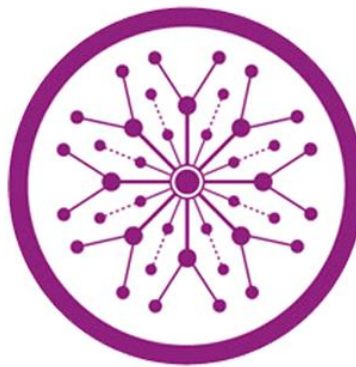


SONDER BLU

Final Year Project

Session 2018 - 2022

A project submitted in partial fulfillment of the degree of
BS in Computer Science



Department of Computer Science

Faculty of Computer Science & Information Technology

Superior University, Lahore

Spring 2022

Type (Nature of project)	<input type="checkbox"/> Development <input type="checkbox"/> Research <input type="checkbox"/> R&D			
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*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others

Plagiarism Free Certificate

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Name of Supervisor: Mam Sabah Arif

Designation: Lecturer

Signature: _____

HoD: Dr. Irfan Ud Din

Signature: _____

Project Report

SONDER BLU

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
	1.0		<Original Draft>	
			<Changes Based on Feedback from Supervisor>	
			<Changes Based on Feedback From Faculty>	
			<Added Project Plan>	
			<Changes Based on Feedback from Supervisor>	

APPROVAL

PROJECT SUPERVISOR

Comments: _____

Name: _____

Date: _____

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PROJECT MANAGER

Comments: _____

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Executive Summary

We are going to develop the cross streaming platform on different platforms and devices, In this product we are giving solution for pandemic situations to overcome depression of un-socializations. We are develop MVP for market analysis first and whole product after successful experiment of user behaviors. We give more features like Social sharing group streaming with video and chat features.

Table of Contents

Dedication	iv
Acknowledgements.....	v
Executive Summary.....	vi
Table of Contents.....	vii
List of Figures	ix
List of Tables	x
Chapter 1.....	1
Introduction	1
1.1. Background.....	2
1.2. Motivations and Challenges.....	2
1.3. Goals and Objectives	2
1.4. Literature Review/Existing Solutions	2
1.5. Gap Analysis	2
1.6. Proposed Solution	2
1.7. Project Plan	3
1.7.1. Work Breakdown Structure.....	3
1.7.2. Roles & Responsibility Matrix.....	3
1.7.3. Gantt Chart	3
1.8. Report Outline.....	3
Chapter 2.....	4
Software Requirement Specifications	4
2.1. Introduction.....	5
2.1.1. Purpose.....	5
2.1.2. Document Conventions	5
2.1.3. Intended Audience and Reading Suggestions	5
2.1.4. Product Scope.....	5
2.1.5. References	6
2.2. Overall Description.....	6

2.2.1.	Product Perspective.....	6
2.2.2.	Product Functions.....	6
2.2.3.	User Classes and Characteristics	6
2.2.4.	Operating Environment	7
2.2.5.	Design and Implementation Constraints.....	7
2.2.6.	User Documentation	7
2.2.7.	Assumptions and Dependencies	7
2.3.	External Interface Requirements	8
2.3.1.	User Interfaces.....	8
2.3.2.	Hardware Interfaces	8
2.3.3.	Software Interfaces	8
2.3.4.	Communications Interfaces.....	9
2.4.	System Features	9
2.4.1.	System Feature 1	9
2.4.1.1.	Description and Priority	9
2.4.1.2.	Stimulus/Response Sequences	9
2.4.1.3.	Functional Requirements.....	9
2.4.2.	System Feature 2	10
2.4.2.1.	Description and Priority	10
2.4.2.2.	Stimulus/Response Sequences	10
2.4.2.3.	Functional Requirements.....	10
2.4.3.	System Feature 3 (and so on).....	11
2.5.	Other Nonfunctional Requirements	11
2.5.1.	Performance Requirements	11
2.5.2.	Safety Requirements	11
2.5.3.	Security Requirements	12
2.5.4.	Software Quality Attributes.....	12
2.5.5.	Business Rules.....	12
2.6.	Other Requirements.....	12

Chapter 3.....	13
Use Case Analysis.....	13
3.1. Use Case Model.....	14
3.2. Use Case Descriptions	14
Chapter 4.....	15
System Design.....	15
4.1. Architecture Diagram	16
4.2. Domain Model.....	16
4.3. Entity Relationship Diagram with data dictionary	16
4.4. Class Diagram	17
4.5. Séquence / Collaboration Diagram	17
4.6. Operation contracts	17
4.7. Activity Diagram	18
4.8. State Transition Diagram.....	18
4.9. Component Diagram	18
4.10. Deployment Diagram.....	19
4.11. Data Flow diagram [only if structured approach is used - Level 0 and 1]	19
Chapter 5.....	20
Implémentation	20
5.1. Important Flow Control/Pseudo codes.....	21
5.2. Components, Libraries, Web Services and stubs	21
5.3. Deployment Environment	21
5.4. Tools and Techniques.....	22
5.5. Best Practices / Coding Standards.....	22
5.6. Version Control	22
Chapter 6.....	23
Testing and Evaluation.....	23
6.1. Use Case Testing.....	24
6.2. Equivalence partitioning	24

6.3. Boundary value analysis.....	24
6.4. Data flow testing	24
6.5. Unit testing.....	25
6.6. Integration testing.....	25
6.7. Performance testing.....	25
6.8. Stress Testing.....	25
Chapter 7.....	26
Summary, Conclusion and Future Enhancements.....	26
7.1. Project Summary	27
7.2. Achievements and Improvements	27
7.3. Critical Review	27
7.4. Lessons Learnt	27
7.5. Future Enhancements/Recommendations	28
Appendices.....	29
Appendix A: User Manual	30
Appendix B: Administrator Manual	31
Appendix C: Information / Promotional Material	32
Reference and Bibliography.....	35
Index.....	37

List of Figures

1.1	Caption of first figure of first chapter	6
1.2	Caption of second figure of first chapter	7
2.1	Caption of first figure of second chapter	14
2.2	Caption of second figure of second chapter	22
2.3	Caption of third figure of second chapter	26
5.1	Caption of first figure of fifth chapter	49
5.2	Caption of second figure of fifth chapter	49

List of Tables

1.1	label of first table of first chapter	6
1.2	label of second table of first chapter	7
2.1	label of first table of second chapter	14
2.2	label of second table of second chapter	22
2.3	label of third table of second chapter	26
5.1	label of first table of fifth chapter	49
5.2	label of second table of fifth chapter	49

Chapter 1

Introduction

Chapter 1: Introduction

This SRS aims to provide information about the business requirements of system, "Sonder Blu". This document is made for the understanding of system features and its workflow. The purpose of this SRS document is to provide a detailed overview of the software product, its parameters, and goals. This document describes the project's target audience and its user interface, hardware, and software requirements. Different parameters like operating speed, response time, availability, portability, maintainability, footprint, security, and speed of recovery from adverse events are evaluated. It also contains the system design displayed with the help of Use case diagram, System diagram, Sequence diagram and activity diagram.

- **Background**

The Customer is developing a television, mobile and website application with casting functionality, which incorporates a catalogue of content from creators underrepresented in mainstream cinema.

The Supplier is a provider of television (iOS, Android, Smart TV, Fire Devices, Roku, Chrome,), mobile (IOS and android, and tablets) application design, and Web development, hosting (at customer's discretion) and maintenance services.

The Customer has agreed to engage the Supplier to design, develop, host (at customer's discretion) and maintain the App (defined below) and provide ongoing product development once app is completed, and certain services in respect of the Supported Website (defined below), and the Supplier has agreed to accept the engagement on the terms and conditions set out in this Agreement.

- **Motivations**

End users should be able to watch the same movie in a so-called streaming group (with 2 to 5 users inside) simultaneously (with movie playback clock synchronization and state

synchronization (playing/paused). Meanwhile, they should be able to see and hear each other, effectively conducting a video conference.

- **Goals and Objectives**

The proposed system will allow users to select and view videos when they want instead of watching them when they are broadcasted. An IPTV (internet protocol television) system will be used to stream videos to the customers TV and personal computers. IPTV is a system that allows delivery of video content using IP (internet protocol) suite over a packet switched network such as internet or LAN, rather than satellite or cable. Unlike traditional video broadcast methods, IPTV allows streaming of videos in small batches directly from the source. Due to this, the client can start playing the movie before it is fully transferred. Users will be able to watch, rate, share with friends and schedule a movie on their mobile, personal computer or television using this system.

- **Gap Analysis**

Assumption is that the internet facility, power supply, backup power, internet bandwidth is always up and functioning. Another assumption also a dependency for the architecture is hardware configuration of the central server. We assume that the hardware will be above specification, so that it will not need to face any problem in future.

- **Proposed Solution**

Scope of the Project To develop an iOS, Android, Smart TV, Fire Devices, Roku, Chrome, and Web application with a focus on connecting friends before, after, and during a movies/videos streaming session using audio, text, and video conferencing with simultaneous controls of Stop, Pause, Play, Rewind. Additionally, creating social communities around movies, television, and filmmakers that include individual user to user recommendations, User to friend group reviews, and entire platform reviews of movies, TV, and trailers. Also, providing filmmakers with tools to develop an audience for their content using user data and customer analytics. The back

end/administrative/production side will enable us to input Content, Customer relationship management and get the user analytics to create a unique user experience, with accurate search that match streaming partners based on mutual similar taste, friends viewing recommendations and views, and the user's usage

- **Project Plan**

The Supplier shall provide the Services in accordance with the Project Plan and the App Specification perform the Services with reasonable care and skill and in accordance with Good Industry Practice; and use reasonable endeavors to ensure that it is available at all times on reasonable notice to provide such assistance or information as the Customer may require. Unless the Supplier has been specifically authorized to do so by the Customer in writing, the Supplier shall not and none of its employees shall have any authority to incur any expenditure in the name of or for the account of the Customer or hold itself or themselves out as having authority to bind the Customer.

- **Roles & Responsibility Matrix**

(A) User roles

1. Platform users
2. Filmmakers (access their section of the platform through their own login)
3. Admin (Admin rights are divided into parts)
 - Super Admin: Has access to every part of the platform. Marketing and analytics,
 - Platform management: Manage platform user ship, Financials.
 - Admin rights can be granted or blocked from access to the appropriate sections independently

- **Report Outline**

Report will also include Reviews of the films and demographics related to the reviews

- § Licensee owns all data related to or derived from its end-users, both individually and in aggregate. Except for Section to the extent Licensee provides Licensor with access to such data pursuant to this Section 7.1.4, Licensor shall only use such data in connection with

verifying the License Fees as noted in the Deal Terms. Licensor shall not provide any end-user data to any third party under any circumstance.

- § Licensee shall provide Licensor with access to a real-time digital dashboard which shows (as applicable)
- § the number of Views of each Title.
- § for Long Form Titles, the number of Streams of each Title where each such Stream lasts for a duration of 15 minutes or longer, and for Short Form Titles, the number of Streams of each Title where each such Stream lasts for a duration of five minutes or longer.
- § for each Stream that meets the criteria set forth in Section , the amount of time in minutes and seconds that each Title was Streamed; and
- § the Net Revenue for each calendar quarter for each Title.
- § Licensee shall provide a written report of the information set forth in Section within 30 Business Days of receipt of written notice from Licensor requesting that such information be provided in written form; provided, that Licensor shall not provide such notice more than two times per calendar year.
- § Licensor acknowledges that the digital dashboard may be unavailable for periods of time in Licensee's sole discretion;
- § Licensee shall provide Licensor with certain aggregated, de-identified demographic data related to certain end-users in connection with the payment by Licensor to Licensee of a:
 one-time fee in the amount of [●]; or recurring fee in the amount of [●], payable on a [●] basis for the duration of the Title License Period.”

7.1.5 LICENSE FEES AND PAYMENT
PR

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1 Introduction

1. Purpose

This software requirement specification document is stating the detailed explanation of the architecture, functionalities requirements and specifications of the Application. This document is going to serve as a guideline for the development team.

2. Document Conventions

The font used in this Report is Calibri. The main heading is of 16pt. The subheading is of 14pt. The point inside the subheading will be written in round bullets. The Title of the chapter is Bold with the font size of 20pt. The Diagrams are drawn on Visio and Draw.io.

3. Intended Audience and Reading Suggestions

In contrast to the Software Requirements Specification (that is written for the client and user), most of this Software Design Description is written for knowledgeable software professionals and designers. Thus the Client will not be within the intended audience for this document, which is:

- Team
- Professionals
- Designers

Men and Women of all ages, and especially mid-aged. System shall be able to fetch interests of users from their social platforms. Social media targeting helps advertisers reach their audiences on social media with relevant and impactful marketing messages. Once you know who your ideal consumer is, and where to find them on social media, targeting is easy and makes your brand's advertisements highly effective. You can reach users who speak a specific language. Advertisers can also combine language with retargeting to reach users speaking a specific language in a certain country. Some social media platforms offer hundreds of interests to choose from, so pick carefully. Filmmakers would be able to target audience through the system a tool must be provided for their marketing to promote their movies on Sonder Blu or in theatre.

4. Product Scope

The proposed system will allow users to select and view videos when they want instead of watching them when they are broadcasted. An IPTV (internet protocol television) system will be used to stream videos to the customers TV and personal computers. IPTV is a system that allows delivery of video content using IP (internet protocol) suite over a packet switched network such as internet or LAN, rather than satellite or cable. Unlike traditional video broadcast methods, IPTV allows streaming of videos in small batches directly from the source. Due to this, the client can start playing the movie before it is fully transferred. Users will be able to watch, rate, share with friends and schedule a movie on their mobile, personal computer or television using this system.

5. References

- IEEE. IEEE Std 1016TM-2009. IEEE Standard for Information Technology—Systems Design—Software Design. Software & Systems Engineering Standards Committee of the IEEE Computer Society, 2009.
- Sommerville, I. Software Engineering Ninth Edition. Pearson Education, Inc., publishing as Addison-Wiley. 2011.
- IEEE Std 12207TM-2008 Systems and software engineering—Software life cycle processes if any, which were used as sources of information for the test plan.

2. Overall Description

1. Product Perspective

Scope of the Project To develop an iOS, Android, Smart TV, Fire Devices, Roku, Chrome, and Web application with a focus on connecting friends before, after, and during a movies/videos streaming session using audio, text, and video conferencing with simultaneous controls of Stop, Pause, Play, Rewind. Additionally, creating social communities around movies, television, and filmmakers that include individual user to user recommendations, User to friend group reviews, and entire platform reviews of movies, TV, and trailers. Also, providing filmmakers with tools to

develop an audience for their content using user data and customer analytics. The back end/administrative/production side will enable us to input Content, Customer relationship management and get the user analytics to create a unique user experience, with accurate search that match streaming partners based on mutual similar taste, friends viewing recommendations and views, and the user's usage.

1. Development Solution

Developers must use Agile Model which is a combination of Iterative and Incremental Process Models. The exact meaning of agile is to be fast and able to make quick changes, same goes with the agile methodology. Agile mobile app and web development methodology is one of the most effective approaches to all the software development businesses, it ensures a proper channel of communication, it will help both the clients and App Developers execute the desired mobile application, web application or any software. Reasons to use this methodology:

- Welcome changing requirements, even in late development.
- Working software is delivered frequently.
- Close, daily cooperation between businesspeople and developers.
- Working software is the primary measurement of progress.
- Sustainable development, able to maintain a constant pace.
- Continuous attention to technical excellence and good design.
- Simplicity — the art of maximizing the amount of work not done is essential.
- Best architectures, requirements, designs emerge from self-organizing teams

2. Operating Environment

Sonder Blu should be able to work properly under following operating environments.

