



CVM UNIVERSITY



G H Patel College Of Engineering & Technology

OTT PLATFORM PROJECT

A SRS report submitted in partial fulfilment of the requirements for the
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CERTIFICATE

This is to certify that Seminar work embodied in this report entitled, "**OTT Platform Project**" was carried out by **Darshak Kakani (12002080501007), Ami Raj (12002080501003)**, at G H Patel College of Engineering & Technology for partial fulfillment of B.E. degree to be awarded by Charutar Vidya Mandal University. This seminar work has been carried out under my supervision and is to the satisfaction of the department.

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We(I) hope that this software requirement specification report will provide all necessary information required to readers to fulfil their aspiration. Man's quest for knowledge never ends. Theory and practices are essential and complementary to each other. We would like to express our sincere thanks to Dr. Nikhil Gondaliya (Head of Department) for wholehearted support.

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1. Introduction

"OTT Platform" is a software application that allows users to watch TV shows, movies, web series, and other content in any language or genre they choose. Any device, including cell phones and laptops, can be used to see it. Users can subscribe to the application, download content to watch later, and save content to watch later. Sometimes you use VPN to watch some other countries' content.

1.1 Problem Definition

The purpose of the project "OTT Platform" is to provide a social platform project where the users can view their favorite shows, movies, sports, web-series etc. They will get many options of entertainment. Trending lists of movies, web-shows of different categories will be generated periodically, based on the interest of users. Users can get options for downloading and subscription.

1.2 System Overview

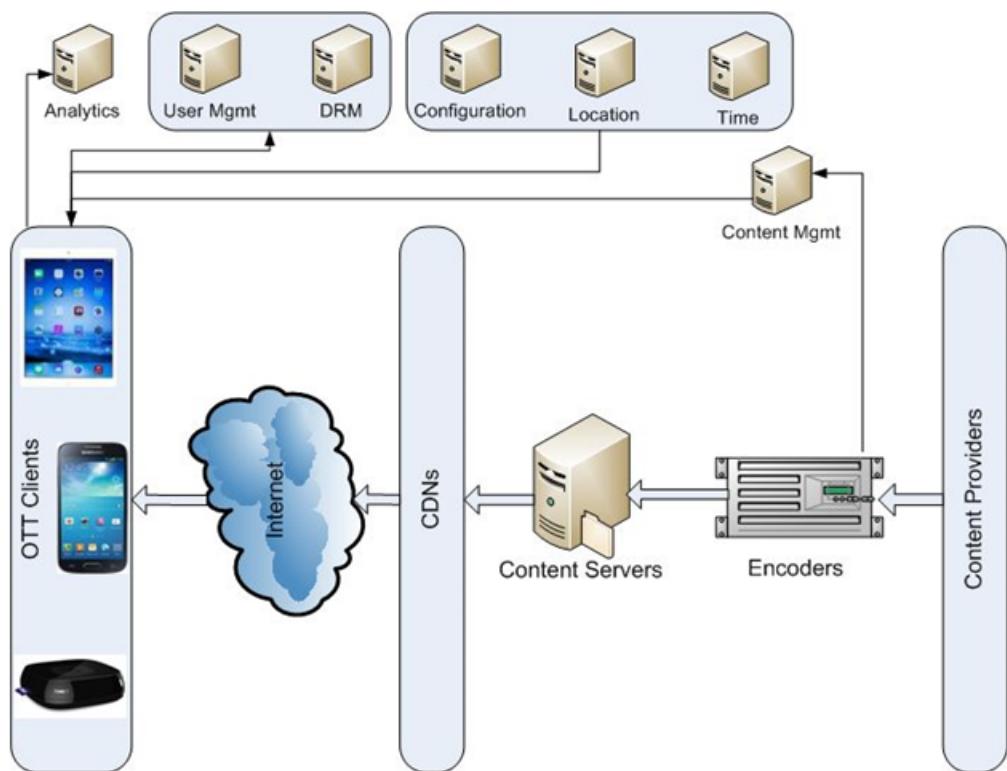


Figure 1 : Block Diagram [4]

There are different modules available for the user for easy interaction with the app. The first one is the Login module. Users first have to login with their name, contact number so they can easily fetch the content from the database. The second module is the subscription module. The user can subscribe for watching the latest shows, movies. Users can subscribe to any type they want and for how long they want. The third module is Payment. With this user can do a subscription. Payment is in online mode. Next module is the Home Page. The place where users get many options of what to see and can browse through a variety of recommendations. All the content is stored in the database and users can fetch it as per their need. Also SSL of this project is very high network used. And DB is strongly used in the backend.

1.3 Definitions, acronyms, and abbreviations

Abbreviation/Acronym	Definition
OTT	Over The Top
HTTP	Hypertext Transfer Protocol
MMS	Multimedia Stream
SSL	Secure Sockets Layer
VPN	Virtual Private Network
DB	Data Base

Table 1 : Acronyms and Abbreviations

1.4 Assumptions and dependencies

For a fully functioning OTT Platform application, the following criteria are needed:

- The user should have a smartphone or any other device.
- Login must be done with their Email or contact no.
- Subscription must be done with their existing account.
- Device should have an internet connection.

2. Overall description

2.1 Product functions

2.1.1 Use Case model survey

In this section the main functions of the OTT Platform application are explained with more details using the use case descriptions.

Use Case Names

- 1. Login:** User logs in to the system.
- 2. Home Page:** A user can browse anything from the categories given.
- 3. Watching the Content:** A user can watch anything of his/her choice.
- 4. User Performance:** Database keeps record of user performance.
- 5. Recommendation:** Database provides content recommendation to users.

Following are the purposes of a use case diagram given below:

1. It gathers the system's needs.
2. It depicts the external view of the system.
3. It recognizes the internal as well as external factors that influence the system.
4. It represents the interaction between the actors.

Use-case diagrams **describe the high-level functions and scope of a system**. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally.

Actors can be a human user, some internal applications, or may be some external applications. When we are planning to draw a use case diagram, we should have the following items identified.

- Functionalities to be represented as use case
- Actors
- Relationships among the use cases and actors.

