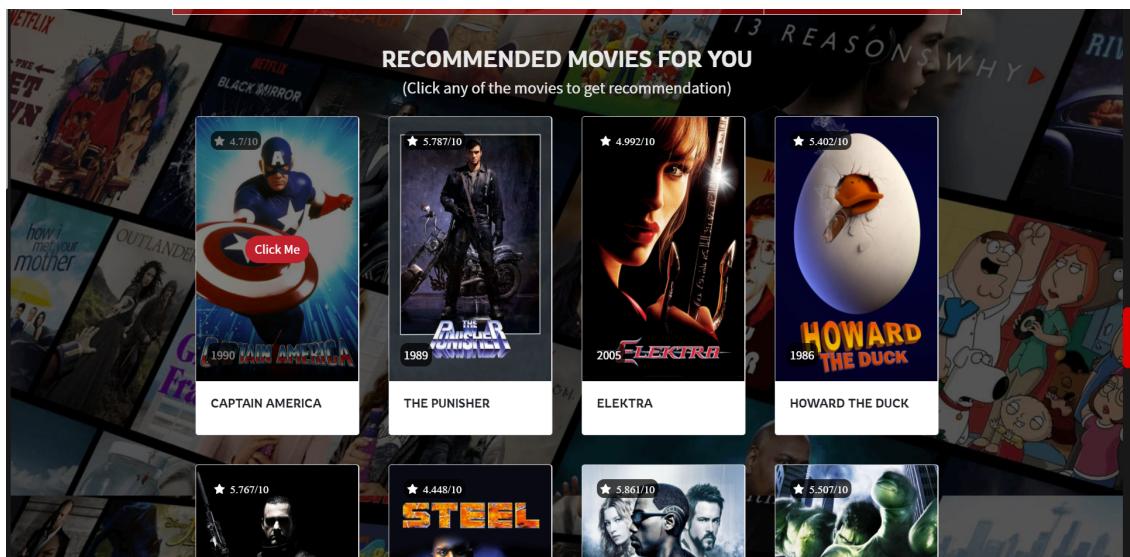
RECOMMENDED MOVIES FOR YOU
(Click any of the movies to get recommendation)

DEADPOOL 3	RON'S GONE WRONG	ENCANTO	VENOM: LET THERE BE CARNAGE
7.622/10	6.3/10	6.4/10	5.507/10

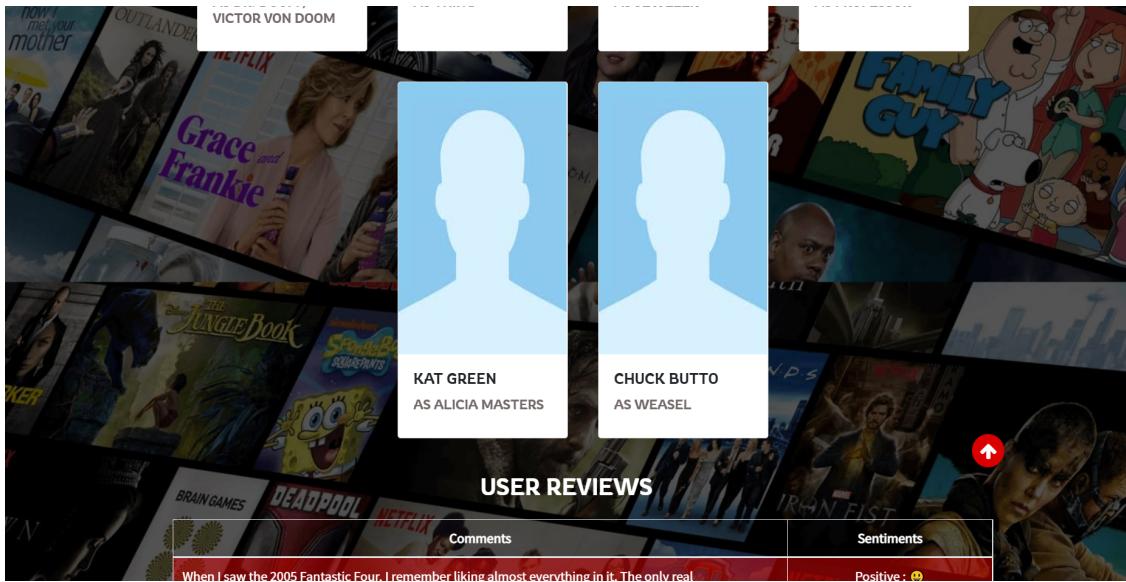
- On clicking one of the cast and crew, we are presented with details about the actor