- Chrome (All versions)
- Internet Explorer (All versions)
- Mozilla Firefox (All versions)
- Opera Mini (All versions)

- Safari (All versions)
- IOS (All versions)
- Android (All versions)
- Smart TV (All versions)

3. Design and Implementation Constraints

Developers of the product should be aware that main feature of the intended product is portability. So, they should use common libraries and tools that can work with all the common internet browser application with no problem. Developers should also be careful about the privacy of users. Since product will be cloud application, all user data will be kept on cloud server and necessary precautions should be taken to protect user data. Since product will be cloud application and all user programs will be executed on cloud server, developers should limit the privileges of the users so that they cannot harm other users data and system server. The contents of the header, body, and footer on the home screen was outlined that way to keep it clear in my mind. It is not a design constraint. The system should follow GDPR. The GDPR is an EU regulation that protects the online privacy of all EU citizens. It covers how personal data is used and extracted when users visit and interact with a website. This act affects all websites since they are likely to get visitors from the EU region. The detailed version is explained in next section under security. User do not have the need for a Remote in the mobile version. The in-app remote will control the TV and other devices that require a remote

4. User Documentation

The purpose of this SRS document is to provide a detailed overview of the software product, its parameters, and goals

5. Assumptions and Dependencies

Assumption is that the internet facility, power supply, backup power, internet bandwidth is always up and functioning. Another assumption also a dependency for the architecture is hardware configuration of the central server. We assume that the hardware will be above

specification, so that it will not need to face any problem in future.

2.3. External Interface Requirements

1. User Interfaces

The system should integrate different social application APIs so that user can share their videos/ reviews on various platforms and with their friends. The following APIs must be integrated. This app will be pulling data from these platforms too, not limited to friends list, likes, etc., and will link for logging in.

- Facebook
- Instagram
- Twitter
- WhatsApp

Cloud IDE is going to provide a communication interface to external services. The system shall provide storage of all databases on redundant computers with automatic switchover. The system shall provide for replication of databases to off-site storage locations. A cloud IDE is a web-based integrated development platform (IDE). An IDE is a programming environment that has been packaged as an application, typically consisting of a code editor, a compiler, a debugger, and a graphical user interface (GUI) builder.

2. Hardware Interfaces

The system will use a well-developed data base for storing huge data amount of data and use good algorithms to fetch the data from the data base to the user web browser of the user in the different of the world preferably cloud storage will be used for this purpose. E.g., AWS

3. Software Interfaces

The system will run on any operating system having good internet speed. The System can run on windows, android, IOS, Smart TV, smart devices, fire devices, Mac etc. If the user has touch, then she/he can use the touch for clicking on the buttons and they can also click them with the help of mouse/cursor. The web component communicates with the database to get

the user rating logs of the larger system. The communication between the database and the web component consists of operation concerning both reading and modifying the data, while the communication between Movie Recommender and the website consists of sending a JSON object from the recommender to display

4. Communications Interfaces

- **AWS:** Amazon Web Services is a subsidiary of Amazon that provides on-demand cloud computing platforms and APIs to individuals.
- **JSON:** JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write.
- **Agile Methodology:** The Agile Method is an approach to project management that is utilized in software development.
- **API:** An application programming interface is a computing interface to a software component or a system that defines how other components or systems can use it.

4. System Features

2.4.1 Functional Requirements for user:

1. Registration

- The application should allow new user to register themselves.
- Registration form must contain the following fields:
 - Full Name
 - Username
 - Email Address
 - Password
 - Registration form must contain the following fields, the optional fields should be mentioned, and mandatory fields must include.
- All personal information of user must be saved.
- The registration process shall not be completed if mandatory fields are not filled properly.

- User must be able to register using Facebook/ Twitter/ Google/ Instagram/ Whatsapp.
- System shall send a confirmation email to user when sign-up.
- System shall be able to verify user's email

2. Complete Profile

- User shall be asked to complete their profile. The following fields must be displayed. Profile Picture
- Profile video behind the avatars a 10 sec video designed to validate the users ID.
- A person who misrepresented can be reported to the platform for investigation and potential removal.
- Gender
- Date of Birth (mm/dd/yyyy)
- Top 5 Filmmakers or actors.
- The list of the users reviews for playing

3. Minor Account

- Minors will be allowing to go through the process of creating an account but will be stopped at payment
- Minor must provide the account ID or email of an adult who will manage their account.
- Before home page User can view filmmakers, pages and join them if they choose.

4. Subscription Plan

- User must be able to select subscription plan.
- System shall display form for each plan.
- User must be required to fill the Card details along with pin code to pay.

5. Promo Codes

- User can enter a valid promo code for discounts.
- System must indicate error in case of wrong promo code.
- User must be able to see the discounted price after adding promo codes.
- Admins should be able to add promo codes

6. System Messages

- System shall be able to send message to all registered users at the same time.
- System must be able to share discounted deals and news updates with all users at once.
- Admin will be able to send messages and notifications to individual user.
- Admin can send photos and promotions to individual user.

7. Invite Friends

- User must be able to invite friends for sign up on Sonder Blu through email or social platforms including Facebook, Google, and Twitter.
- User can select friends from the list or select all friends to send invite.
- System shall attach site URL with the invite

8. Login

- User must be able to login once they are registered.
- User shall enter username/email and password to login.
- System should verify user login credentials before giving access.
- User must be able to login using Facebook/Twitter/Google.

9. Login for Smart TV

- Go to the Sign in screen in the SonderBlu app and stay on this screen until you have completed the remaining steps.

- On your computer or mobile device, visit SonderBlu.com/activate.
- Sign in when you are asked to. If you have more than one Google Account, please select the account you use with Sonder Blu

10. Reset Password

- User should be able to reset their password by clicking on forget password.
- System shall send a reset link to their email address.

11. Edit Profile

- User must be able to edit profile after logging in to the system.
- User can edit password and other fields.
- User can change/upload profile picture by using mobile camera or gallery.
- the user can also upload using camera on the TV or other devices.
- User can change/record profile video by using mobile camera or gallery or TV or other devices.
- User must be able to capture live image using Application.
- System shall be able to access user's device camera.

12. Account Settings

- User must be able to manage account settings from the home screen in the header and on the profile page.

13. Parental Control

- User must be able to set parental control and restrict access.
- Restrictions include: Only contacting people in the age group, only contact with specific people by their user ID, Zero interactions. Also, Age restrictions for content
- User shall be able to generate pin code for parental control.
- User can select the age for viewing content.

- SB Ratings is the rerating of a film by a parent on the platform and a parent can restrict viewings based on the standard Rating system. Parent Rating System, or both. The Original rating is shown with the SB rating. Once a movie is watched (this applies to only parents) the parent can rerate the movie. The new rating is the weighted average of all the SB Ratings

14. Send Feedback

- User must be able to send feedback about their experience or ask questions
- User can go to manage profile and select feedback option to send feedback.
- System shall display text box with a word limit of 100 words.
- User shall enter valid email id to send feedback.
- If users are logged in, they will not need to add an email address as their user ID should already be associated with the feedback. Replies will be within the app and notifications will be on the platform, email, and SMS.
- User shall user's feedback to admin email id.

15. Manage Sub-Accounts

- There is a limit of 4 sub accounts and the person is restricted by the number of devices at the same time for each user.
- Each user can have their idea on 3 to 4 devices at the same time. Anything above that will require the user to sign out of a device. This is a hard rule that must be enforced (each subaccount is restricted by the subscription of the main account. IF the main account allows 1 screen that the subaccounts will be restricted to 1 screen.)
- User must be able to create and manage sub accounts.
- User can send invites to friends to join their sub account.
- If the sub-account user is a child, the sub-account will be created by Following the account creation requirements along with completing the account setup in parental controls section
- User can accept or reject the invitation. (only adults)

- User must be able to remove sub-account.
- If a user is under-age, they can follow the account setup processes but an adult must complete the registration and be added to the account as a sub-account.
- Once a minor initiates the account setup, they cannot change it the date or user ID to gain access as an adult.
- Sub-accounts can be separated by the main account owner releasing the account to the subaccount user. This will result in all data remaining intact.

16. Collaborative Streaming

Before Movie:

- Streaming groups will be able to communicate with each within their group ongoing to plan and watch movies together
- Users will be able to plan shows and movies can be Planned, Daily, weekly, months and yearly
- Users will be able to assign individual members by on a daily, weekly, monthly, and yearly schedule. Example: User 1 plans the title every 4th time or once a month.
- Users whose turn it is to schedule be receive an alert
- Group members will be alerted to the scheduled movie
- Users will be able to vote on what they will watch with the most voted title being schedule for that viewing
- Groups will be able to post their reviews on the social section (feature must be enabled)
- Groups will be able to announce what title they are watching and reviewing next on social section (feature must be enabled)
- Groups can be followed in the social section
- Users in the social section will be able to ask groups to watch and review a specific title
- Groups can ask Social members for recommendations of titles to watch
- Users in social section will receive notification if their movie has been scheduled by the group to be watched and reviews (All notification features must be enabled)
- User will be able to video chat with up to 4 other people.
- User will be able to text and message with up to 4 other people.

- User will have media integration (Filters, gift, emoji, pictures, video).
- User will be able to schedule movies.
- User will be able to select movies they would like to see as a group.
- Users will be able to start selected movie at any time, regardless of whether it is at the scheduled time.
- User will be able to reschedule movies.
- User can notify group if the need to reschedule.
- Notification will be seen in-app and email.
- Group may stream movie if 2 people are there to start
- Users will work out rescheduling within the app
- User will be able to do movie search and selection for the groups
- Users may schedule movies days or months in advance

During Movie:

- User can watch a movie with up to 4 other people.
- User can turn on video during the movie to see each other.
- User can turn on text during movie.
- User can take the picture of the reaction while watching movie with someone.
- User can Pause, play, stop, rewind, fast forward movie.
- User will share controls Playback controls.
- Users can assign playback controls.

REACTION CAPTURE

- User can manually or use a timer to capture streaming group member's reaction to movie or scene
 - Users can select a member to capture
 - Users can share captured images within their group or friend circle (must be mutual friends)
 - Users can share captured images with on the platform if subject grants permission
- Group can edit caption and include:

- Cut Sections
- Zooming in and out
- Picture size
- Picture location
- Font Size
- Font
- Emoji's
- Font Location
- Sliding
- Flying in
- Flying out
- phasing in
- phasing out
- Pause
- Add Sounds

After Movie

- Users can select template for creating video reviews
- User can customize template for video review
- User can create a video review with the group
- User can create a video review by themselves
- User can create a video review with some of the people in the group. Groups can choose to create 1 group video or separate user videos. They can also do both. However, it will only account as 1 review for rating purposes. All reviews can be followed on the social side. Popular users will be given the opportunity to announce upcoming movies and reviews on the social side.
- User can select a new movie
- User will be able to video chat with up to 4 other people
- User will be able to text and message with up to 4 other people

- User will have media integration (Filters, gift, emoji, pictures, video)
- User will be able to schedule movies
- Users will be able to select a new movie to watch immediately
- Users will be able to schedule a movie for a later date
- User will be able to reschedule movies.
- User can notify group if the need to reschedule
- Notification will be seen in-app and email
- User can suggest a new time
- Group may stream movie if 2 people are there to start.
- Users will work out rescheduling within the app.
- User will be able to do movie search and selection for the groups.
- Users may schedule movies days or months in advance.
- Those with parental controls can add an SB rating to the movie.
- Groups can name themselves and create branding for the group
- Individuals can also review movies and can do all the things that groups can

User Review

- User can view video reviews or trailer reviews when looking at a user profile.
- User can view video reviews or trailer reviews when they are trending.
- User can view video reviews or trailer reviews when another user suggests it.
- User can view video reviews or trailer reviews when they search for reviews.
- Users can follow their favorite reviews.
- User can create reviews by customizing a Review template • User templates can be customized by:
 - Picture size
 - Picture location
 - Font Size
 - Font
 - Emoji's

- Font Location
- Sliding
- Flying in
- Flying out
- phasing in
- phasing out
- Pause
- Sounds
- Blackout
- Virtual Background template
- Colors
- Filters

User will be able to create reviews that are max 6 minutes in length.

- User can earn longer video time based on the popularity of their reviews.
- Users can like reviews.
- Users can dislike reviews.
- Users can share reviews on the platform.
- Users can share the reviews on other platforms like Facebook, Instagram, twitter, WhatsApp,
- Reviews shared on another platform will link back to the SonderBlu platform.
- Outside users can view reviews.
- None SonderBlu members will need to create an account to see anything other than the review they watched.

- Reviews can pull video clips to create reviews from our in-app database of Movie trailer and movie clips.
- User will see all the see all the reviews the created
- User will be able to see who has seen their reviews
- Users can keep this section privet
 - User cannot remove reviews

- User can hide specific reviews
- User will be able to see if their reviews have likes or dislikes
- User will be able to see how many times their reviews were shared.
- User can follow and share reviews
- User should be able to comment and discuss review
- Users who purchase tickets will be able person a video review of the movie after the Movie. The User will be asked to create a review after the movie is over and only if the tickets were purchase on the platform.
- Popular reviews will be branded critic choice badge (this symbolize that this is a poplar and respected critic)

17. Parents SB Rating

- SB Ratings is the rerating of a film by a parent on the platform and a. The Original rating is shown with the SB rating.
- Parent with account may add a rating to a film that reflects what they believe the actual rating should be
- Only Parents can add a rating
- Parent may restrict streaming privileges and social engagement of a miner based on either the standard Rating system that accompanies the movie, or the parent Rating System, or both
- The System must take the weighted average of all the parents rating to prescribe a specific rating
- A parent cannot rate the same movie multiple times via other users on the account
- Parents lose the privilege of rating once they no longer have minors on the account

18. Movie review Rating

- Users may rate a film once they have watched at least 50% of the movie either as a group or as an individual 39
- User can only rate a movie once as a group and once as a solo
- Films that have not been seen all the way through needs to be noted as a partial review

- Users can rate a movie only once as an individual.
- A group cannot rerate a film after giving a rating
- A Group with the same people, or a combination of the same group of people, will not be able to rate a movie again if they start a new group
- To rate a movie again, a user must be in a group where 70% of the makeup of the group is made of different people
- Movies are rated based on the weighted average of the reviews
- Ratings from a group and from individuals will be shown separately
- The movie review rating must appear with the movie on the movies page
- The movie review rating must appear with the movie on the search results
- The movie review rating must appear on an actor's page when the movie is selected
- Users who purchase tickets will be able person a video review of the movie after the Movie. The User will be asked to create a review after the movie is over and only if the tickets were purchase on the platform

19. Circle Recommendations (Friends Rating) System

- User can share their individual Review within their Circle (Friends)
- User can review can be given a rating of Fresh, Yes, OK, No, Maybe, Toxic
- Fresh, Yes, OK, No, Maybe, Toxic must appear next to each review as a rating a must the Circle
- Users Circle of friends can engage in a social feed around the title/movie
- Users can see friends rating when search for a movie or on the movie page as a weighted average if all their friends rating

20. You Got to Watch Module

- User will be able to directly recommendation a title (Movie or trailer) to individuals of their choosing in their Circle.
- System must pin the recommended title to the home screen.
- If multiple friends in the circle suggests the same movie the suggested title will be labeled HOT.

- Users with a HOT title will receive a notification.
- All titles must have the individual rating attached to the suggestion.
- Users may leave each other little notes or person video with the suggestion. 40
- Movies watched user will be checked off.
- User may notify the person who made the recommendation when they have seen the movie automatically.
- User may notify the person who made the recommendation when they have seen the movie manually.
- User can block users from making suggestions.
- User may request suggestions from individuals.
- User may request suggestions from their circle.
- User may create themes for soliciting suggestions (Romcom, Drama, Action etc.)

21. Friends Circle

- User may lookup people on their search list.
- User may see who is live on the platform.
- User can block specific users from seeing them on the platform.
- User can block all but names users from know they are on the platform.
- User can make friend request to join the circle.
- User can delete friend's request.
- User can see all the friends in their circle.
- Users can request Theatre movie suggestions from their friends
- Users can give theatre movie suggestion to their friends
- Users will see the theater movie suggestion made for them

22. User Search

- Users can be looked up by the handle name.
- Users can be narrowed down by location.
- User can block anyone from seeing them.
- User can be looked up by name.