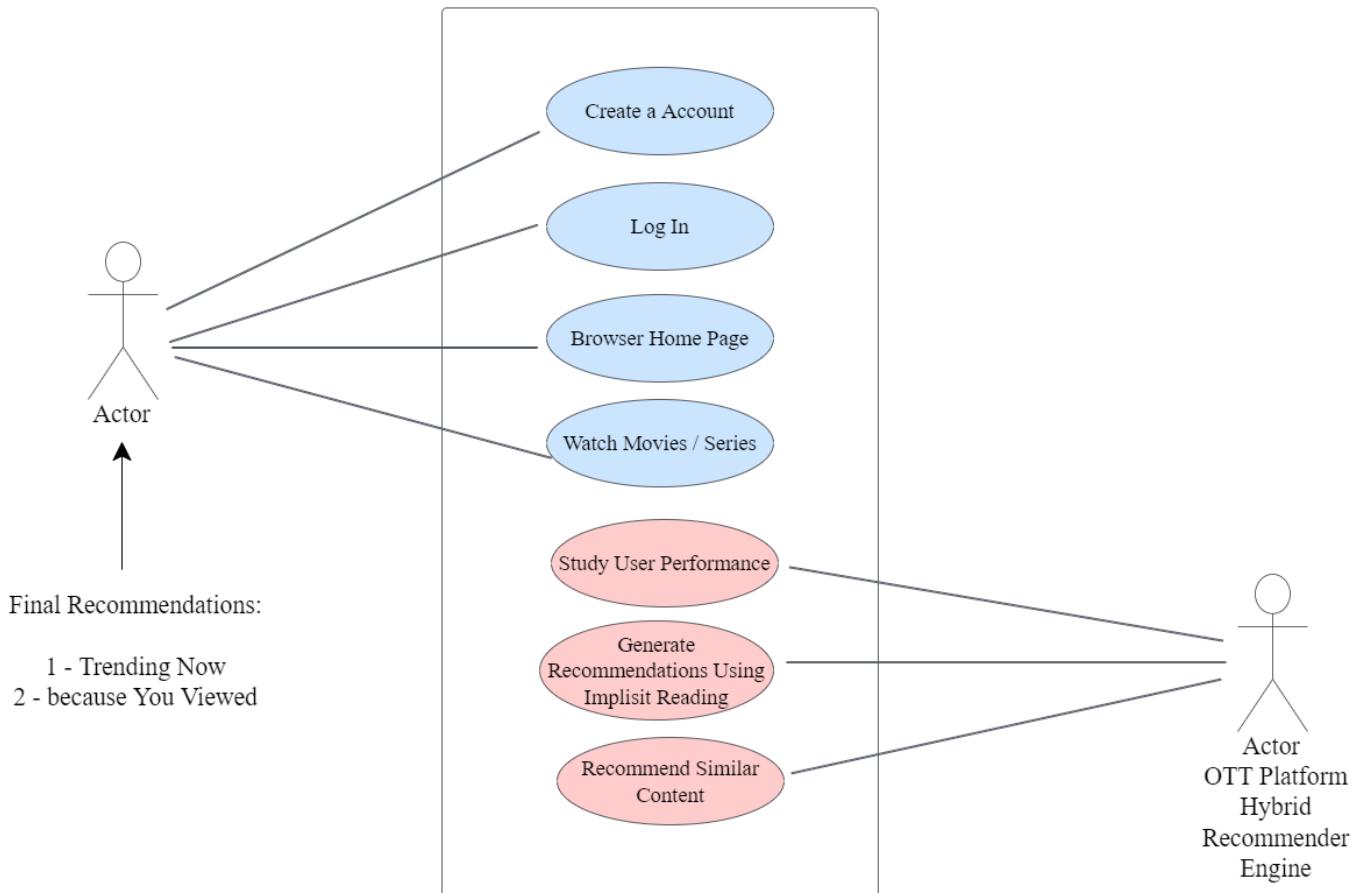


Figure 2 : Use Case Diagram

2.1.1 Login to Web Application :

Use Case Name	Login
Description	Users who complete the registration process, can login to the application.
Actors	User
Basic Flow	<ol style="list-style-type: none"> 1. User clicks on the “Login” section. 2. User enters his credentials. 3. System checks if the entered login credentials are valid. 4. System creates a new session for the user.
Exception Flow	If the user provides invalid login credentials the system notifies the user and redirects him to the login section.
Post Condition	User logs in to the system successfully.

Table 2 : Login to application

Req 01

The system shall allow the user to login by using his number.

Req 02

Whether the user logins to the system successfully or not the system shall inform the user by showing a message.

2.1.2 Browser Home Page:

Use Case Name	Home Page
Description	Users can browse the home page after logging in and creating their account.
Actors	User
Preconditions	Users must have already logged in.
Basic Flow	<ol style="list-style-type: none"> 1. User logins and home page appears. 2. Users can browse the home page and see all the content. 3. Users can search anything.
Post Condition	User gets all the content fetched from the database.

Table 3 : Browsing Home Page

Req 03

The user can search anything.

Req 04

The user can download anything on the home page.

2.1.3 Watching the content :

Use Case Name	Content viewing
Description	Users can view the available content.
Actors	User
Preconditions	Users must be logged in.
Basic Flow	<ol style="list-style-type: none"> 1. Users can search for specific content. 2. Users can search from recommendations. 3. Databases provide the content as per user's choice.

Table 4 : Watching the content

Req 05

Users can watch any content as per their choice.

Req 06

Users can search for the content.

2.1.4 User Performance:

Use Case Name	Users content choice
Description	What the user like to watch
Actors	Database
Preconditions	Users must be logged in.
Basic Flow	<ol style="list-style-type: none"> 1. Database keeps record of what user watches. 2. Make available that content to the user.
Post Condition	User gets all the information.

Table 5 : User Performance

Req 07

Databases must provide the user's choice of content.

Req 08

Database must have all the content.

2.1.5 Recommendation:

Use Case Name	Recommendation
Description	User gets content of their choice
Actors	Database
Preconditions	Users must be logged in.
Basic Flow	Database gives the choice of content by keeping record of their interest.
Post Condition	User can see recommended content

Table 6 : Recommendation

Req 09

Databases must keep a record of the user's performance.

Req 10

Databases must provide all the available content related to the user's search.

3. Specific requirements

This section contains all of the functional and quality requirements of the system in detail for the following stages of the development process. Since the audience of this SRS document is not only technical staff but users, understanding of requirements is tried to maximum. The important thing in this section is that the requirements do not contain any design specifics.

3.1 Functional Requirements

Detailed information about the functional requirements are given in section 2.1 with the use case diagram and its descriptions.

3.2 Nonfunctional Requirements

3.2.1 Usability

In this section the OTT Platform will be examined in terms of understandability, learnability, operability and attractiveness.

Req 11

The system shall provide a uniform look and feel between all the web pages.

Req 12

There shall be a red exclamation mark end of the error messages.

3.2.2 Reliability

Reliability is one of the metrics that are used to measure quality. For reliable software, the system shall be tested during the development process. In the OTT Platform web application when any fault occurs on application or database, it shall be recovered in a very short time in terms of reliability.

Req 13

The system shall provide storage of all databases on redundant computers with automatic switchover.

Req 14

The system shall provide for replication of databases to off-site storage locations.

3.2.3 Performance

Req 15

The performance shall depend upon hardware components of the client/customer.

Req 16

All functions for retrieving messages should be performed in less than 3 seconds.

3.2.4 Supportability

Since change is inevitable in today's world, these developments shall be designed to any possibility of updating.

Req 17

The source code developed for this system shall be maintained in configuration management tools.

4 Data Model and Description

This part of the SRS is about classes which contain data and their relationships.

4.1 Data Description

This section will give information about the data objects related to this project, the relationship among them, the attributes of the data objects and the complete data model with data objects' functions included.

The software includes some data objects: User, Subscription, Payment and Content Class. Users share movies from the DVD. Users can keep the list of movies which they showed and can specify the movies which they want to exchange.

The three different types of users of our database are:

1. Clients of the database – The people who will use the database for finding information about movies. This group can be further divided into

- (a) General clients who would search the database for any basic information about the movies, their actors, director, awards won, etc and
- (b) specialized clients with more complicated search requests like finding all the movies written by a particular writer, finding movies that are inspired by real life incidents, etc.

2. Contributors to the database – The people who will be adding new information to the database. These people are different from the system administrators because they can only add information based on some prespecified constraints.

3. System administrators - These people manage, upgrade, alter and program the database. They are the same as database administrators.

- **ER Diagram :**

Entity Relationship Diagram (ER Diagram or ERD) is a pictorial or visual representation of classifying groups or entities of common interest and defining the relationship between these groups. Hence, a structure is created with various symbols of different shapes and sizes so that it can be used as a model to depict the internal structure & relationship.

Components Of ER Diagram

It comprises:

- **Entity:** Any object that can have data stored in it.