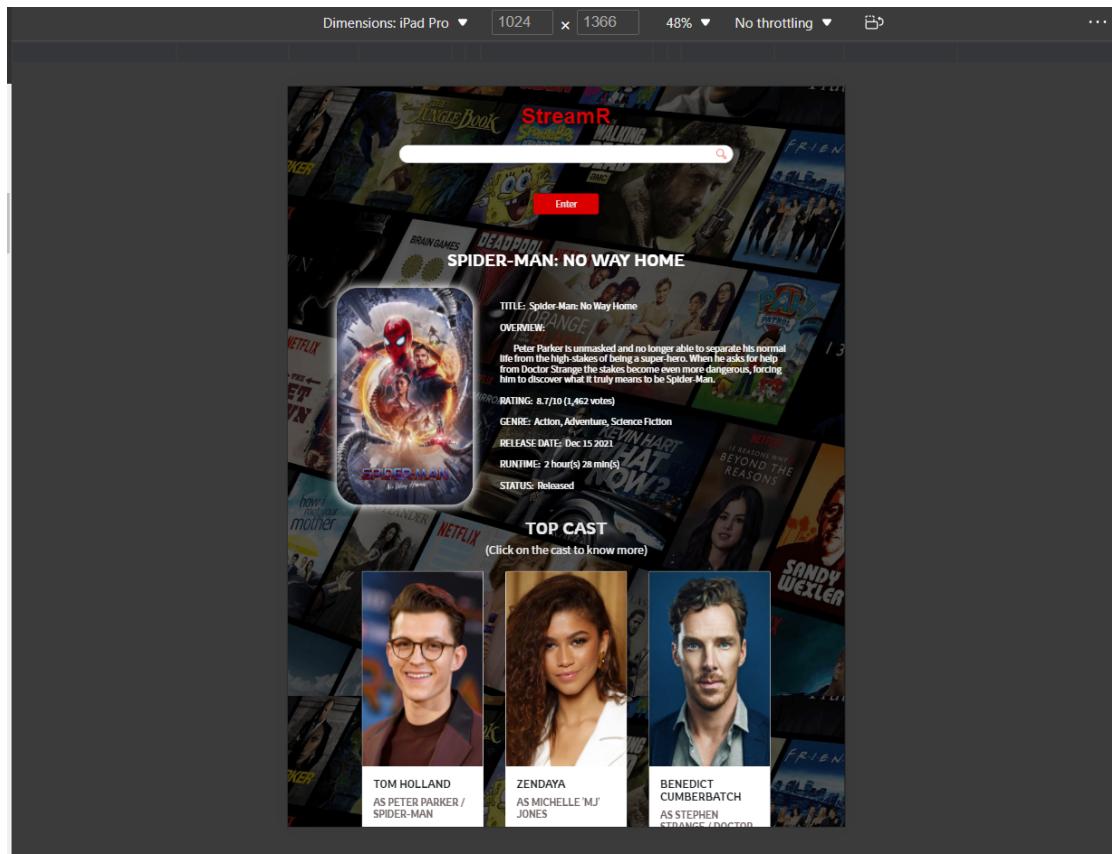
- When we hover over a recommended movie we see the “click me” button appear, which takes us to the movie’s info screen