23. Gift Streaming

- User must be able to send gift streaming to their friends.
- User can pay through credit card to gift someone free streaming.
- User can send text or record voice message to send along the gift.
- Credit card details should be entered by the user to initiate the gift account.
- Friends can upgrade their gifted account.
- Gift streams should be activated, and post expiry date will be available
- User must be able to input the user ID of the person they want to give the gift stream too
- User can send text or record voice message to send along the gift.
- Friend has the option of turning the gift stream down
- Friend will receive notification of the gift
- Gift stream will be added to the users account as a credit if friend refuses gift
- User can apply the gift to their next billing cycle
- User can request a refund of the gift stream if the request is made, and it has not been activated
- User may have multiple gift streams that can be activated
- Some Gift streams will have expiration dates
- System may generate promo codes for gift streams
- User may use only one gift stream at a
- User must be able to send gift streaming to their friends.
- User can pay through credit card on file or different card to gift someone free streaming.

24. Static Pages

System must have the following static pages which can be viewed by user:

- Privacy Policy
- FAQ
- Contact Us
- Terms and Conditions Page
- GDPR Document (clickable to agree at login)
- Demo page

25. Home Page

- System home page must display “Popular Reviews”, the ones with highest ratings in the bottom of homepage. These are all video reviews generated by the users of the platform)
- Header should have the logo, the sectional drops down menus with sub-menu, notification, settings. The sections are:
 - Movies
 - Action
 - Drama
 - Comedy
 - Action
 - Trending (Trending on the platform)
 - trending with friends
 - Reviewed (Movies reviewed on the platform)
 - Friends Picks
 - Favorites o Action o Drama o Comedy o Action o Etc.
 - Trending (This is trending amongst friends)
 - Reviewed (Friend reviews)
 - Side Bar should be linked to
 - Built in remote for TV (see remote requirements)
 - Movie Scheduling
 - Filmmaker pages
 - Friends and Circle (Yes, No, Fresh etc.)
 - Movie ticket purchase
 - Groups (linked to streaming groups)
 - Social Section will be accessible from home
- r will see their streaming groups
- Users will be able to see how many people in their streaming groups are online

Body of the home screen

- Trailer playing in the background
- Reviews (Video of movie or trailers)
- Movie Titles selection
- Link to movie page
- Synopsis of movie (all movies should have this)
- Platform rating, friends rating, and SB ratings
- Child Rating
- “You’ve got to watch”

This is a pinned selection of titles suggest from one friend to another. If multiple friends independently recommend the same movie, that title should show who and how many friends suggest the movie. The user should be able to directly commend to the person or persons recommending the movie in video and text format

- Footer: Video reviews of movies and trailers
- User must be able to view their friend’s review on movies which are most popular. ● System shall pin the friends review on the top.
- “You Got to Watch” is a direct recommendation from one friend to another.
- if multiple friends suggest the same movie the friends ID is added to the title
- System should display “Movies for you” on homepage based on user’s previous search history or tailored content choices.
- User must be able to view “Fresh” “Yes” “No” format for movie rating. The highest voted option shall be displayed green to indicate rating.
- This feature enables a friend to tell their entire friends list that they saw a movie and it was either “fresh” “OK No” “Toxic”. The creator can add videos, gifs etc. to this review that is shared, and friends can comment on this specific movie
- User must be able to view comments of their friends on their reviews on homepage.
- User can select a movie to watch

- User can schedule a movie with their group
- User can go to film page
- User can see specific reviews for highlighted film along with synopsis, rating, cast, and genre.

26. Search Functionality

Please refer to section – 5 of this document to see the technology used for search functionality.

Search is divided in 3 parts

- Movie search
- People search
- Trending (movies my friends are watching and, on the platform,)
- User can search reviews

Movie search

User can search out a title and it can be broken down into categories

- Action
- Drama
- Comedy
- Action
- Etc.
- Users will see title synopsis and trailers
- User will be able to see what their friends have watched the movie
- User will be able to see their friends ratings (Fresh, NO, OK etc),
- User will be able to see the average rating of all the friends who watched the title.

User will be able to see if friend has likes and recommended titles and who it was recommended to, (if the user setting is not privet)

- User will be able to directly contact the person who received the review to see if they enjoyed the title. This must be enables by users
- Users must be in the same circle in order to contact each other about title.
 - Users will be able to hide all of their search
- Friends who's ID are hidden will he included in the average rating but their ID will be omitted.

- When User first arrive on page each category should auto select titles based on learned likes from platform use (this should be stated to the user),
- User will be able to select a title to:
 - Watch solo
 - Schedule and add to their streaming group
 - Create a streaming group
 - Watch movie eminently with their streaming group
 - Go directly to titles page
 - Watch trailers
- User can go to title's page from search to see reviews and commentary (this is also in Social section)

People Search (each user must opt into this feature)

- User can be marched with users based on their rating score. (The higher the score the more compatible they are)
- User will get 5 suggested titles to watch based on compatibility.
- Users can select titles not suggested by system.
- User will be able to see user reviews associated with the movie.
- User will see a synopsis of the movie.
- User will see the rating of the movie.
- User will see profile matches based on title taste and similarities (this may not be the same as social, economic and politics similarities please see AI documents).
- Users can add to 3 other people their pre-streaming conversation, for a total of 5 people.
- Users can create a streaming group.
- Users can schedule a movie to watch.
- Users can watch a movie immediately.
- User will be able to reschedule movies.
- User can notify group if the need to reschedule.
- Notification will be seen in-app and email.

- User can suggest a new time.
- Group may stream movie if 2 people are there to start 45
- Users will work out rescheduling within the app. People search will produce a list of potential people to watch movies with.

This person will have a compatibility number between 1 and 10. The scale can be broken into smaller percentages and there should be a color change to indicate the compatibility as the person goes up the scale. Red being not compatible all the way up to blue. It should be visually. In addition, the number, 5 suggested titles to watch together and genres are shown. A person can directly contact the user and chat or video chat before schedule a movie.

The can schedule either one of the 5 titles or a different title of their suggestion.

- Actor's Page.
- User Page
- Movie Ticket Purchasing
- Directors Pages
- Home Page
- Screener alerts
- Survey questions
- Marketing Pride and the roar allow filmmaker to request users to support their movies by allowing them to launch their campaign using the user's social media accounts (Facebook, Instagram, Twitter, etc.)
- Filmmaker makes a campaign post that may include video, text, or a combination of the two.
- User can provide access to any or all their social media accounts for the launch.
- Filmmakers can do talkbacks after the screening and capture promo video feedback from the participant after they have optioned a clear promising from the user)

- the filmmaker can create sub-focus groups that will get regular updates and notifications and be able to participate in on platform events with the filmmaker separate from the rest of the people on the filmmaker's page.

- Screeners and focused groups: Filmmakers can create screens of up to 20 people to test the completed work
- The filmmaker can invite select people or all the people on their page. Data will be collected on the backend along with the user surveys to create tester data that will be collected on the filmmaker's dashboard.
- This is a list of questioners for test screeners.
- On the filmmaker's dashboard, the filmmaker can use the questions as is, customize the questions or create new questions.

This should be given at the end of the movie and can either be a on onscreen questionnaire or inboxes. All the responses are scored and processed on the platform and provided to the filmmaker via the filmmaker dashboard. Filmmakers can use these questions and/or add their own questions. The filmmaker will also test marketing materials hereto.

Message board:

User admins can Message board is based on reddit with the exception that the aimed it to

- Giving filmmakers a place to market their pages and work.
- The focus is exclusively on film and film related content.
- Users can create topics related to movies to discuss cross all the platforms.
- Users can respond to topics in real time.
- Filmmakers can attach their page and film to a topic.
- Specific post can be shared in The Circle Recommendations.
- User can post gif and images.
- User can share trailers.
- User can share actors pages. ● User cannot share User profiles. ● User can share movie pages.
- User can be flagged for conduct.
- User's post can be deleted by user.

- User post can be deleted by admin. The message board is directly to the filmmaker's pages. So, users can create topical live threads about a filmmaker, actor, and movie. Note: Please refer to section-6 of this document for functionality.

Actors Page

- User must be able to view actor's page.
- System shall have separate page for different actors.
- User can view the movies of which any actor was a part of by selecting the year.
- User can view the award nominees and win awards of an actor.
- System should include Nominated, Win and all Career information of actors. 47
- The biography and Filmography will be a part of each actor's profile.
- All Filmmaker Biography pages will be linked to the filmmaker's page.
- All biography pages will have a list of work associated with performer.
- All Biography pages will have a list of all awards and nominations for the performer.
- All Biography pages will have a written biography of the performer.
- All Biography pages will have film clips and trailers of the performers work.
- User will be able to select a Year and see all the work they performer did that year.
- User will be able to select a year and see what job titled associated with each movie They worked on o exp: Year selected 2016

Movie Page

- User must be able to view movie page.
- System shall display the Winning award along with categories for that movie.
- Movie description and along with movie reviews made by others.
- User must be able to play, record review or watch trailer of a movie from movie page.
- User will be able to read a full synopsis of the movie
- Use will be able to see movie clips for the movie
- User will be able to see trailers for the movie
- Users may follow page for updated if the film is in production
- User may follow the page for updates if the film is nominated for awards

- User will be able to see all awards and nominations
- System shall display the Winning and losing awards, along with categories for that movie.
- User will be able to see all cast and crew information
- User will be able to select an actor on the movie page and go to their page
- User will be able to see all reviews of the movie. User must be able to play, record review or watch trailer of a movie from movie page.

27. Biography section

- User will have the ability to write a short bio about themselves
- Users will be able to see streaming age range
- System will identify user as an adult if they have registered as one

28. Direct messaging

- User can Block messaging.
- Users can direct message each other from the profile page.
- User Can deleted messages.
- User can restore messages.
- User can search messages.
- User can block specific users for 4 hours, a day, until unblocked, a customized time.
- User can block all messages for 4 hours, a day, until unblocked, a customized time. §
User can message with multiple other users at in the same message.
- User can create in-app message group with a name.
- User can user filters.
- User can user emojis.
- User can change font size.
- User can upload video.
- User can use gifs.

29. Wallet Functionality

- User will get a credit amount whenever the user refers the application the other friends and family.
- If user shares a gift with their friends and family and if the friend or family rejects the gift, then that amount will be credited back into the wallet

30. Live Streaming

- Live streams will either be on the social section or in the movie title section of the site
- User must be able to join live stream as group or individual
- Admin must be able to block user from the live stream.
- User can add comments or chat during live stream.
- Groups can join to watch live stream together.
- User can join a live stream event presented by Sonder Blu.
- On one side of the live stream is public reaction and commentary to the event. Users can use video and text to engage with each other and the live event (we can turn this feature on and off)
- On the other side of the live stream is the persons screaming group; if the group is watching the event together and all the same features for group screaming apply.
- System will record and archive life streaming productions
- Live Streaming maybe password protected
- Live Streaming may have its own pay wall 49
- Live Streaming may not be password protected
- Live stream will have its own pay-per-view pay wall
- Live streaming must be managed on the production side
- Production must be able to add broadcasting parameters
- User will be able to register for live stream.
- User will be able to input promo codes.
- System will see be able to see who is on the live stream up to the second.
- User may use chat function that will be seen by all in the live stream.
- System communicates with individual users during live stream.

- User may record a video that will be share during live stream at the admin's discretion.
- User may have live engagement during live stream at the admin's discretion.
- Streaming group pay participate in the live stream.
- Streaming groups can comment as a group with everyone watching the live event.
- Streaming groups can communicate with each other separately from the rest of the live event.
- Admin may share a pre-recorded event that will broadcast as a live stream.

31. Movie clip and trailer database Functionality

§ User may call up movie clips

§ User may call up trailers

§ System will update database

§ User may use database to create their top 5s

§ User may use database when creating video reviews

§ User may create gifs from database

§ User may share clip or trailers on other parts of the platform 50

§ User will be able to go to the film page or actor page that is linked to the clip or movie

§ User will be able to see how many times a clip or Trailer has been share and seen

§ User will be able to see any reviews associated with the clip or trailer

§ Filmmakers on the platform will have their trailers and movie clips searchable in this section

32. In-app messaging Functionality

§ User Can deleted messages

§ User can restore messages

§ User can search messages

§ User can block specific users for 4 hours, a day, until unblocked, a customized time

§ User can block all messages for 4 hours, a day, until unblocked, a customized time § User can message with multiple other users at in the same message

§ User can create in-app message group with a name

§ User can user filters.

§ User can use emojis.

§ User can change font size.

§ User can upload video.

§ User can use gifs.

33. Notification Functionality

§ Technical support notifications

§ System notifications

§ Message board Moderator can send thread notifications in thread

§ Message board group notifications

§ Admin notifications

§ Person to person notification

§ Friends to group notification

§ Filmmaker to page notifications

§ Filmmaker to individual filmmaker page user notification.

2.4.2 Functional Requirements for admin:

There are levels to admin

1. Super admin with access to everything
2. Sectional (platform, finance)
 - Supper Admin: Supper admin will be able to control and use all aspects of the platform 51
 - Platform Admin: Platform admin will have access to all tools related to User engagement
 - Customer admin: Customer admin will be able to will have access to tools related set tools related to customer interaction
 - Analytics Admin: This person will have access to all the analytical data related to the platform
 - Financials admin: This person will have access to all the financial data
 - Moderator: These are users who hold up the rules
 - Technical support admin
 - Marketing Admin

- Community protection admin

Login Admin

- Admin can manually reset login
- Registration Admin
- Admin can see login history
- Admin can see analyze where users are on the platform and how the users are utilizing the platform
- Admin can track which movies filmmakers tracking (analysis)
- Admin must be able to see all signed Privacy agreement (super admin rights)
- All signed Privacy agreements must be stored in accordance with GDPR rules (super admin rights)
- Admin must be able to see all sign user agreement (Supper admin rights)
- All Signed user agreements must be stored in accordance with GDPR rules (super admin rights)
- Admin may send customer emails (customer admin)
- Admin can receive direct message from platform user (customer admin)
- Admin emails must be connected to a customer engagement (customer admin)
- Admin may respond to direct messages from users on platform (customer admin)
- Admin emails must be time stamped (customer admin)
- Messages to the admin must be time stamped (customer admin)
- Message from Admin to user must be time stamped (customer admin)
- Admin must take notes on each customer engagement (customer admin)
- Admin can suspend accounts for a defined period (customer admin)
- Admin can permanently block a user from the platform (customer admin)
- Admin will be able to generate one-time promo codes (customer admin)
- Admin will be to manually setup user's subscription plan (customer admin)
- User must pay for the change in subscription themselves (customer admin)

- Admin may correct birthdays for minors (with adult account owners verification of page) 52 (customer admin)
- Admin can post credit to users account (customer admin) (financial admin)
- Admin can delete reviews
- Admin can see flagged content
- Admin can warn user of inappropriate content
- Admin can notify Technical support admin
- Admins have internal communications
- Technical support admin can contact users
- Technical support can do on platform manipulation
- Technical support admin can post updates to the entire platform
- Community admins can track their work.
- Community protection admin can suspend for a determined period, block, cancel accounts and remove content. Accounts that have been flagged will have all their public messages ongoing followed, monitored and reviewed by the community protection admin until it is determined that user is safe.
- Flagged content is revised by the community protection admin.
- High level admin can review content with specific key words.

Message Board Moderator

- Only SonderBlu Admin can create moderators
- Moderator can flag users for account suspension with admin
- Moderators enforce admin rules
- Moderator agrees to enforce admin rules
- Moderator agrees to enforce thread rules
- Moderator can delete post
- Moderator can close thread
- Moderator can send thread notifications
- Moderator Respond to and delete comments and posts to the thread

- Remove and ban people from the thread
- Create ads, promotions or boosted posts (Filmmakers Only)
- View insights (Filmmakers Only)
- View Page Quality tab
- See who published as the Page
- Manage Page settings
- Ban users
- View moderator log 53
- Admin will be able to reset Parent Pin
- Admin can reset accounts to default settings for account settings
- Admin can add a ticket purchase in a user's cart
- Admin can refund ticket purchase or add as credit on user account
- System must purge data in accordance with the GBRP rules
- All user engagement on the platform must clocked, login and logoff dates
- System will automatically block ad's flagged misleading and alert admin and poster • Poster will be provided access channel to address block.