- **Relationships between entities:** Defines how the entities are associated or related with each other.
- **Attributes of entities & relationships:** Represents the characteristic or property of an entity. [5]

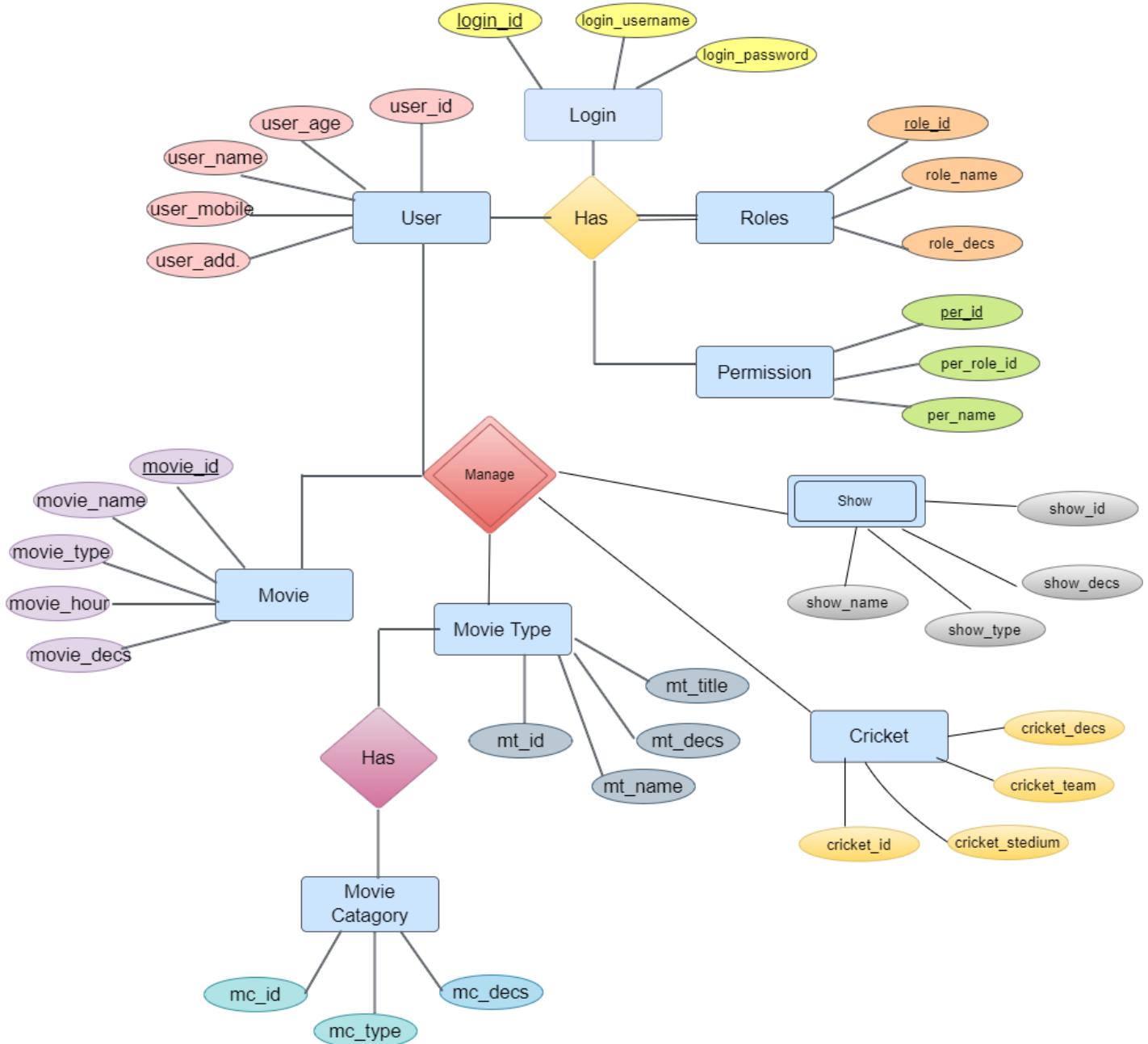


Figure 3 : ER Diagram

4.1.1 Data objects

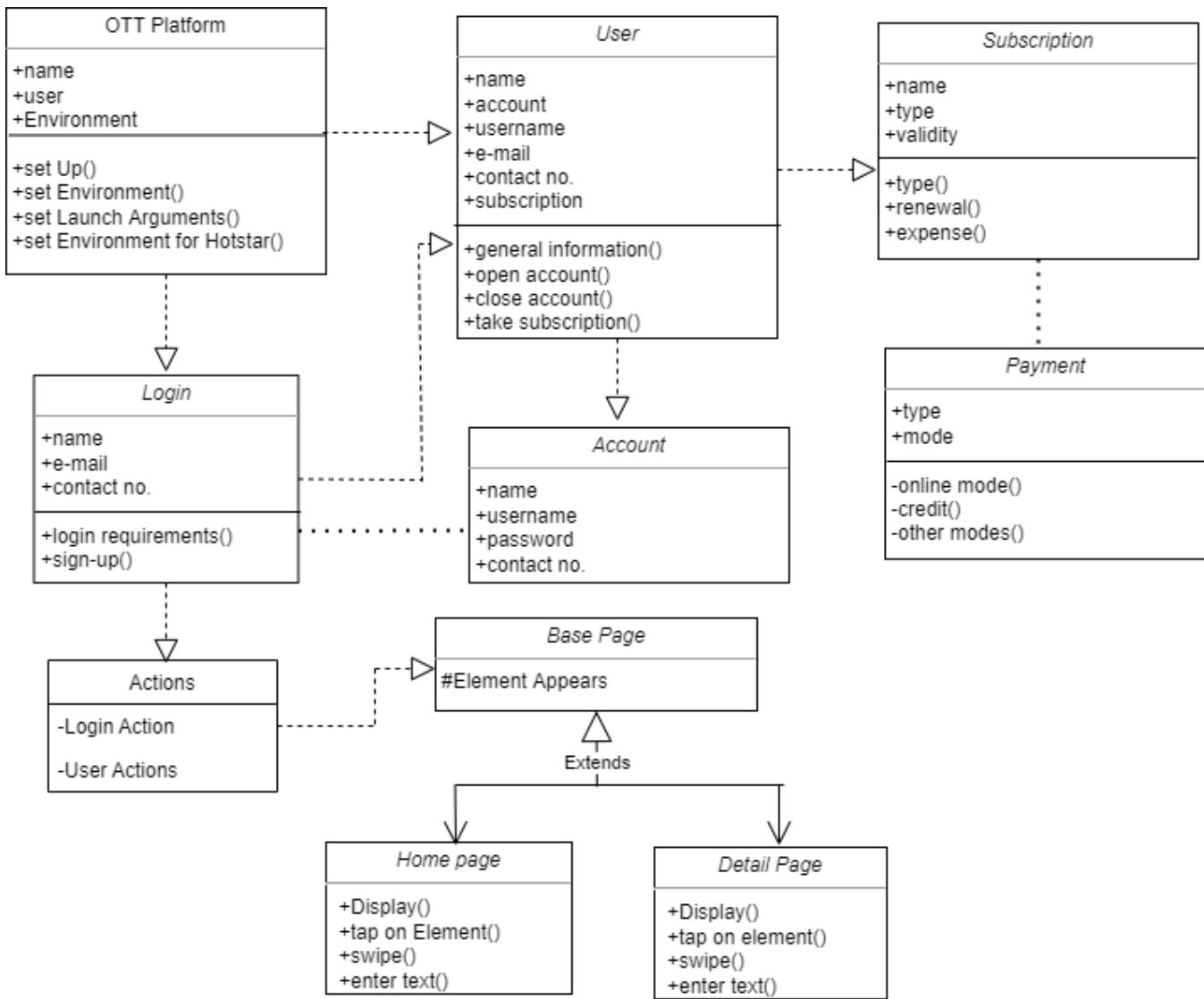


Figure 4 : Class Diagram

In the class diagram there are some classes. One of them is the user interface. User interface is implementation of user. User face also uses the engine which includes watching a movie, movies recommendation, image processing and social media feature. The engine uses subscription, payment and user classes. When the user shares a post the movie exists. All movies must belong to a marvel.

4.1.2 Data dictionary

4.1.2.1 User Class

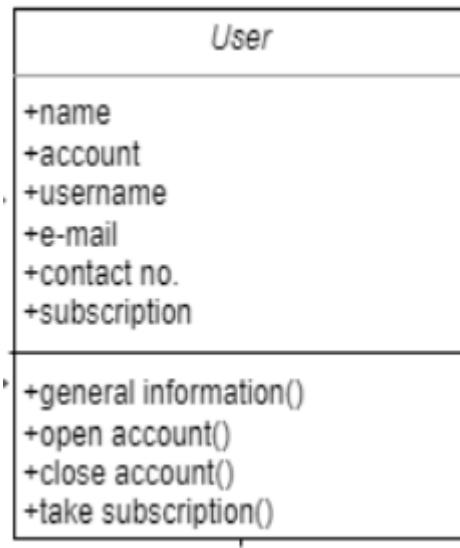


Figure 5 : User Class

User class is designed for users. It stores the user_name, name, password, email address, userID, messages, current address and permanent address of the user. All attributes are private because of security. All of the attributes have a getter & setter method to use it. To make simple getter & setter methods were not written. Description of the class attributes are given in the below table.