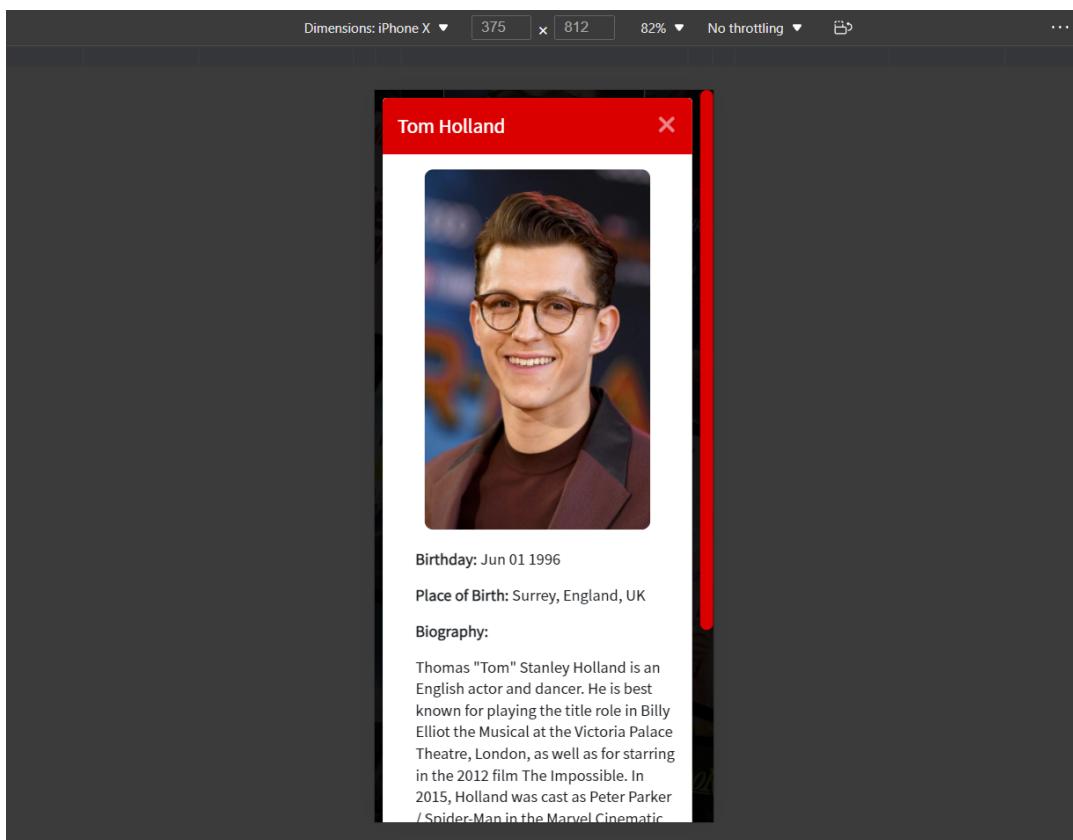
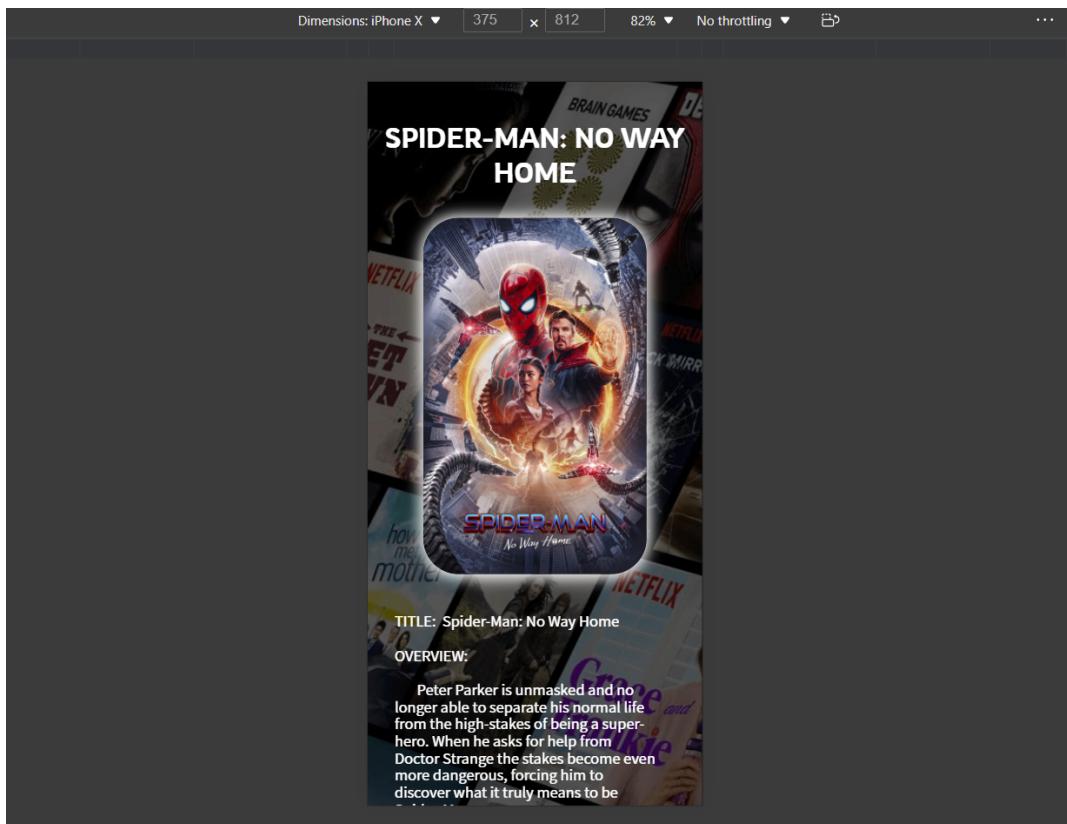


- For certain actors their pictures aren't available so, a default image has been put in place for such cases



- As far as responsiveness goes the site is quite responsive, as it is able to adjust to the varying dimensions from a Tablet to an iPad to even a smartphone like Iphone.





13. Source Code

[GitHub Repository](#)

[Deployed Website](#)