Admin Dashboard

- Admin should be able to have access to dashboard.
- Admin can remove or add Comments to the live feed on the public side.
- Admin can Block User from commenting during a live stream.
- Admin can provide Sonder Blu updates in the public section.

Modify Content

- Admin can access moderator tools that allow engagement with the person in the studio and the audience.
- Admin can review post with a delay.
- Admin can receive complaints and (Pause, block, and delete troubling content).
- Admin must be able to Pre-screen video post.

Admin Authorities

- Approve or Reject Video post.
- can search People
- can message people for query
- Receive inquiry from people
- Can deleted messages
- can restore messages
- can search message thread by username

Manage Platforms

- Can set and send notifications for platform user
- Delete from Platform
- Restore to Platform
- Receive and respond to platform complaints 54
- Platform activity numbers (who is watching what and at what time)
- Create Platform events

Manage User Activities

- Block/unblock User accounts
- Ability to delete a privet group
- Ability to see and respond to reported complaints
- the ability to see what is going on in privet groups if it is suggested that illegal activity is being done.

Live Stream admin (Only active during live streaming):

Access by Customer admin, Platform admin, (analytical Data connected to event

§ Admin can pull up System archive

§ Admin can set password

- § Admin can reset password
- § Admin can restrict users
- § Admin can cap users
- § Admin can manually add users
- § Admin can start time delay
- § Admin can view live streaming numbers
- § Admin can see live demographic numbers
- § Admin can see replay numbers
- § Admin can see replay demographic numbers
- § Admin can approval of engagement before it is share
- § Admin can Control the number of participants (Individuals and groups)
- § Admin can censorship of production
- § Blurring video
- § Bleeping words
- § Admin can be able to register for live stream
- § Admin can be able to input promo codes
- § Admin can use chat function to contact individuals during live stream
- § Admin may live edit event a
- § Admin can play back portions of the event during the event
- § At the admins discretion the user may record a video that will be share during live stream 55
- § Admin may share a pre-recorded event that will broadcast as a live stream
- Admin will login to live events separately
- Admin must be given rights before each live event

Platform Administrator

Indirect interface

(ii) Admin can do all the following

- Login/Logout
- Can search People

- Can message people for query
- Receive questions from people
- Can deleted messages
- Can restore messages
- Can search message thread by username
- Can set and send notifications for platform user
- Delete from Platform
- Restore to Platform
- Receive and respond to platform complaints
- Platform activity numbers (who is watching what and at what time)
- Create Platform events

Direct interface

- Direct message Platform members
- Inbox
- Billing
 - Review billing
 - Address Billing question
 - Refund Ability
 - Add promo codes
 - Research and see Promo code database
- Communicate real time device and technology issues to developers and engineers help avoid further guest pain points
- Dashboard with update on service real time service issues to be relayed to customer
- Identify and communicate platform trends for improvements for the social media team 56
- Upload platform image/video
- Research Platform User
- Review and moderate all user-generated content and user profiles (either pre-, post-, or reactive moderation)

- Manage the banned user process, and track and remove, or filter out previously banned users
- Monitor company information
- Identify and escalate priority issues with the proper information and detail

Marketing and Analytics Admin

Ability to see and track how many hours a movie has been watched

- Analyze customer acquisition from Facebook, Instagram, Pinterest, YouTube, Snap Chat, and Google AdWords and other platforms.
- Ability to analyze on platform target groups for qualified eyeballs for our content and advertisers
- Demographics Trend (Income, age, sex, religion, ethnicity, education, region, etc.)
Demographic trends refer to the growth and structure of each demography towards the platform and its marketing contents while
- Demographic Date: the demography data represent the geo location of this demography and their survey information such as age, employment, etc.
- Source Tracking
 - Where did the content originate?
 - What is the life cycle of that content?
- Content Engagement Matric
 - How is content being engaged
 - What is the bounce rate?
 - Is the content being engaged with the way it was meant to be
 - Sharing (groups, individuals, public, and off the platform)
 - Organic Vs. Paid
- Ability to dissect revenue streams (Witch is earning Month Over Month, YOY, and trends)
- Ability to analyze platform trends, all social media trends, and
- Ability to identify revenue treads 57
- Ability to test trend assumptions and refine

- Content analysis to determine performance, ROI and trending value ie what s the maxwe should put into a piece of content to earn the highest ROI
- Off platform Marketing and Social media optimization tools
 - Facebook
 - Instagram
 - Twitter
 - Other relevant platforms
- SEO Optimization tools for web

Unloader Admin

Manager

- Separate Dashboard
- Special Link for uploading admin
- Uploading admin login/logout • Create an Upload calendar
- Assign unloaders
- Create upload alerts (when it is due to be uploaded, and licensing for removal)

Financials

- Link to Quick Books
- Ability to pull out the financial data from the marketing piece
- Analyze the financial impact of marketing budget and employee financial
- Ability to create financial trend reports
- Ability to review advertising revenue and recommend pricing to advertise
- Value Number of people on Platform

How much has been earned on the Platform (Day over Day, Week over Week, Month over Month, and Year over Year) and see patterns and trends

- Growth and Lost
- The financial breakdown of Specific User demographics
- Marketing Cost
- The cost of doing business period.

- Platform ROI
- Ad Revenue

Advertisement Functionality

§ All Advertisements must be Native to the app

§ Businesses may purchase ad space

§ Ad purchase must be based on demographic data

§ Filmmakers may use native advertising on the platform

§ All ads will be accompanied by analytical data (Please see the link to see all the features and §

All ads will utilize A/B testing

Manage Billing

- Admin must be able to review billing
- Admin must be able to address Billing question
- Admin must be able to refund Ability
- Admin must be able to add promo codes
- Admin must be able to research and see Promo code database.

Admin Controls

- Admin must be able to access dashboard with update on service real time service issues to berelated to customer.
- Admin must be able to upload platform image/video.
- Admin must be able to research Platform User.
- Admin must be able to review and moderate all user-generated content and user profiles (either pre-, post-, or reactive moderation)
- Admin must be able to manage the banned user process, and track and remove, or filter out previously banned users 59
- Admin must be able to monitor company information
- Admin must be able to identify and escalate priority issues with the proper information and detail.

- Admin shall have ability to see and track how many hours a movie has been watched.
- Admin must be able to analyze customer acquisition from Facebook, Instagram, Pinterest, YouTube, Snap Chat, and Google AdWords and other platforms.
- Admin must have ability to analyze on platform target groups for qualified eyeballs for our content.
- Admin must have ability to dissect revenue streams (Witch is earning Month Over Month, YOY, and trends)
- Admin shall have ability to analyze platform trends, all social media trends, and
- Admin must have ability to identify revenue trends
- Admin should have ability to test trend assumptions and refine
- Content analysis to determine performance, ROI, and trending value that what i the max we should put into a piece of content to earn the highest ROI.

Filter Bubble settings (Social Settings)

§ User will be able to filter in/out

- Those who think just like them and share their taste in movies
- Those who think nothing like them and share their taste in movies

Privacy

§ User may block their profile page from being seen by all

§ User can block some people from seeing their profile page

§ User can hide their presents on the platform from all

§ User can hide their presents on the platform by some

§ User can turn off contacts so they cannot be contacted by people on the platform not in their circle

§ User can make themselves unsearchable

Movie ticketing Functionality

§ Users will be able search for theatres tickets to purchase by:

- Movie Title
- Time
- Zip Code
- City 60
- State

§ User will be able to view trailers for movie

§ User will be able to read synopsis of movie

§ User will be able to coordinate ticket purchase in their group

§ User will be able to select seats for themselves or Group

§ User can select the number of tickets

§ User can select a type of ticket

- Child
- Adult
- Senior.

§ System must be able to display all search results and different prices for each type of ticket.

§ User can Select tickets make payment and receive confirmation.

§ User may input promo codes

§ User may Print tickets User may use App as a way get entry into theatre. 3.7.11 Content

Curating Functionality

§ Curating is linked to users viewing habits

§ Curation is linked to users Circle (Friends)

§ Curation is linked to what is trending

Potential Movie Ratings

- G (General Audiences)
- PG (Parental Guidance Suggested)
- PG-13 (Parents Strongly Cautioned)

- R (Restricted)
- NC-17 (Adults Only)
- AC (Adult Content)
- AL (Adult Language)
- GL (Graphic Language)
- ML (Mild Violence)
- V (Violence)
- GV (Graphic Violence)
- BN (Brief Nudity)

Language and Accessibility

- User will be able to change their language choice (This will change all the translate all the content on the platform)

- English
- Spanish
- Hindi
- French (France and Canadian)
- Madeira Chinese
- Italian
- Korean
- Turkey
- German
- Swedish
- Vietnamese
- Dutch
- Greek Closed Caption
- English
- Spanish

2.1.3.Functional Requirements for filmmakers:

1. Filmmaker's Dashboard

§ Filmmaker may create a User ID. 62

§ Filmmaker can A/B test all their content.

§ Filmmaker must pay for each movie they upload.

§ Filmmaker Can create a password for their account.

§ Filmmaker must upload their Movie.

§ Filmmaker must upload trailer.

§ Filmmaker must Sound/ Music.

§ Filmmakers must provide Mix.

§ Filmmakers who are doing exclusives must follow SonderBlu integration

§ Filmmaker who dubs must follow dubbing requirement.

§ Filmmaker must meet subtitle requirements.

§ Filmmaker must have each element approved content can go live

2. Sign up

§ Filmmaker will sign Privacy agreement as a condition of signing up.

§ Filmmaker will sign the User agreement as a condition of signing up.

§ Filmmaker will sign film contract for each film on their account before works can be put on the platform

§ Filmmakers will be able to download all signed agreement

§ All license agreements filmmakers using the social platform will be autofill with SonderBlu terms

§ The system will autofill the following based on plan selected and premium or standard o License period

o License Start Date

o Exhibition Rights

o Always VOD and Theatrical

§ Membership selection and Premium and standard

§ Development title

§ Development option Exercise Period.

3. Filmmaker Activities

- See who has made specific comments about their content
- Filmmaker must have a separate dashboard.
- They should be able to login with their provided credentials and view or modify the accessed content.
- Filmmaker must be able to Pull marketing data from those who watch and comment.
- They can invite specific users to small group screenings. 63
- They must be able to offer a questionnaire with each piece content in the public group.
- They shall be able to zoom in on which sections users are zooming in on the most and read only those comments.
- They can Invite Users to join their campaign.
- They can Follow - Up with those who join.
- They must be able to host private chats and screening for those campaigns.
- They can pick a specific time to use their groups.
- They shall have ability to see the total potential reach by channel
- They must have ability to engage with users after launch.
- Remove people they do not want to campaign for them.
- They can post on private Filmmaker board.
- They can Submit content for publication.
- Submit forms for theatre.
- They must be able to see revenue for films on our streaming side.
- They must be able to view all social media platform outreach.
- They must be able to Create questioners using system.
- Create public groups and moderate from the platform.

4. Filmmaker's License agreement

Filmmaker will input:

§ Name

§ Production Company

§ Address

§ Contact name

§ Phone number

§ Email

§ Film Title

§ Type of plan (Standard or premium)

§ Territory rights (default to worldwide), only changeable if SonderBlu Manually inputs

§ Licensor Bank name (Only applicable if film is behind SonderBlu paywall)

§ Licensor Bank account name

§ Licensor Bank Swift code

§ Licensor Bank Account Number

§ Licensor EIN/SSN

§ The system will autofill the following based on plan selected and premium or standard 64

§ License period

§ License Start Date

§ Exhibition Rights

§ Always VOD and Theatrical

§ Membership selection and Premium and standard

§ Development title

§ Development option Exercise Period

5. Filmmaker Dashboard Facilities

§ Filmmaker can see the revenue generated by the movies (This is only if we do a revenue split and will not apply to filmmaker snot behind paywall) Behind the paywall

§ Filmmaker may request release of funds every 90 days on the platform Behind the paywall

§ Filmmaker may download the financial records related to their film Behind the paywall §

Filmmaker may see all analytical data related to their page, social engagement, and ads §

Filmmaker can see data from off platform related to their title

§ Filmmaker will be able to add, edit, delete advertisement.

§ Advertisement may include multimedia.

§ Once the movie is completed by the user, then they will receive a list of documents.

§ Filmmaker will be able to add, edit, delete the questions. [example – film strategy]

§ Filmmaker will be able to review all the answers given by the users to the questions.

§ Filmmaker can build and see connection between their page and message board groups

§ Filmmaker can repost in threads

§ Filmmaker will see responses to questionnaires anonymously or not

§ Filmmakers can host a talk back after screener or not

§ Filmmakers can alert people to fill out questionnaire on platform and email

§ All admin notifications will be seen on the filmmaker's dashboard

§ Filmmaker makes a campaign post that may include video, text, or a combination of the two.

§ A launch date as attached to the campaign.

§ Filmmaker can use a video, static image, or combination to create pride and roar. 65

§ Filmmaker can select target of supporters.

§ Filmmakers may purchase to expand target.

§ Filmmaker can only launch on campaign date.

§ User can provide access to any or all their social media accounts for the launch.

§ There is a minimum number needed to launch.

§ The filmmaker can create sub-focus groups that will get regular updates and notifications and be able to participate in on platform events with the filmmaker separate from the rest of the people on the filmmaker's page.

§ Data will be collected on the backend along with the user surveys to create testerUser Case.

§ Filmmaker will be able to see the data on the.

§ Using this feature filmmaker will be able to chat among those users who have accepted their request.

6. Filmmaker's Analytics

§ Active Users. 1 day, 7, day, 14-day, 28-day active usage

§ Active user trends

§ Revenue per user (Only for SonderBlu)

- Number of users
- Cost per user

§ Revenue source

- Referral
- Organic
- Direct
- Fees
- Ads
- Filmmaker
- Pride and Roar
- Live events

§ Cohort analysis

- Type
- Size
- Metric 66
- Data range
- Acquisition date by user retention
- User Retention

Filmmaker's Audience (Users and Metric)

- Average length per Session
- Sessions

- Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session
- Page Views
- Page views is the total number of pages viewed. Repeated views of a single page are counted.
- Page Sessions.
- Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.
- Number of sessions per user
- The average number of Sessions per user.
- New Users.
- Bounce Rate.
- Please see link to understand the calculations.

Demographics

§ Users

§ Sessions

- Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

- Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

- § Average Sessions
- The average length of a Session.
- § Bounce Rate 67
- § Percentage New Sessions
- An estimate of the percentage of first-time visits

Demographics (Age)(b) Gender, Acquisition, Behavior, Conversions

§ Summary

- o Everything within this area

§ Site usage

§ Impact

- o The impact of all the data

§ Users

§ Sessions

- o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

- o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

- o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

- o An estimate of the percentage of first-time visits

§ Goal Completion

- o The total number of conversions.

§ Goal Conversion Rate

- o The sum of all individual goal conversion rates.

§ Goal Value

- o Total Goal Value is the total value produced by goal conversions on your site. This value is calculated by multiplying the number of goal conversions by the value that you assigned to each goal.

Interests(c) Gender, Acquisition, Behavior, Conversions

§ Affinity Category

§ In-market Data

§ Other Categories Data that will be collected

§ Users 68

§ Sessions

o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

o An estimate of the percentage of first-time visits

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o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

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o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

o An estimate of the percentage of first-time visits

§ Goal Completion

o The total number of conversions.

§ Goal Conversion Rate

o The sum of all individual goal conversion rates.

§ Goal Value

o Total Goal Value is the total value produced by goal conversions on your site. This value is calculated by multiplying the number of goal conversions by the value that you assigned to each goal.

Language (d) Gender, Acquisition, Behavior, Conversions

§ Users

§ Sessions

o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

o An estimate of the percentage of first-time visits

§ Summary

- o Everything within this area

- § Site usage

- § Impact

- o The impact of all the data

- § Users

- § Sessions

- o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

- § Page Sessions

- o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

- § Average Sessions

- o The average length of a Session.