Field Item	Data Type	Field Size	Description	Example
Name	String	35	Name of the user	Darshak
Account	Int	15	Ac. no of user	101
Username	String	35	Unique username	just_darshak
E-mail	String	20	Email of user	darshp@gmail.com
Facebook id	String	25	Id of FB	Darshak
Contact Number	Int	10	Number of user	8796452145

Table 7 : User Class

4.1.2.2 Server Interface

User interface is designed for users. It has some methods. Description of the class methods are given in the below table.

Field Item	Data Type	Field Size	Description	Example
Name	String	35	Name of the server	You Tube
IP	Int	35	Unique IP Address	192.168.0.1
Password	Alphanumeric	20	Password of admin of user	admin@9789
Method	String	10	Method to access server	GET / POST
DB (Data Base)	Int	25	Size of DB	500 GB

Table 8 : Server Interface

4.1.2.3 Content Class

Quote class is designed for quotes. It stores the Name, Type, Language, Cast, Duration and Rating. All attributes are private because of security. All of the attributes have a getter & setter method to use it. To make simple getter & setter methods were not written. Description of the class attributes are given in the below table.

Field Item	Data Type	Field Size	Description	Example
Name	String	35	Name of movie	Vikrant Rona
Type	String	35	Type of movie	Bollywood
Language	String	15	Language of movie	English
Cast	String	20	Cast of movie	Kira advani
Duration	Int	20	Duration of movie	3 hours
Rating	Float	5	Rating of movie	4.8

Table 9 : Content Class

4.1.2.4 Subscription Class

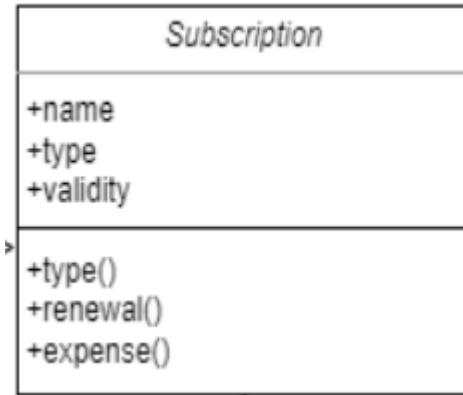


Figure 6 : Subscription Class

Subscription class is designed for books. It stores Name, author name, Type, Duration, Video/Studio cover photo and text category of book. All attributes are private because of security. All of the attributes have a getter & setter method to use it. To make simple getter & setter methods were not written. Description of the class attributes are given in the below table.

Field Item	Data Type	Field Size	Description	Example
Name	String	35	Name of subscription	Prime
Type	String	35	Type of subscription	monthly
Duration	Int	20	Duration of subscription	3 months
Video Quality	String / int	10	Video Quality of movie	720 / 1080 p
Audio Quality	String / int	10	audio Quality of movie	Dolby 5.1
Devices	Int	10	Number of devices that can be logged in	2

Table 10 : Subscription Class

4.1.2.5 Payment Class

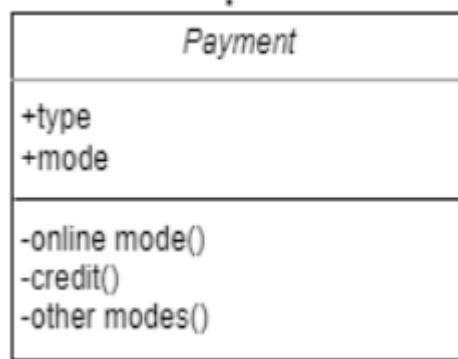


Figure 7 : Payment Class

Field Item	Data Type	Field Size	Description	Example
Id	Int	35	Id of the payment	747
Username	String	35	Unique username	just_darshak
Type	String	20	Type of payment	Credit / Debit card
Mode	Int	10	Mode of payment	UPI
Amount	Int	15	Amount of payment	899/year