- § Bounce Rate

- § Percentage New Sessions

- o An estimate of the percentage of first-time visits

- § Goal Completion

- o The total number of conversions.

- § Goal Conversion Rate

- o The sum of all individual goal conversion rates.

- § Goal Value

- o Total Goal Value is the total value produced by goal conversions on your site. This value is calculated by multiplying the number of goal conversions by the value that you assigned to each goal.

Location (e) Gender, Acquisition, Behavior, Conversions

- § Users

- § Sessions

- o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

- o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

- o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

- o An estimate of the percentage of first-time visits

§ Summary

- o Everything within this area

§ Site usage

§ Impact

- o The impact of all the data

§ Users

§ Sessions

- o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

- o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

- o The average length of a Session.

- § Bounce Rate. An estimate of the percentage of first-time visits

§ Goal Completion

- o The total number of conversions.

§ Goal Conversion Rate

o The sum of all individual goal conversion rates.

§ Goal Value

o Total Goal Value is the total value produced by goal conversions on your site. This value is calculated by multiplying the number of goal conversions by the value that you assigned to each goal.

Behavior (f) Gender, Acquisition, Behavior, Conversions

§ New Vs. Returning

§ Frequency

§ Engagement

§ Users

§ Sessions

o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

§ Page Sessions

o Pages/Session (Average Page Depth) is the average number of pages viewed during a session. Repeated views of a single page are counted.

§ Average Sessions

o The average length of a Session.

§ Bounce Rate

§ Percentage New Sessions

o An estimate of the percentage of first-time visits

§ Summary

o Everything within this area

§ Site usage

§ Impact

o The impact of all the data

§ Users

§ Sessions

o Total number of Sessions within the date range. A session is the period time a user is actively engaged with your website, app, etc. All usage data (Screen Views, Events, Ecommerce, etc.) is associated with a session.

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o The total number of conversions.

§ Goal Conversion Rate

o The sum of all individual goal conversion rates.

§ Goal Value

o Total Goal Value is the total value produced by goal conversions on your site. This value is calculated by multiplying the number of goal conversions by the value that you assigned to each goal.

Social integration Functionality

- User will be able to import friends from their other social media channels
- The system will pull over data from their other social media channels to help curate content and understand them as users
- User can log in using their social media accounts.
- User can invite friends with their email or social media accounts
- User can provide access to any or all their social media for the Pride and the Roar.

- Admin shall have ability to analyze platform trends, all social media trends

Advertisement

For advertising, native advertising space can be purchased via the filmmaker dash if they are a filmmaker, on the platform itself if they are logged in as the filmmaker. If they are not a filmmaker, they can go through the advertising admin panel (the purchase of advertising by users and businesses is the only part that users can access in the admin panel).

Tester Material

- Filmmaker can upload movie clips via the filmmaker dashboard
- Users can select portions of a clip to comment on. Example: if the clip is 20 minutes, a user can select 9 minutes 13 sections to 14 minutes and 47 sections to comment on. When another user sees and reply to the first users, they will be able to play just the selected portion without having to review the whole 20 minutes
- Filmmakers can ask targeted questions with their movie clips
- On the backend data will be collected for marketing data that the filmmaker can use
- Filmmakers can upload trailers and posters for testing and feedback
- Filmmakers can a/b test their content for audience's response on their page, screeners . Also, advertising can be a/b tested.

- **Other Nonfunctional Requirements**

- **Performance Requirements**

The information is refreshed depending upon whether some updates have occurred or not in the application. The system shall respond to the member in not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs. Responses to view information shall take no longer than 5 seconds to appear on the screen. System must be able to tackle with numerous users at a time.

- **Security Requirements**

The application shall be secure and encrypt user's password and protect personal information and bank details. User shall feel comfortable using this app for their personal data. High Level protection everything. Entire site should be encrypted with admin ability to close said account or block account. User content should be tracked on admin side.

Chapter 3

Use Case Analysis

Chapter 3: System Analysis

In this chapter, we will discuss about use case scenarios according to our functional and nonfunctional requirements. We will register the users and then they can perform functionality.

- Use Case Model**



Figure 1 End User Use Case

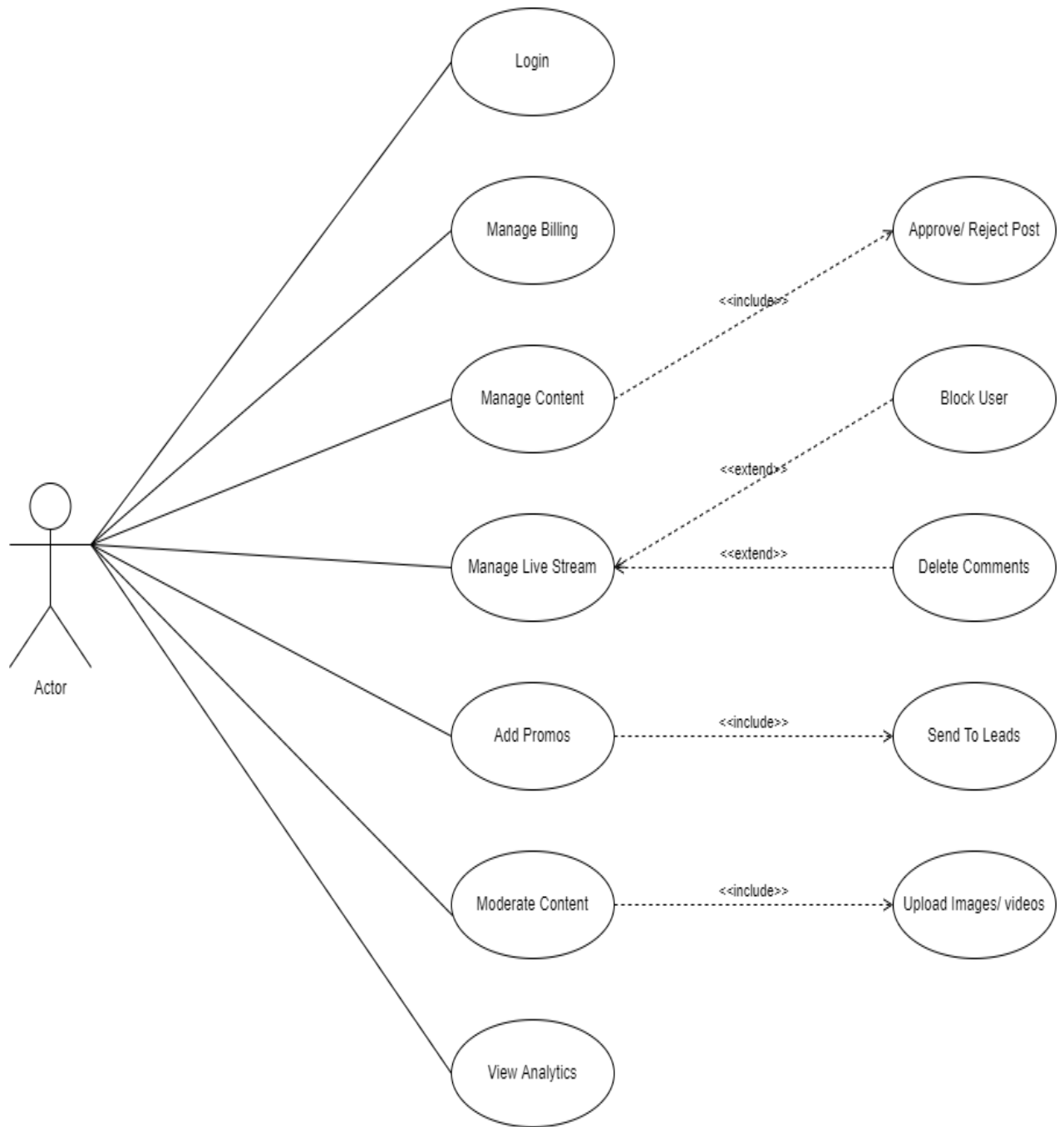


Figure 2 Admin Use Case



Figure 3 Filmmaker Use Case

- **Use Case Descriptions**

Following diagram shows the use cases of the overall system.

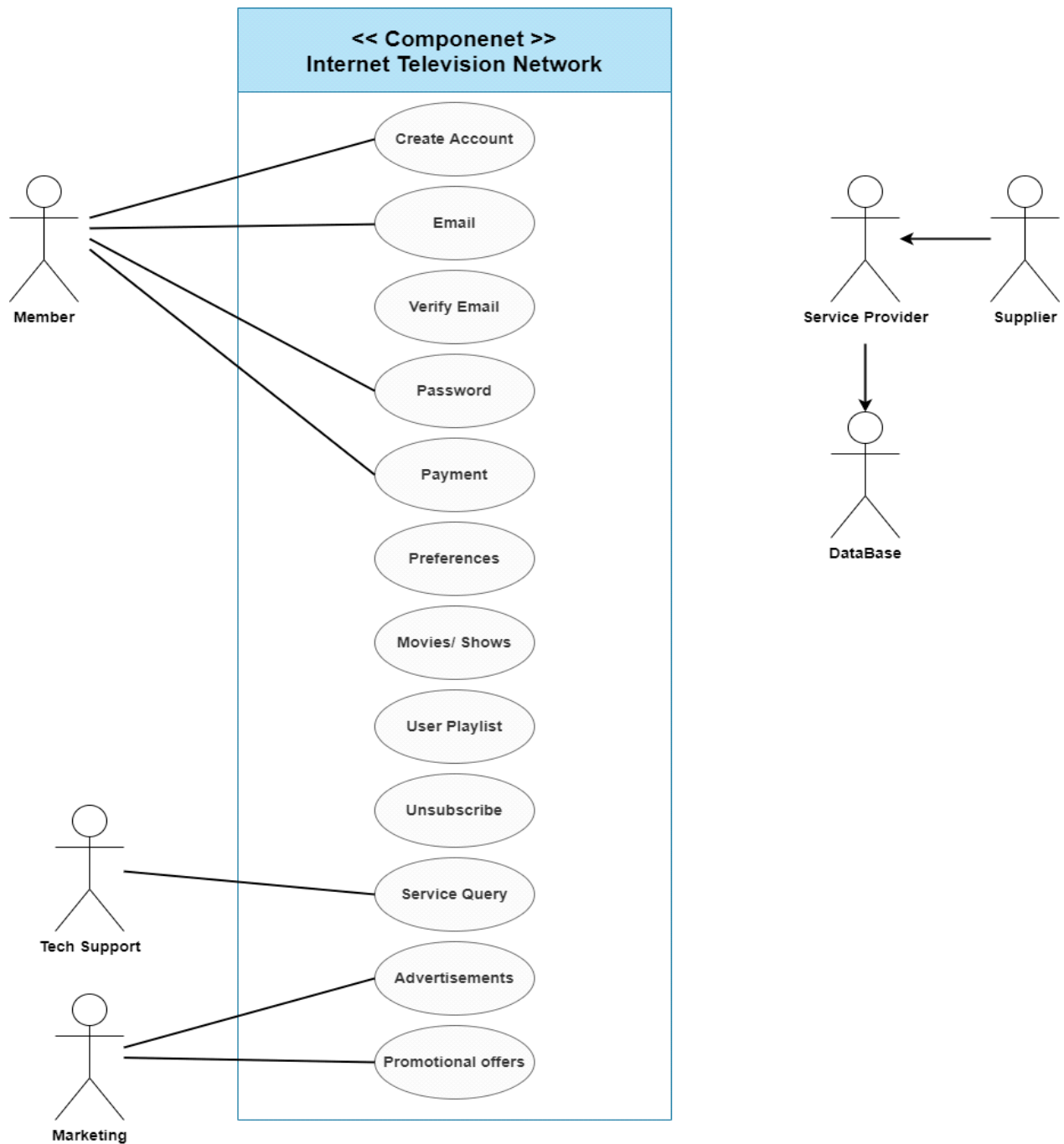


Figure 4 System Use Case Diagram

ADMIN FUNCTIONS

- **LOGIN**

Use Case: Login

Primary Actor: Admin

Goal in Context: Accessing to the system

Scenario: 1. The system prompts the user for their username and password. 2. The admin enters username and password. 3. The system gets password registered to the user name. 4. The system verifies the password and sets the admin's authorization. 5. The admin is given access to the system to perform their job.

- **MANAGEMENT SELECTION**

Use Case: Management Selection

Primary Actor: Admin Goal in Context: Accessing to sub-menu

Scenario: 1. Admin selects between stream management and user management.

- **STREAM MANAGEMENT**

Use Case: Stream Management

Primary Actor: Admin

Goal in Context: Changing access rights of a stream

Scenario: 1. The admin enters stream management interface. 2. The admin selects the stream that he/she wants to manage. 3. The admin changes the access rights of the stream on the menu. 4. New access rights of the stream are set.

- **ADD STREAM**

Use Case: Add Stream

Primary Actor: Admin

Goal in Context: Adding new stream to Media Server

Scenario: 1. Admin clicks Add button in stream Management Window. 2. Window asks for the configuration settings of stream. 3. Admin enters the configuration settings. 4. Admin clicks OK button. 5. Stream is added to Stream List.

- **REMOVE STREAM**

Use Case: Remove Stream

Primary Actor: Admin

Goal in Context: Removing stream from Media Server

Scenario: 1. Admin chooses a stream from Stream list. 2. Admin clicks Remove button. 3. Stream is removed from Stream List.

- **USER MANAGEMENT**

Use Case: User Management

Primary Actor: Admin

Goal in Context: Changing access rights of a user

Scenario: 1. The admin enters user management interface. 2. The admin selects the user that he/she wants to manage from the user list. 3. The admin changes the access rights of the user. 4. New access rights of the user are set.

- **ADD USER**

Use Case: Add User

Primary Actor: Admin

Goal in Context: Adding new user to Relational Database

Scenario: 1. Admin clicks Add button in User Management Window. 2. Admin enters the user details. 3. Admin clicks OK button. 4. User is added to database.

- **REMOVE USER**

Use Case: Remove User

Primary Actor: Admin

Goal in Context: Removing user from Relational Database

Scenario: 1. Admin chooses a user from User list. 2. Admin clicks Remove button. 3. User is removed from User List.

USE CASE DIAGRAMS

In these diagrams, 'Add Stream' and 'Remove Stream' use-cases are specific operations of 'Manage Stream'.

Similarly, 'Add User' and 'Remove User' use-cases are specific operations of 'Manage User'.

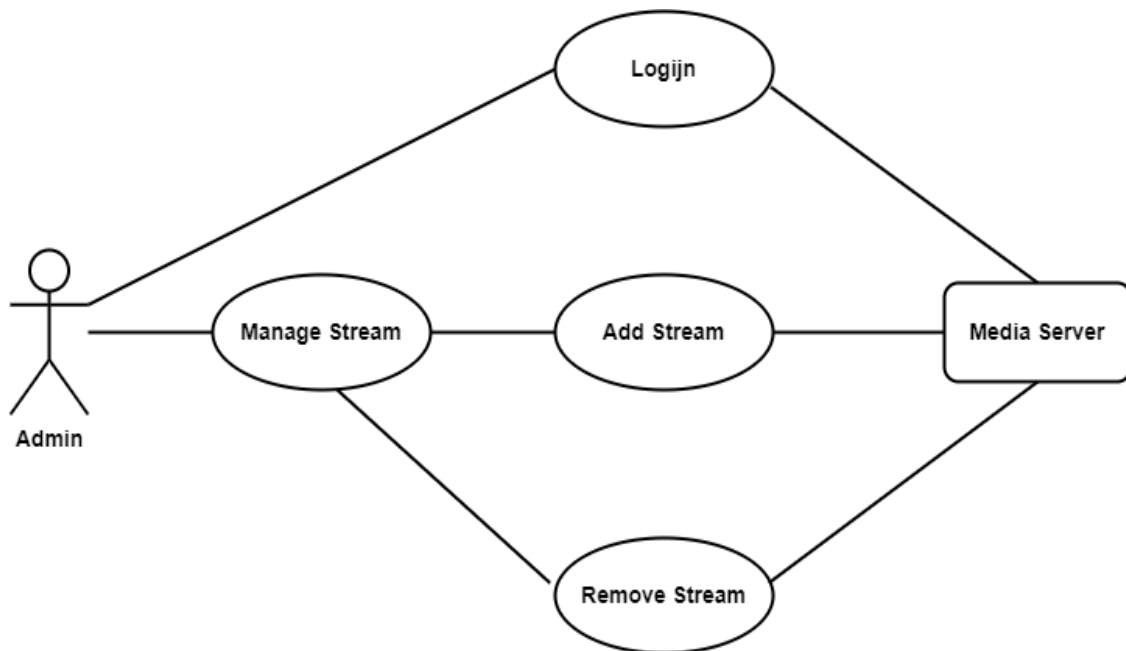


Figure 5 Manage Stream Use Case Diagram

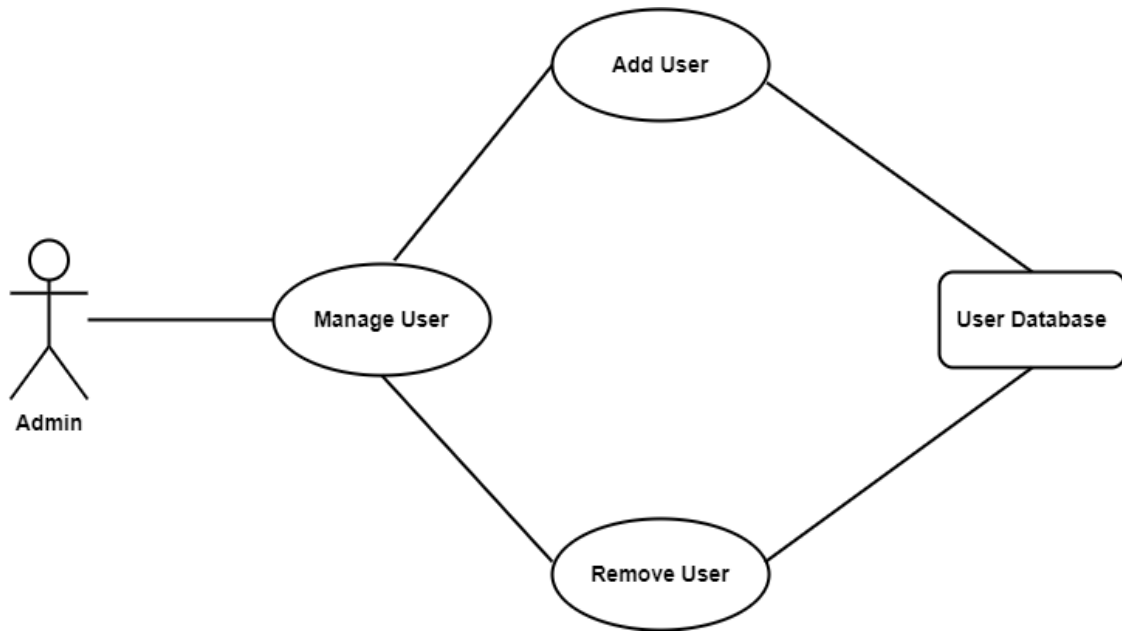


Figure 6 Manage User Use Case Diagram

USERS FUNCTIONS

- **LOGIN**

Use Case: Login

Primary Actor: User

Goal in Context: Accessing to the system

Scenario: 1. The system prompts the user for their username and password. 2. The user enters username and password. 3. The system gets password registered to the username. 4. The system verifies the password and sets the users authorization. 5. The user is given access to the system to perform their job

- **STREAM SELECTION**

Use Case: Stream selection

Primary Actor: User

Goal in Context: Selecting a stream to access

Scenario: 1. User logs into the system. 2. After login screen, user is provided a list of streams that she/he is allowed to use. 3. User selects a stream and data flow starts.

- **MEDIA PLAYER FUNCTIONS**

Use Case: Media player functions

Primary Actor: User

Goal in Context: Controlling playback

Scenario-1: User presses play button to start data flow and play it.

Scenario-2: User presses pause button to pause the stream at the current frame.

Scenario-3: User adjusts volume level from the volume bar.

USE CASE DIAGRAM

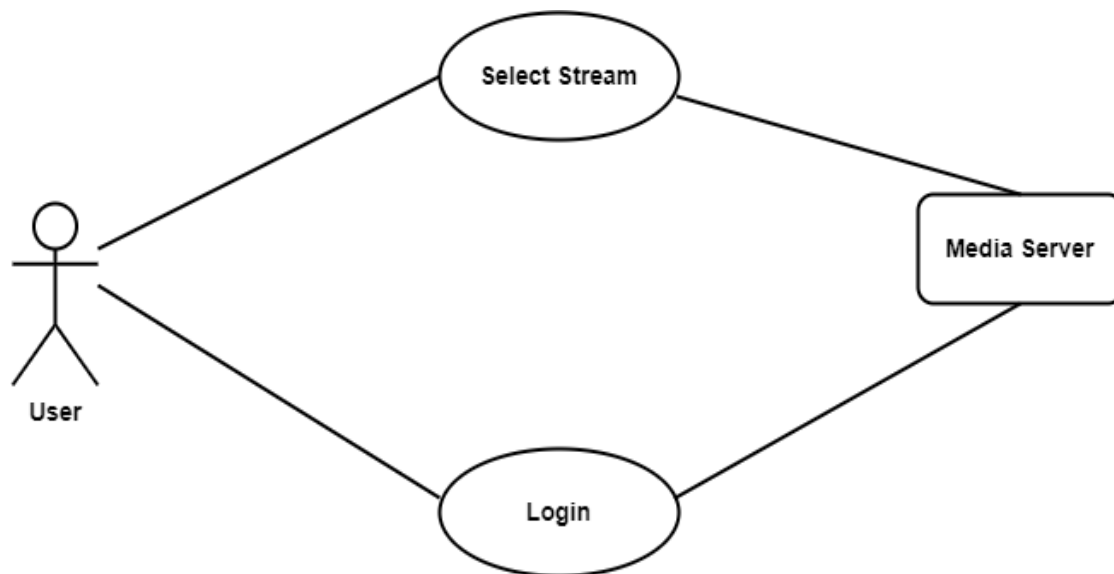


Figure 7 User Function Use Case Diagram

SYSTEM FUNCTIONS

- **LOAD CHECK**

Use Case: Load Check

Primary Actor: System Agent

Goal in Context: Checking the load on web servers

Scenario: 1. Waits for a pre-determined time interval. 2. Checks the current load on each reverse proxy web server. 3. If a web-server serves more than a pre- determined number of clients, an idle web server is activated.

- **ADD FEED**

Use Case: Add Feed

Primary Actor: System Agent

Goal in Context: Activating an idle web server

Scenario: 1. Agent decides that a new web server is needed. 2. An idle web server is activated and it starts to stream data to clients.

- **REMOVE FEED**

Use Case: Remove Feed

Primary Actor: System Agent

Goal in Context: Stopping a web server

Scenario: 1. Agent decides that less active web servers are enough. 2. One web server stops streaming

USE CASE DIAGRAM

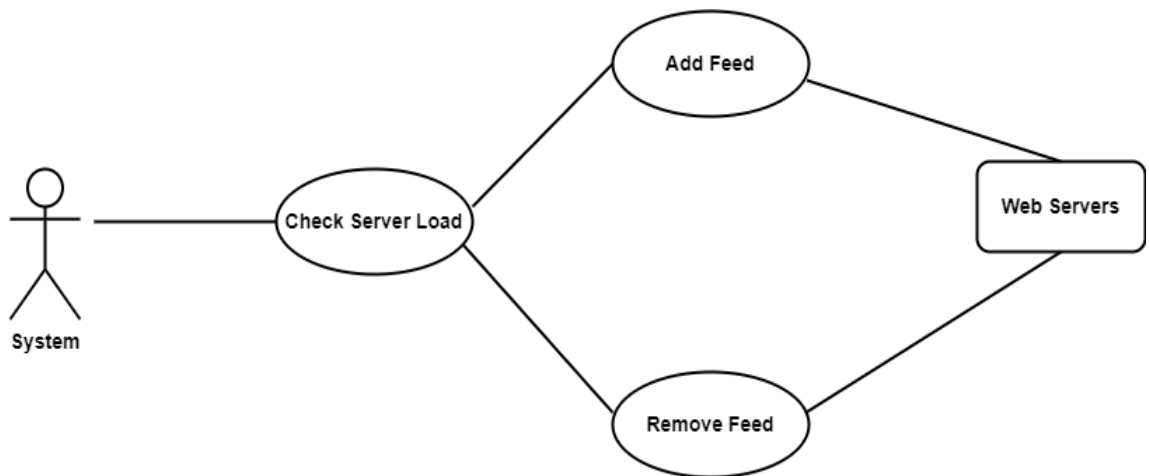


Figure 8 System Function Use Case Diagram

Chapter 4

System Design

Chapter 4: System Design

- Architecture Diagram

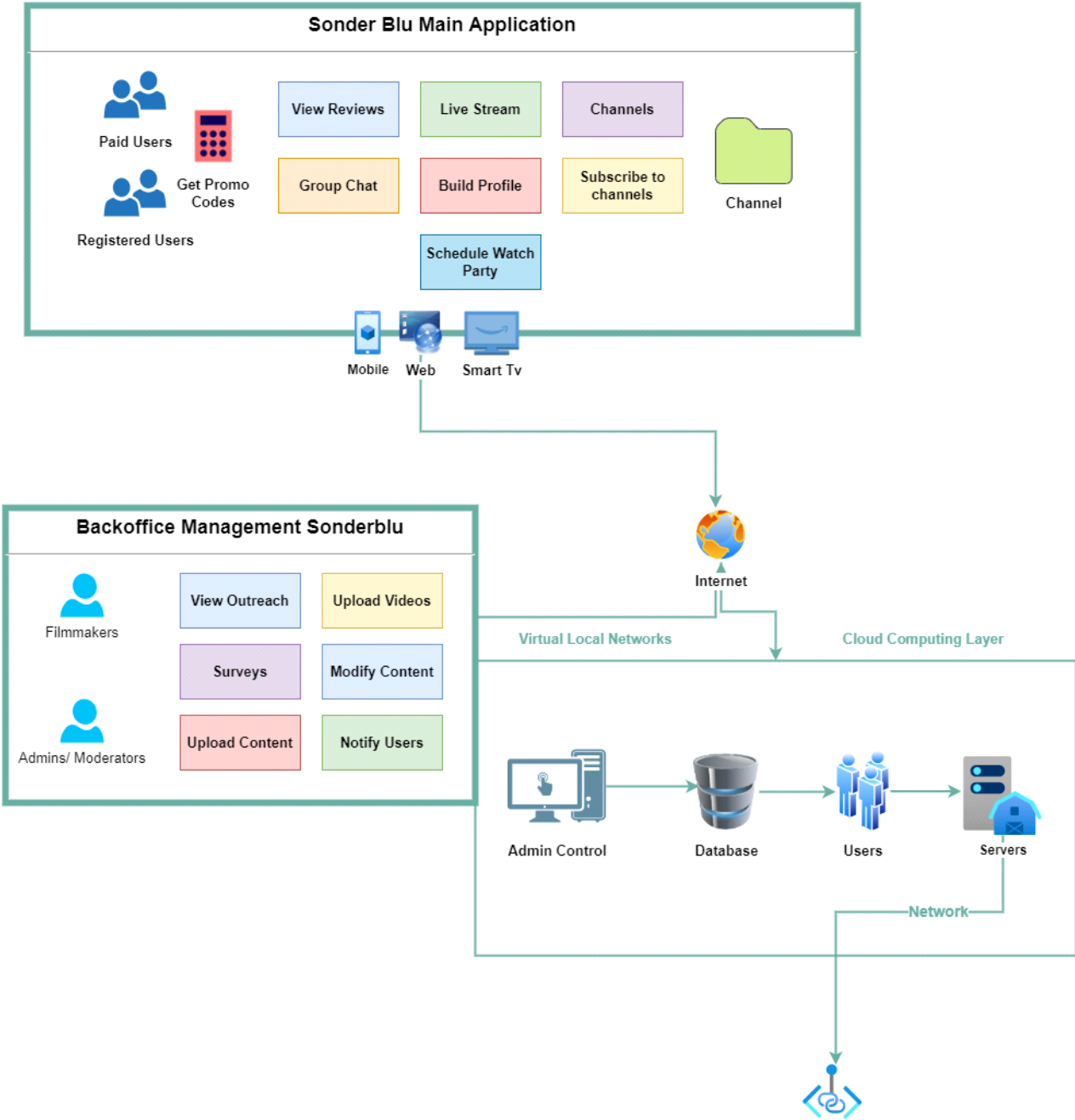


Figure 9 System Architecture Diagram

- Entity Relationship Diagram with data dictionary**

An Entity Relationship Diagram (ERD) is a snapshot of data structures. An Entity Relationship Diagram shows entities (tables) in a database and relationships between tables within that database. For a good database design, it is essential to have an Entity Relationship Diagram.

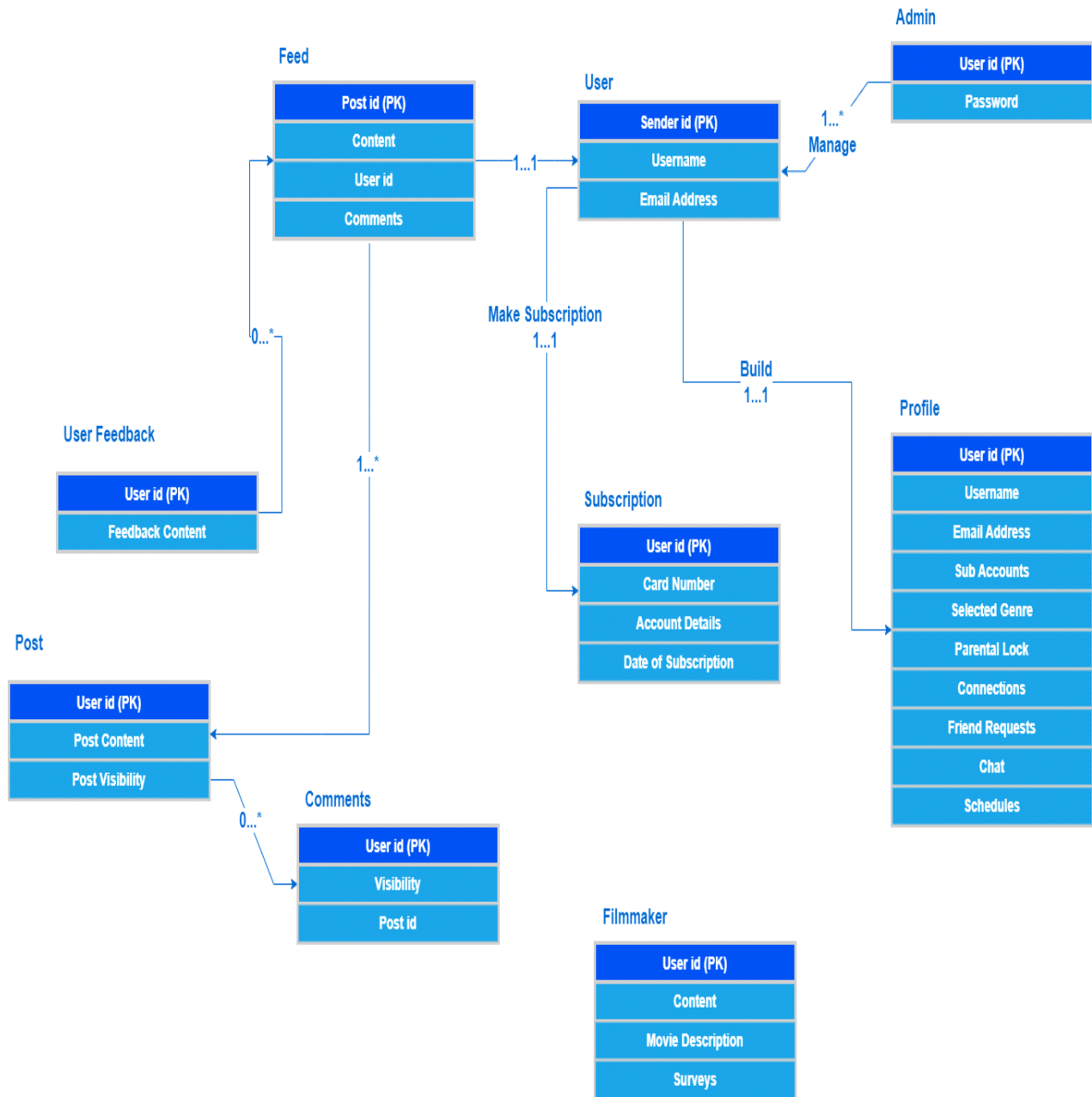


Figure 10 Entity Relationship Diagram

- **Class Diagram**

In software engineering, a class diagram in the Unified Modelling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