Table 11 : Payment Class

5 Design & Implementation:

5.1 Activity Diagram

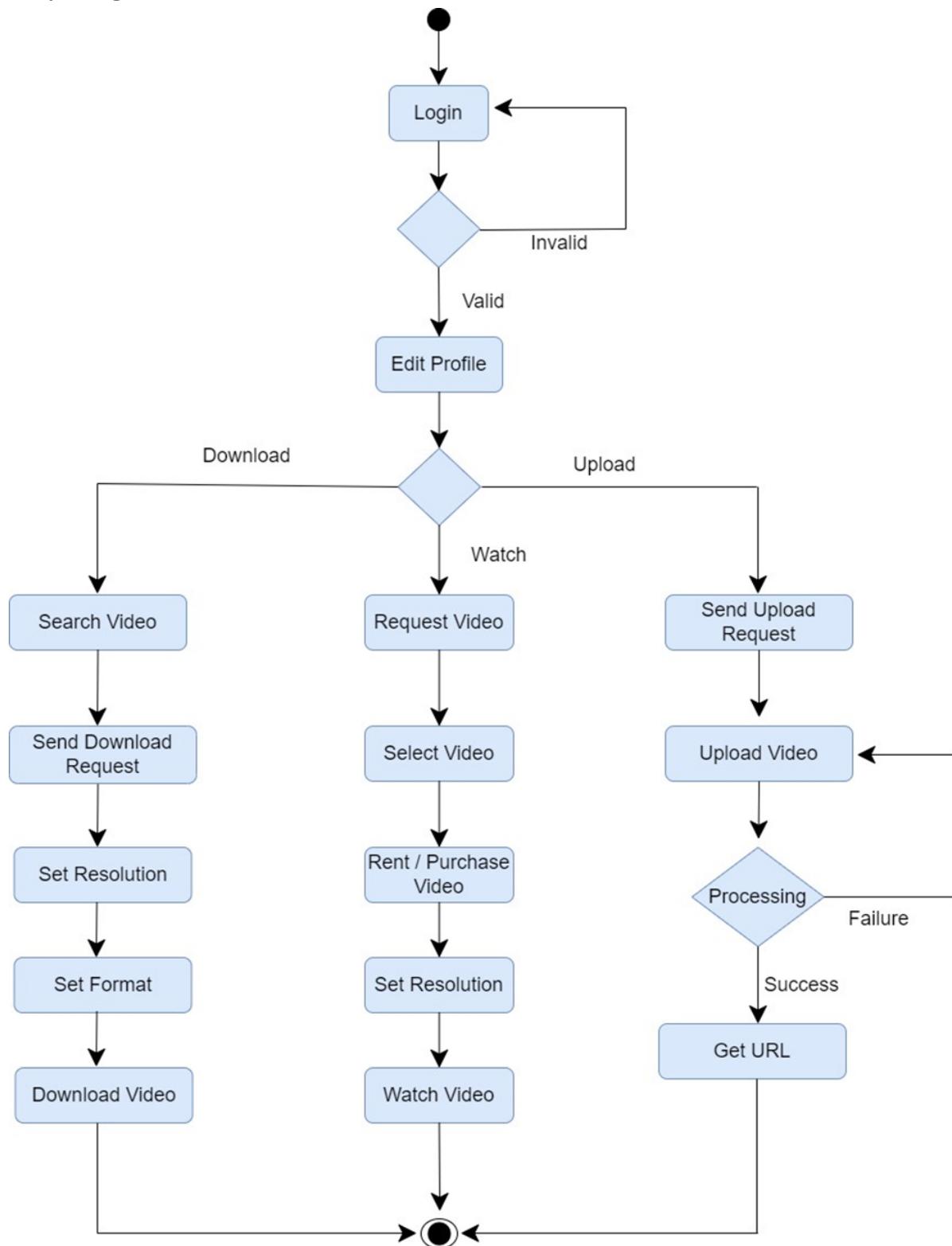


Figure 8 : Activity Diagram

5.2 Object Diagram

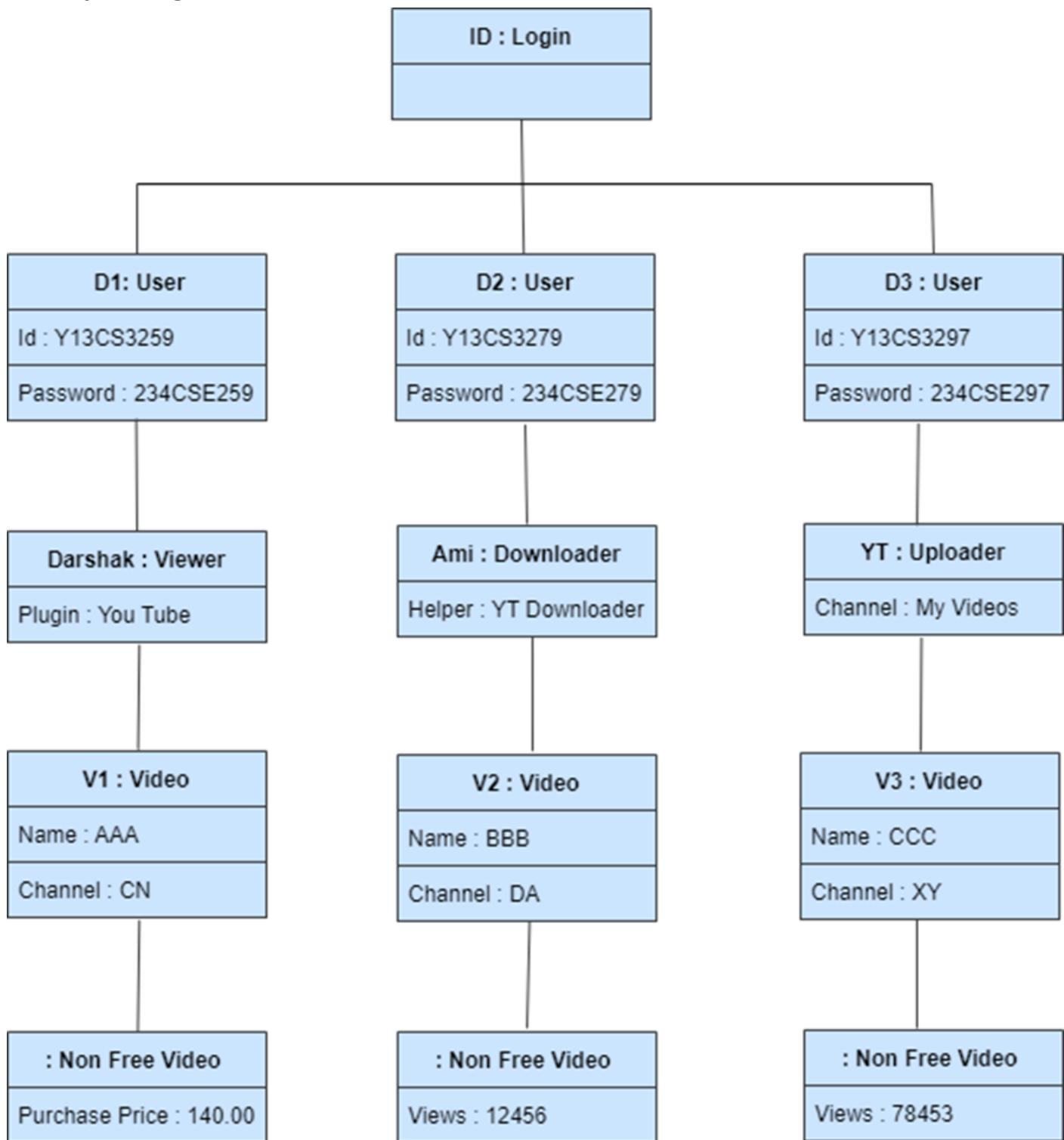
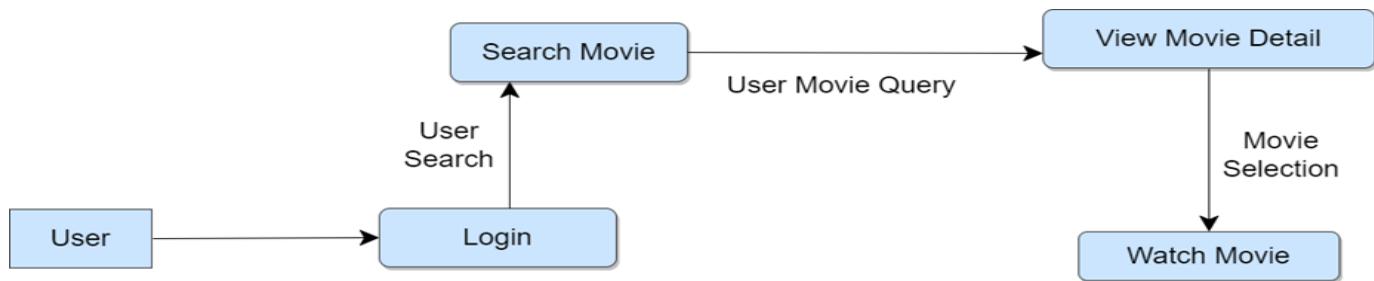


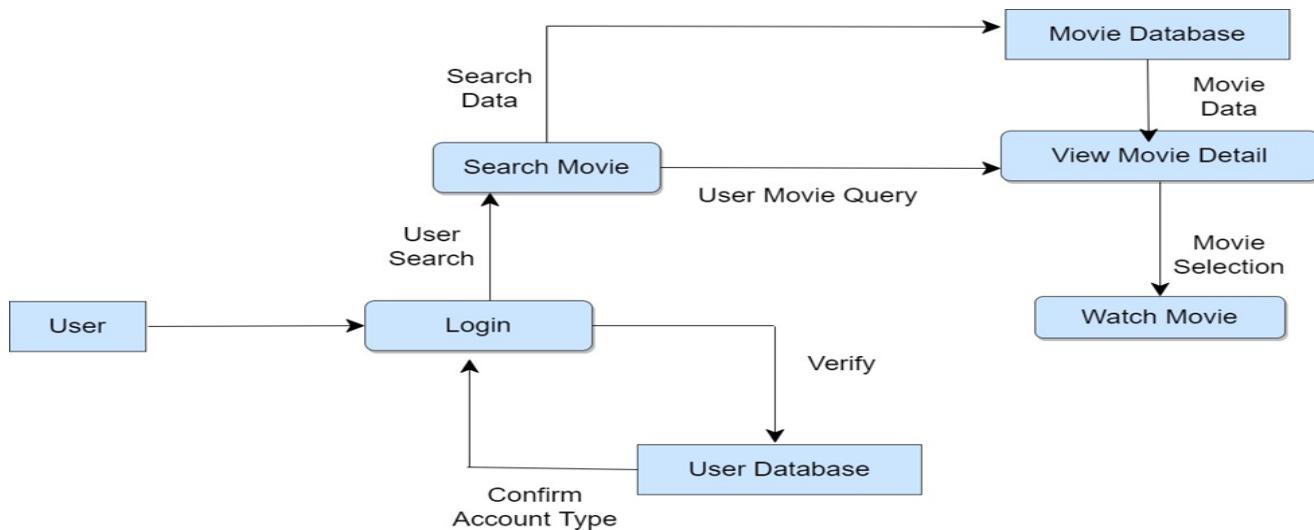
Figure 9 : Object Diagram

5.3 Data Flow Diagram

- Level 0 : DFD Diagram :-



- Level 1 : DFD Diagram :-



- Level 2 : DFD Diagram :-

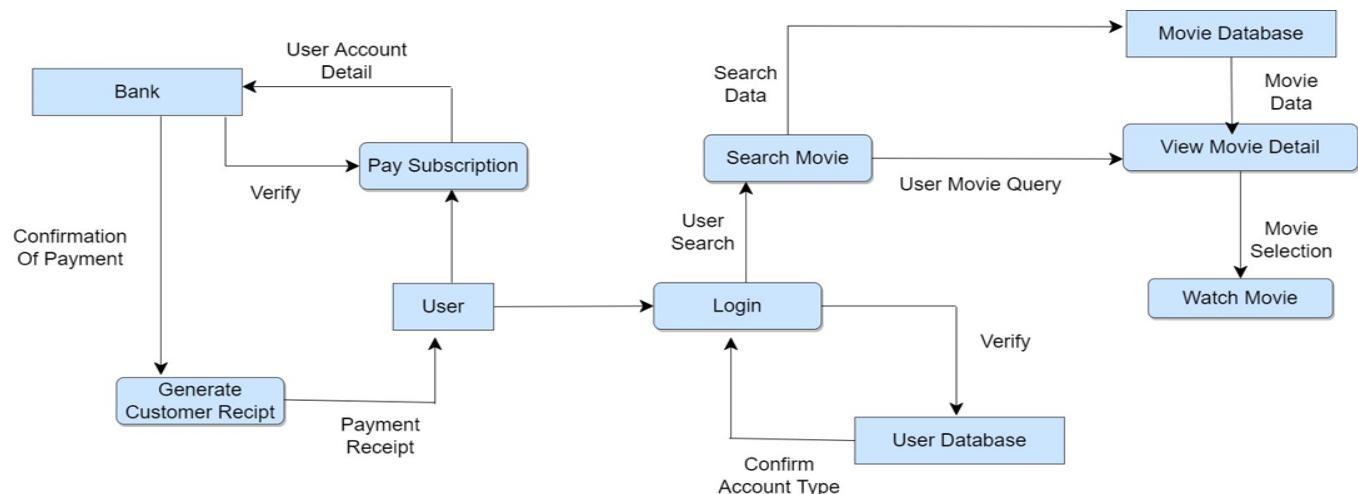


Figure 10 : Data Flow Diagram

5.4 Sequence Diagram

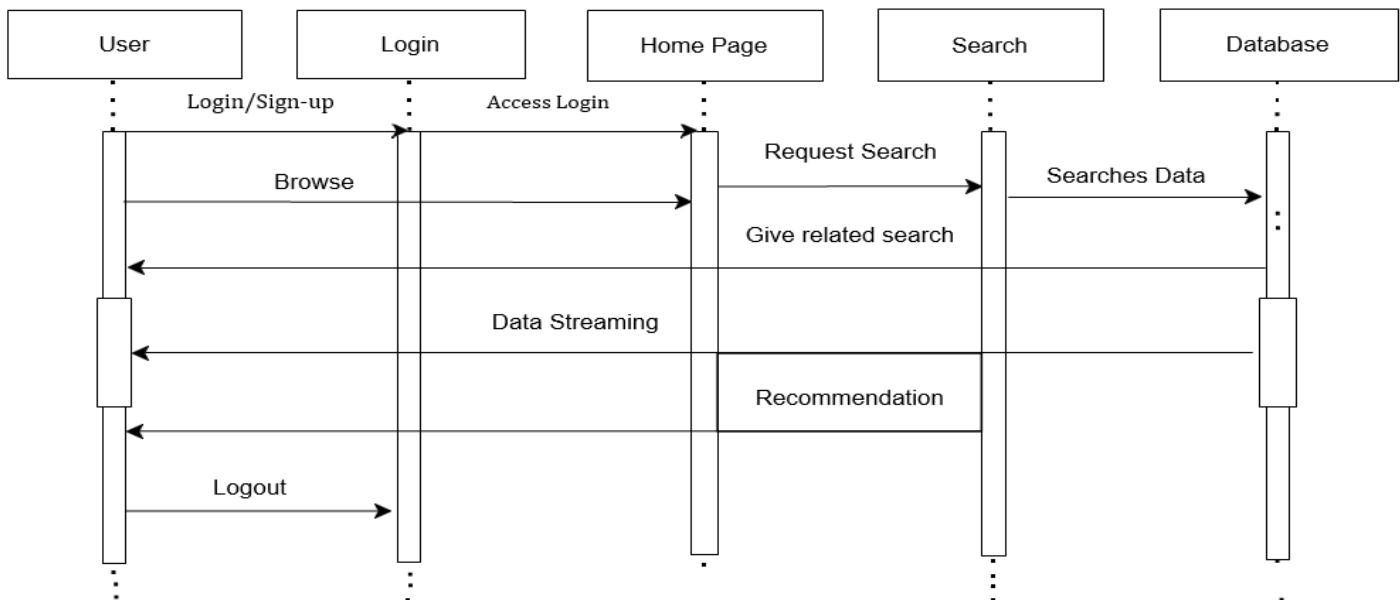


Figure 11 : Sequence Diagram

5.5 State Transition Diagram

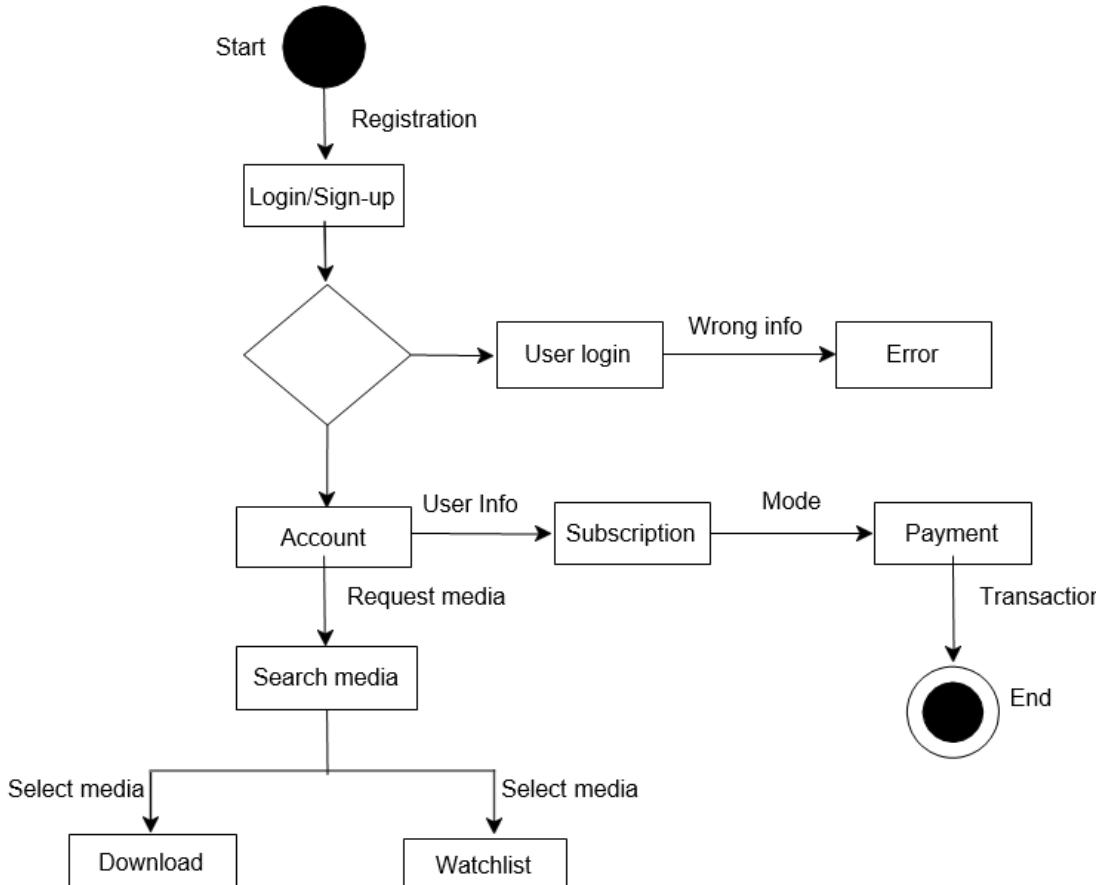


Figure 12 : State Transition Diagram

5.6 Deployment Diagram

The main purpose of the deployment diagram is to represent how software is installed on the hardware component. It depicts in what manner a software interacts with hardware to perform its execution.