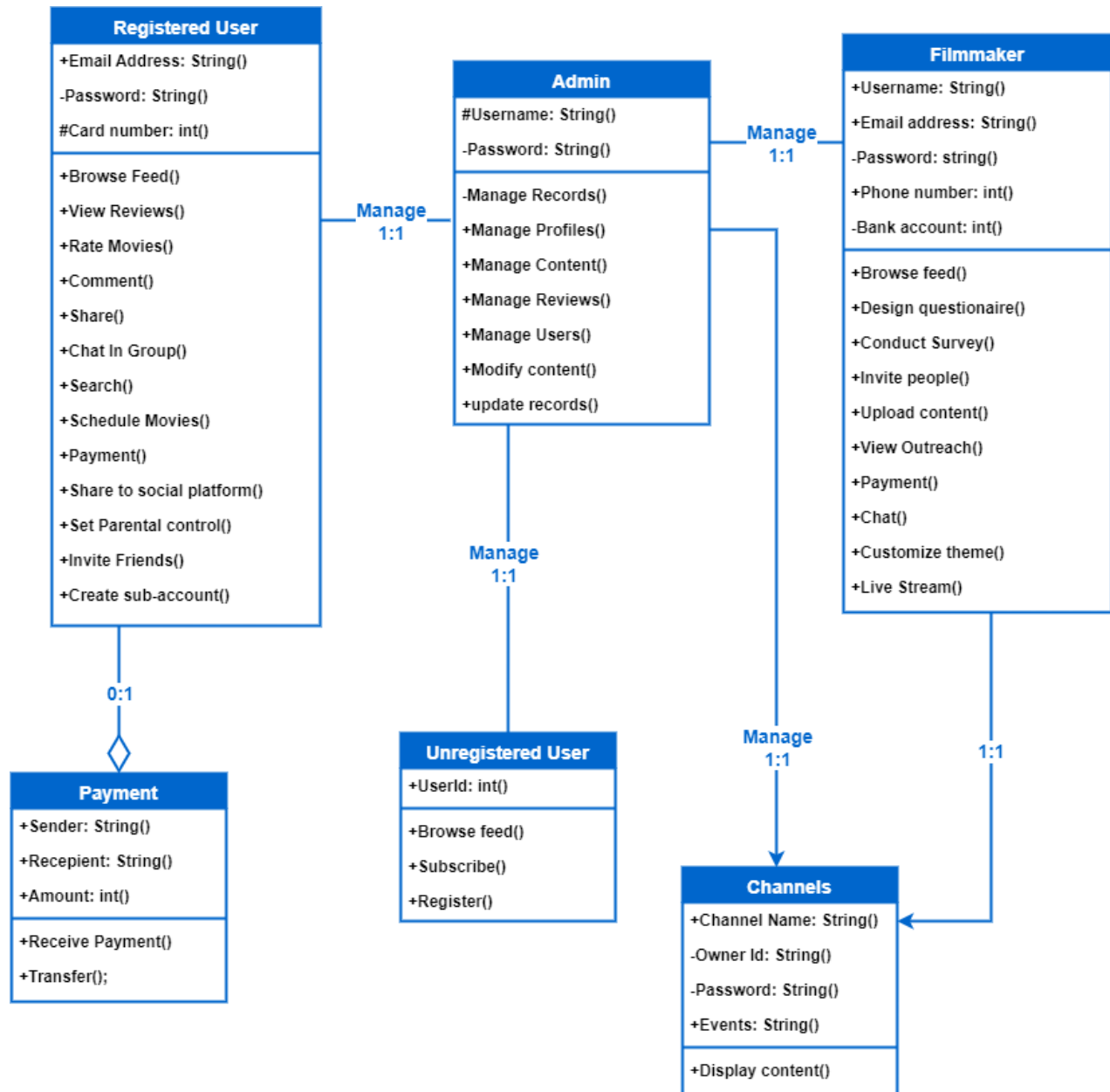


Figure 11 Class Diagram

Classes playing a key role in this system as follows.

1. User: Uses the video database
2. Administrator: Manages the videos
3. Database: Contains the Video Details, User Details etc. All the other classes like Account, Video, Viewer, Up loader, Downloader etc. can be understood from their names. Hence, the Class Diagram of Online Video Management System.

• **Video Management Class Diagram**

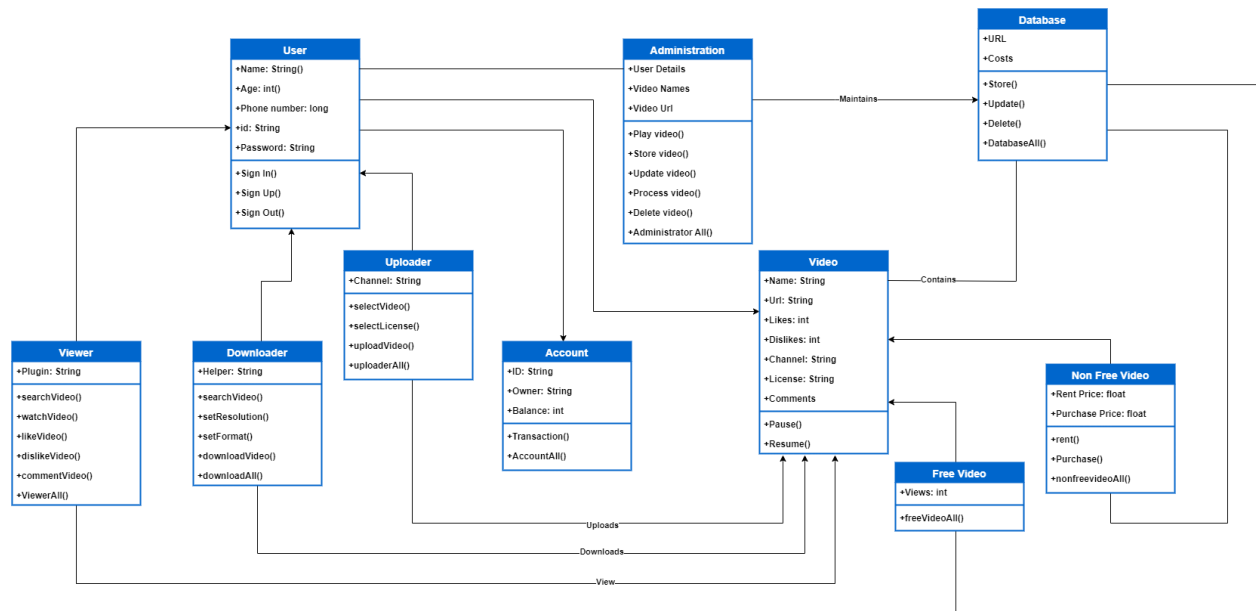


Figure 12 Video Management Class Diagram

• System Class Diagram

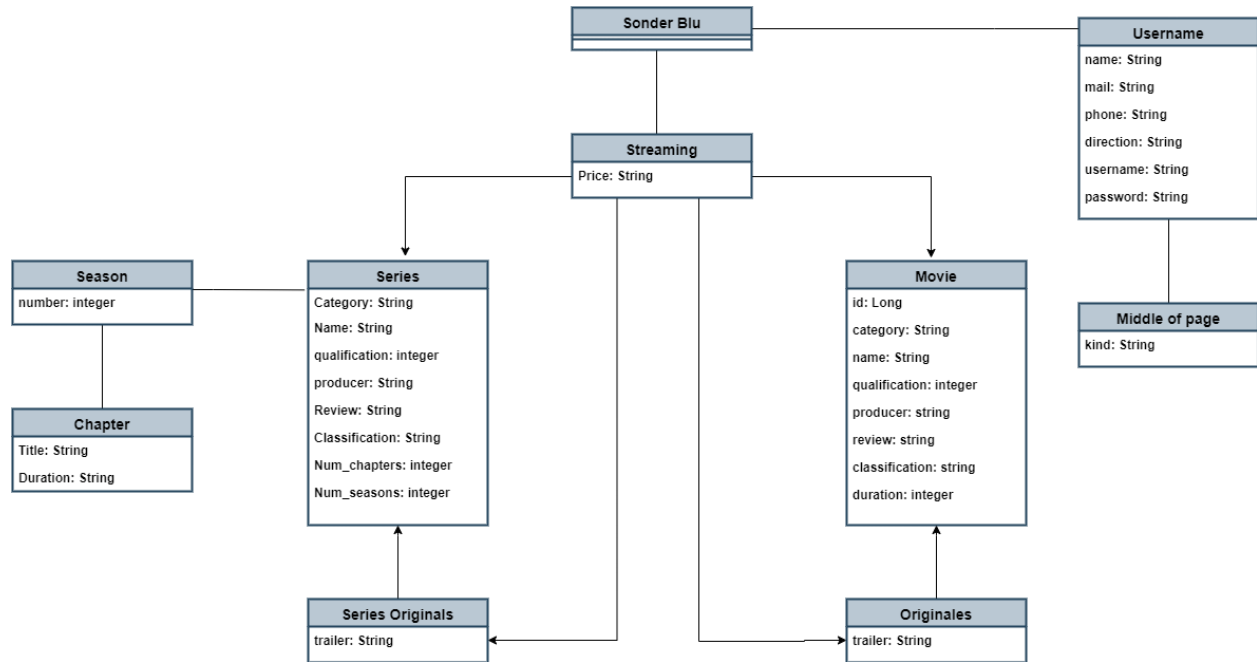


Figure 13 System Class Diagram

- **Sequence / Collaboration Diagram**

A sequence diagram simply depicts interaction between objects in a sequential order i.e. the order in which these interactions take place. We can also use the terms event diagrams or event scenarios to refer to a sequence diagram