Following are the purposes of deployment diagram enlisted below:

1. To envision the hardware topology of the system.
2. To represent the hardware components on which the software components are installed.
3. To describe the processing of nodes at the runtime.

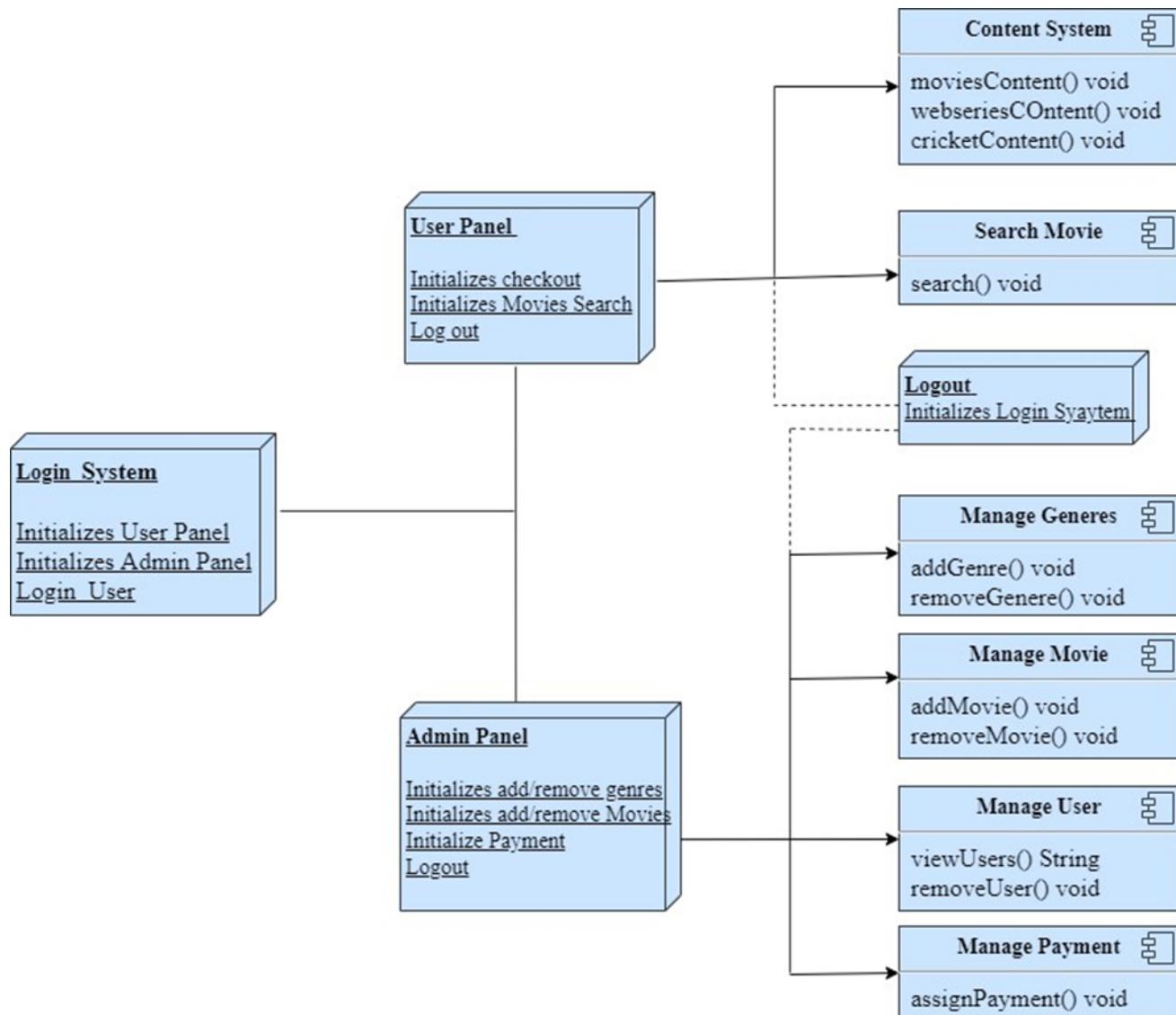


Figure 13 : Deployment Diagram

6 Testing

Test Case ID	Test Case Name	Description	Steps to Execute	Expected Result	Actual Result	Pass/Fail
1	User Interface	Check all fields	Check the Page	UI should be perfect	All fields are there	Pass
2	User Login	Checking for correct Username & Invalid Password	1. Enter Valid Username. 2. Enter incorrect Password. 3. Click on the Login button.	Invalid details	Invalid details	Pass
3	Login details	Checking for correct email & password	1. Enter valid Username. 2. Enter valid password. 3. Click on the login button.	User should be logged in	Valid details	Pass
4	Login details	Checking for correct e-mail & invalid password	1. Enter valid username. 2. Enter invalid password. 3. Click on the Login button.	User should not be logged in	Invalid details	Pass
5	Signup option	Checking for signup details	1. Click on the Signup button. 2. Enter Signup details.	Signed up successfully	Valid details	Pass
6	Forgot Password	Error message for some invalid detail	1. Click on the Forgot Password. 2. Enter invalid email or password.	Signup fails	Invalid details	Pass
7	Reset Password	Error message for some invalid detail	1. Go to Reset Password. 2. Enter Previous Password. 3. Click on Reset Password Button.	Error message	Invalid detail	Pass

Table 12 : Test Cases

7 GUI Interfaces

7.1 User Interfaces

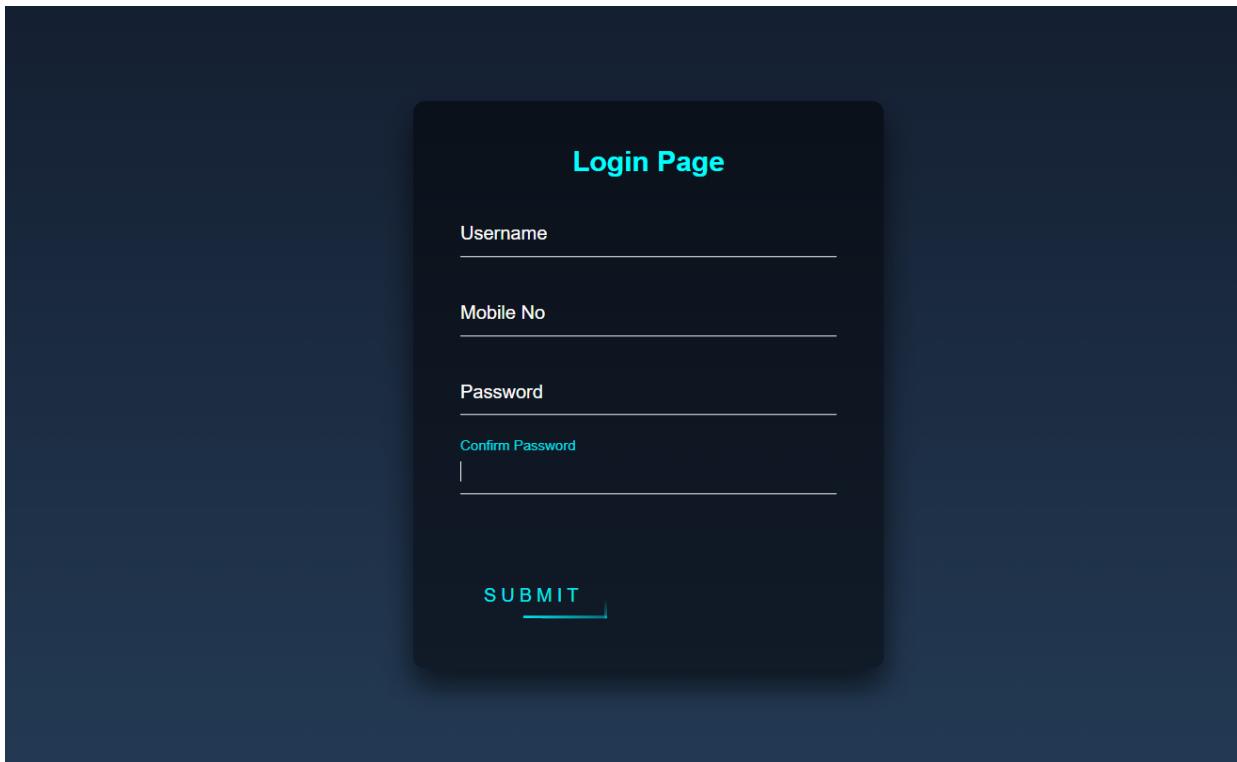


Figure 14 : Login Design

Above the two pictures show the login interfaces of OTT Platform. For the login process a user has to enter his username, Mobile No and password. Then the user should click the Submit button. If a user has a facebook account or google plus account, by clicking the bottom of two buttons a user can login to the web application.

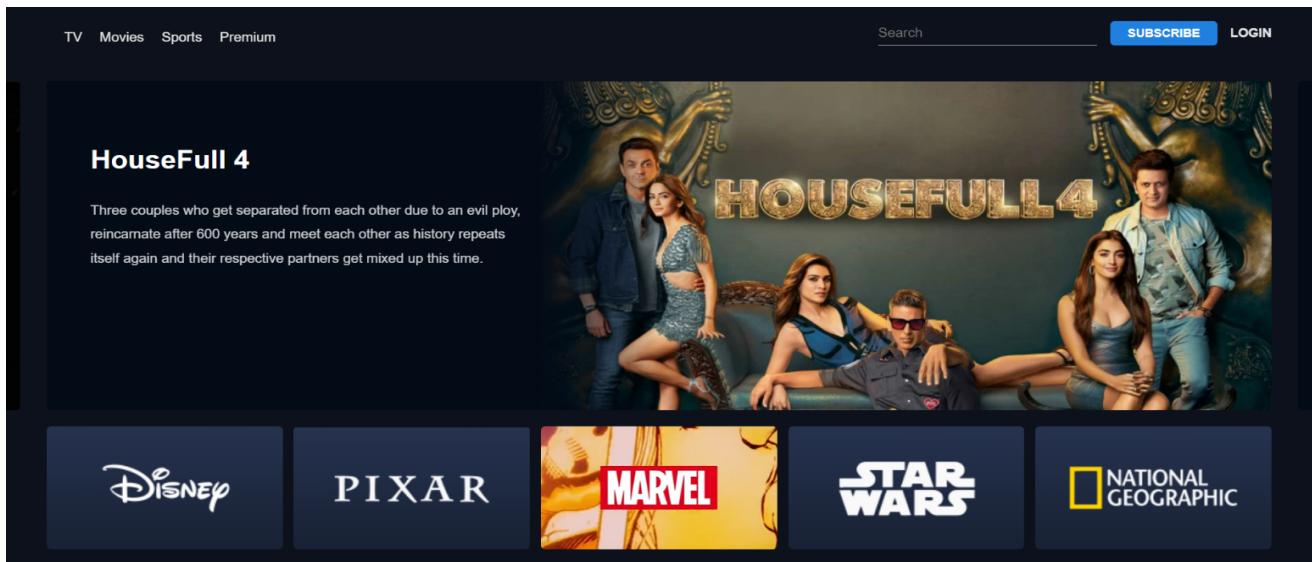


Figure 15 : Home Page Design 1

The first picture shows the homepage of the user. When the user clicks movies the application opens the gallery of the different movies. After selecting one of the movies from the gallery the user can play it. User can share movies on Facebook ,Whatsapp, Instagram or his MainPage by choosing the appropriate button.

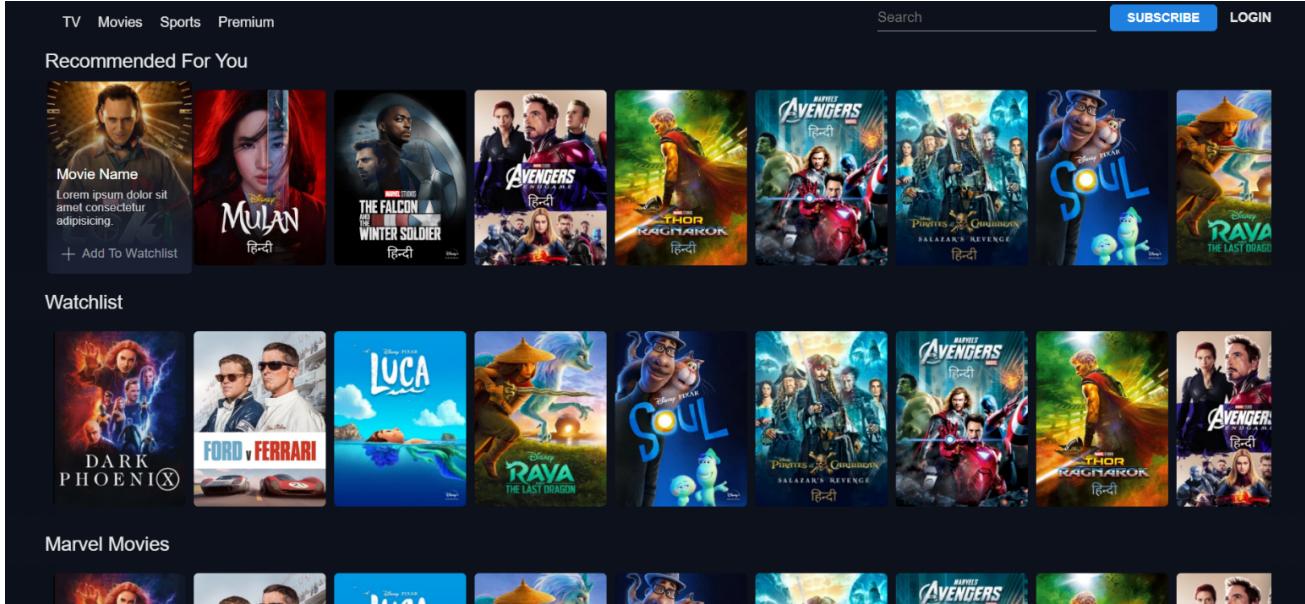


Figure 16 : Home Page Design 2

7.2 Hardware Interfaces

This application will work on android phones and tablets. Android devices must have an internet connection in order to run this application. Also since the application is based on sharing movies.

7.3 Software Interfaces

Since this application is a web application, it needs an Android version 4.0 or higher in order to perform. System has another software product which is the network software between database and QuoteShot which is not visible by users. This interface is done via secure network protocols and TCP transport layer application.

7.4 Communications Interfaces

The application will use HTTP protocol for communication over the internet. The server will be connected to the internet through the Wifi or 3G.

7.5 Constraints

For frontend side HTML, CSS, JavaScript, for backend side PHP environment have been used. The code has been written in HTML. Also, the application has OpenCV library and Tesseract engine. For the server side of the application, Google App Engine which is a platform for developing and hosting web applications in Google Managed data centers has been used. For the database, MySQL server has been set up using the Google Cloud SQL service.

8 Conclusion

This Software Requirement Specification specifies the requirements needed for an OTT Platform to have, which will be used for entertainment purposes. This document will be used by the user to ensure that all specifications are correct and verified. It will be used for watching all the latest genres and in any language the user wants. It can also be viewed on more than one device. It stores the user's details in its database.

References

- [1] <https://stackoverflow.com/questions/34607981/uml-class-diagram-online-movie-rental>
- [2] <https://www.studocu.com/in/document/lovely-professional-university/software-engineering/netflix-srs/5463930>
- [3] https://www.academia.edu/40513537/Youtube_SRS
- [4] <https://hsc.com/Resources/Blog/Commercial-Grade-OTT-Client-Development-An-Analysis>
- [5] <https://www.softwaretestinghelp.com/er-diagram-tutorial/>