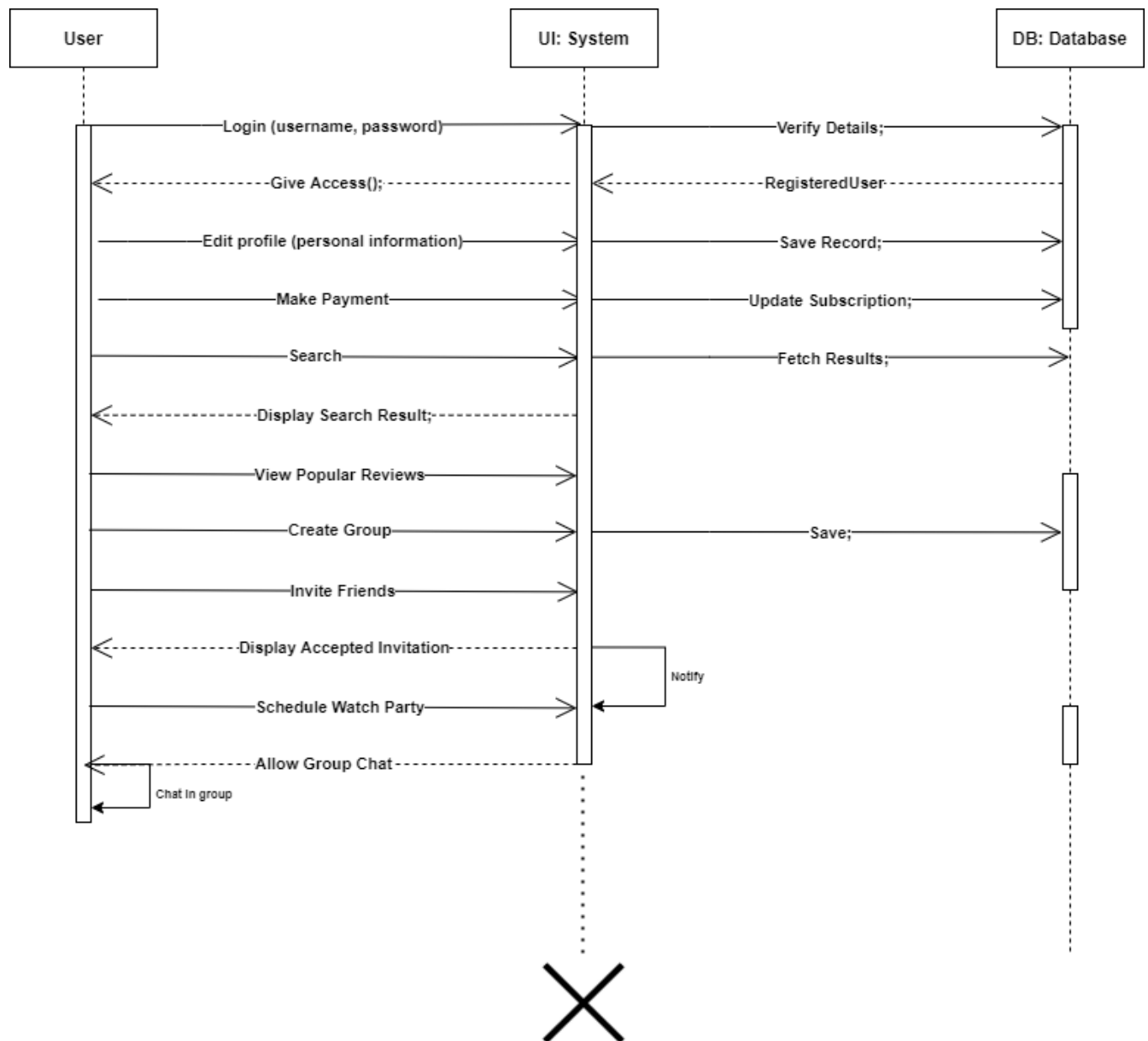


Figure 14 User Sequence Diagram

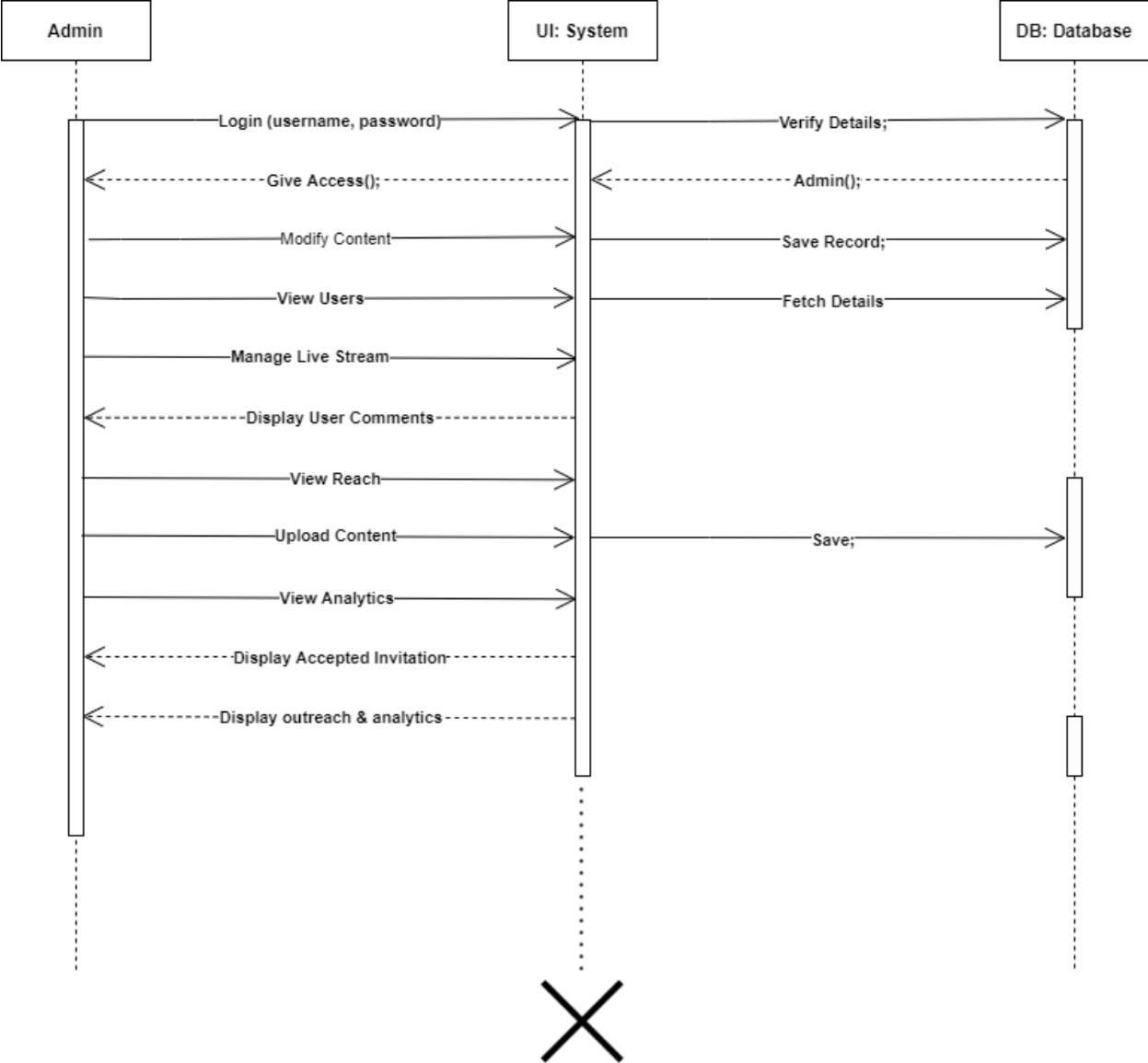


Figure 15 Admin Sequence Diagram

CONTROL PLANE

This component will mainly comprise of three modules: Content Uploader, CDN Health Checker, and Title Indexer. Each of these modules will be a micro-service performing a specific task. We have covered details of each of these modules in the section below.

CONTENT UPLOADER

CDN Health Checker, and Title Indexer. Each of these modules will be a micro-service performing a specific task. We have covered details of each of these modules in the section below.

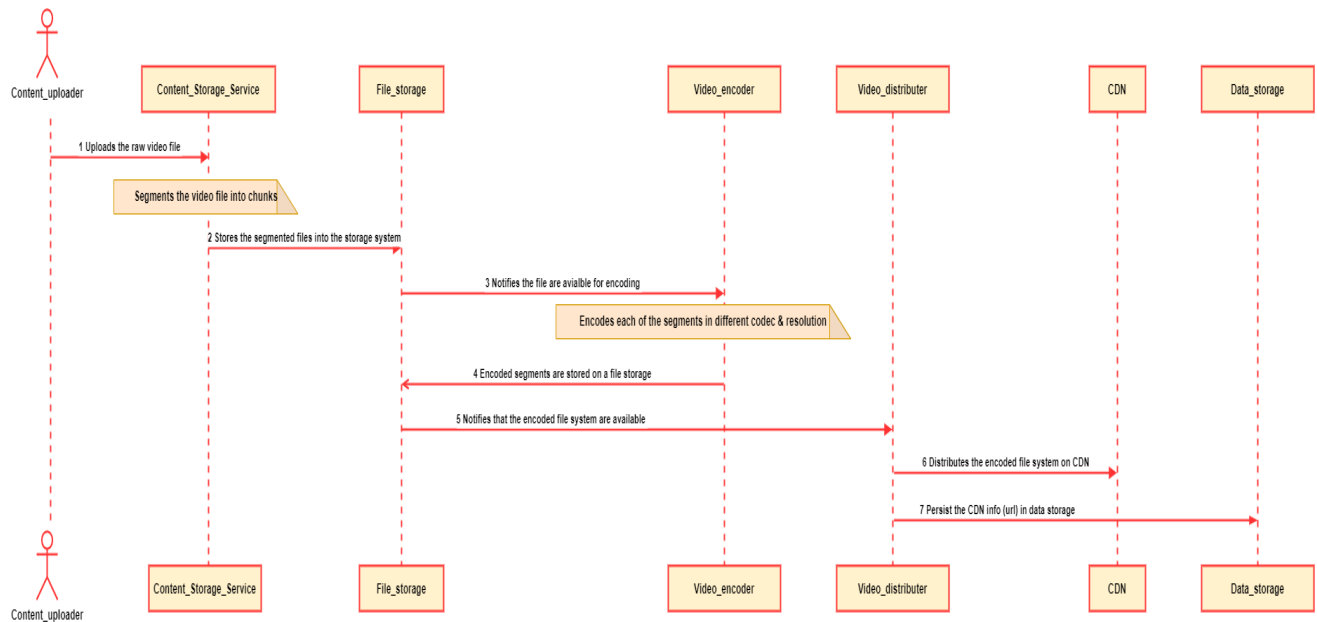


Figure 16 Content Upload Sequence Diagram

The diagram above depicts the sequence of operations which gets executed when content creators upload the video content (TV Show or movie).

1. The content creator uploads the raw video content which can be TV Show or movie.
2. The Content_Storage_Service segments the raw video file into chunks and persists those segments on the file storage system.
3. The Video_Encoder encodes each of the segments in different codec and resolution.
4. The encoded file segments are stored in the file storage.
5. The Video_Distributor reads the encoded file segments from the distributed file storage system.
6. The Video_Distributor distributes the encoded file segments in CDN.
7. The Video_Distributor persists the CDN url links of the videos in the data_storage.

VIDEO ENCODER

The encoder works by splitting the video file into smaller video segments. These video segments are encoded in all possible combinations of codecs and resolutions. In our example, we can plan on supporting four codecs(Cinepak, MPEG-2, H.264, VP8) and three different resolutions(240p, 480p, 720p). This implies that each video segment gets encoded in a total of 12 formats(4 codecs * 3 resolutions). These encoded video segments are distributed across the CDN and the CDN url is maintained in the data store. The playback api is responsible for finding the most optimal CDN url based on the input parameters(client's device, bandwidth, and so forth) of user requests.

CDN HEALTH CHECKER

This module ingests the health metrics of the CDNs and persists them in the data storage. This data is used by the data plane to get optimal CDN urls when users request playback.

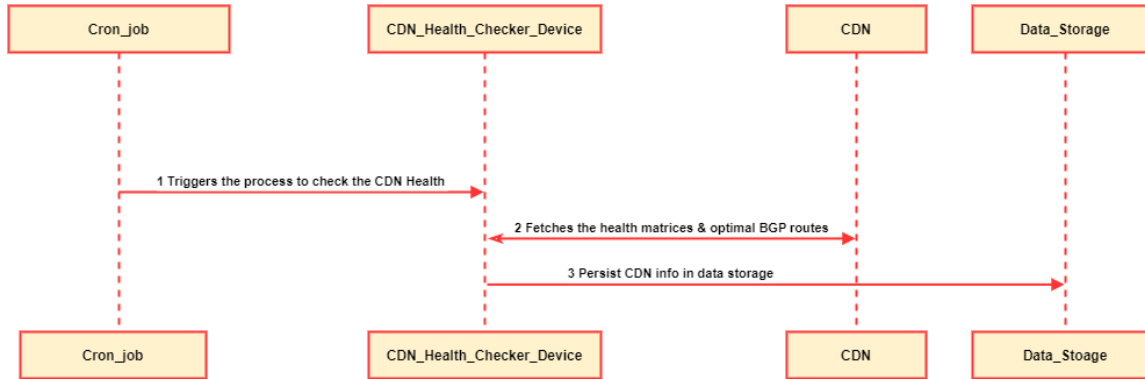


Figure 17 CDN HEALTH CHECKER SEQUENCE DIAGRAM

In the image above, we have shown the sequence of operations which gets executed to get statistics around the CDN health metrics and the BGP routes. The details about each of the steps in the sequence diagram are listed below.

1. The cron job triggers the microservice (CDN_Health_Checker_Service) responsible for checking the health of CDNs.
2. The CDN_Health_Checker_Service is responsible for checking the health of CDNs and collect health metrics and other information.
3. The CDN_Health_Checker_Service persists the CDN info in the data store which is then used in the data-plane to find the optimal CDNs from which files can be served based on their file availability, health, and network proximity to the client.

TITLE INDEXER

This module is responsible for creating the indexes of the video titles and updates them in the elastic search to enable faster content discovery for end users.

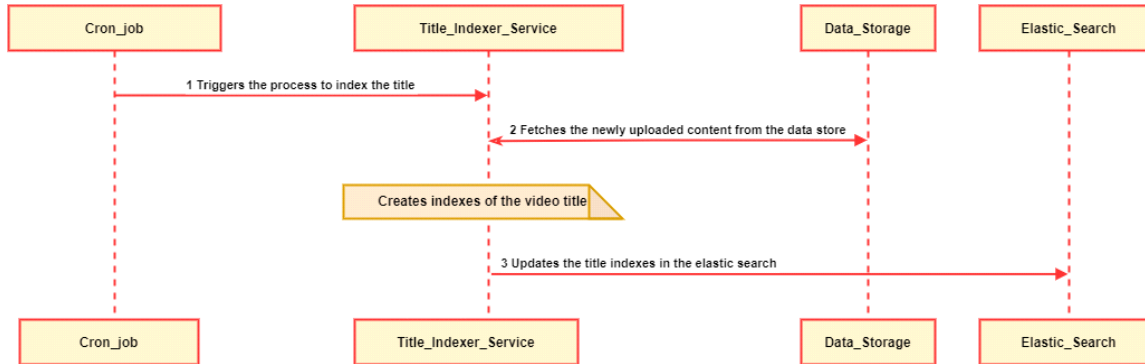


Figure 18 SEQUENCE DIAGRAM TO STORE INDEXED TITLES ON ELASTICSEARCH

DATA PLANE

This component will be processing the user requests in real-time and will comprise of two major workflows: Playback Workflow and Content Discovery Workflow.

PLAYBACK WORKFLOW

This workflow is responsible for orchestrating operations when a user places a playback request. It coordinates between different micro services such as Authorization Service (for checking user authorization and licensing), Steering Service (for deciding the best playback experience) and Playback Experience Service (for tracking the events to measure playback experience). Steering Service ensures the best customer experience by finding the most optimal CDN url based on user request such as user's device, bandwidth and so forth. The orchestration process will be handled by the Playback_Service as shown in the image below.

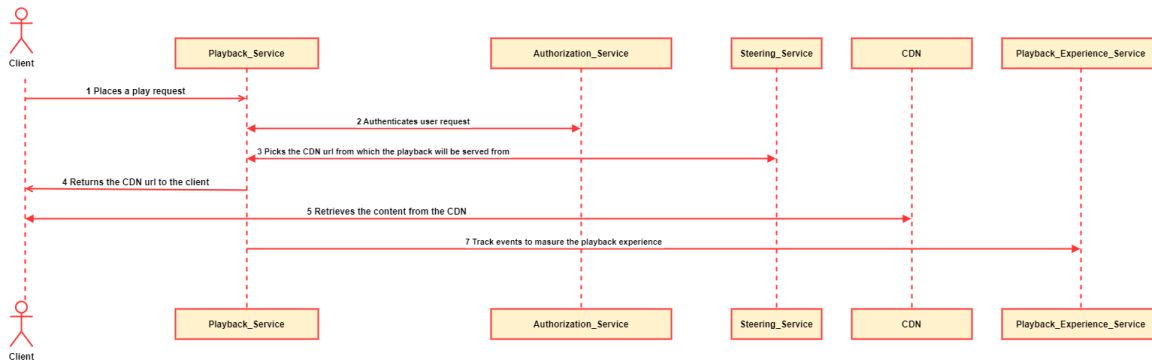


Figure 19 PLAYBACK SERVICE SEQUENCE DIAGRAM

The details about each of the steps in the sequence diagram is listed below.

1. The client places a request to playback a video which gets directed to the Playback_Service.
2. The Playback_Service calls the Authorization_Service to authenticate users request.
3. The Playback_Service calls the Steering_Service to pick the CDN url from which the playback can be served.
4. The CDN url is returned to the client(mobile/TV).
5. The client retrieves the content from CDN.
6. The client publishes the events for the playback experience to the Playback_Service.
7. The Playback_Service tracks events to measure the playback experience by calling the Playback_Experience_Service.

CONTENT LOOKUP WORKFLOW

This workflow is triggered when user searches for a video title and comprises of two micro services:

Content Discovery Service and Content Similarity Service. The Content Discovery Service gets invoked when user requests for the video title. On the other hand, the Content Similarity Service returns the list of similar video title if the exact video title doesn't exist in our data-store.

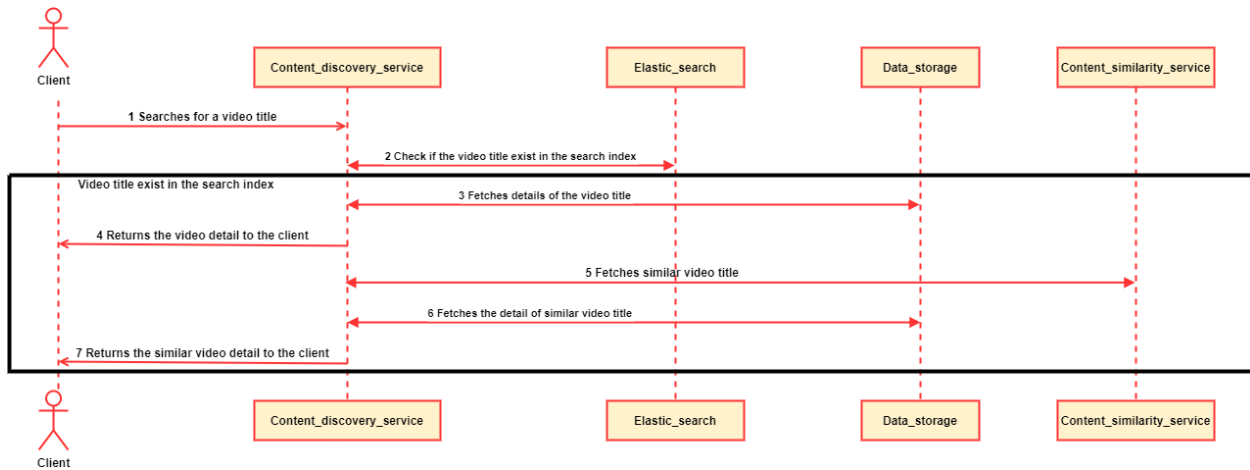


Figure 20 SEQUENCE DIAGRAM OF CONTENT LOOKUP WORKFLOW

We have listed below details of each of the steps involved in the Content Lookup Workflow.

1. The client searches for a video title.
2. The Content Discovery Service (CDS) queries the Elastic Search to check if the video title exists in our database.
3. If the video title can be found in the elastic search then CDS fetches the details of the video from the data store.
4. The video details are returned to the client.
5. CDS queries the Content Similarity Service (CSS) if the title doesn't exist in our database. CSS returns the list of similar video titles to CDS.
6. CDS fetches the video details from the data-store for those similar video titles.
7. CDS returns the similar video details to the client.

- Activity Diagram**

An activity diagram is a behavioral diagram i.e., it depicts the behavior of a system. An activity diagram portrays the control flow from a start point to a finish point showing the various decision paths that exist while the activity is being executed.

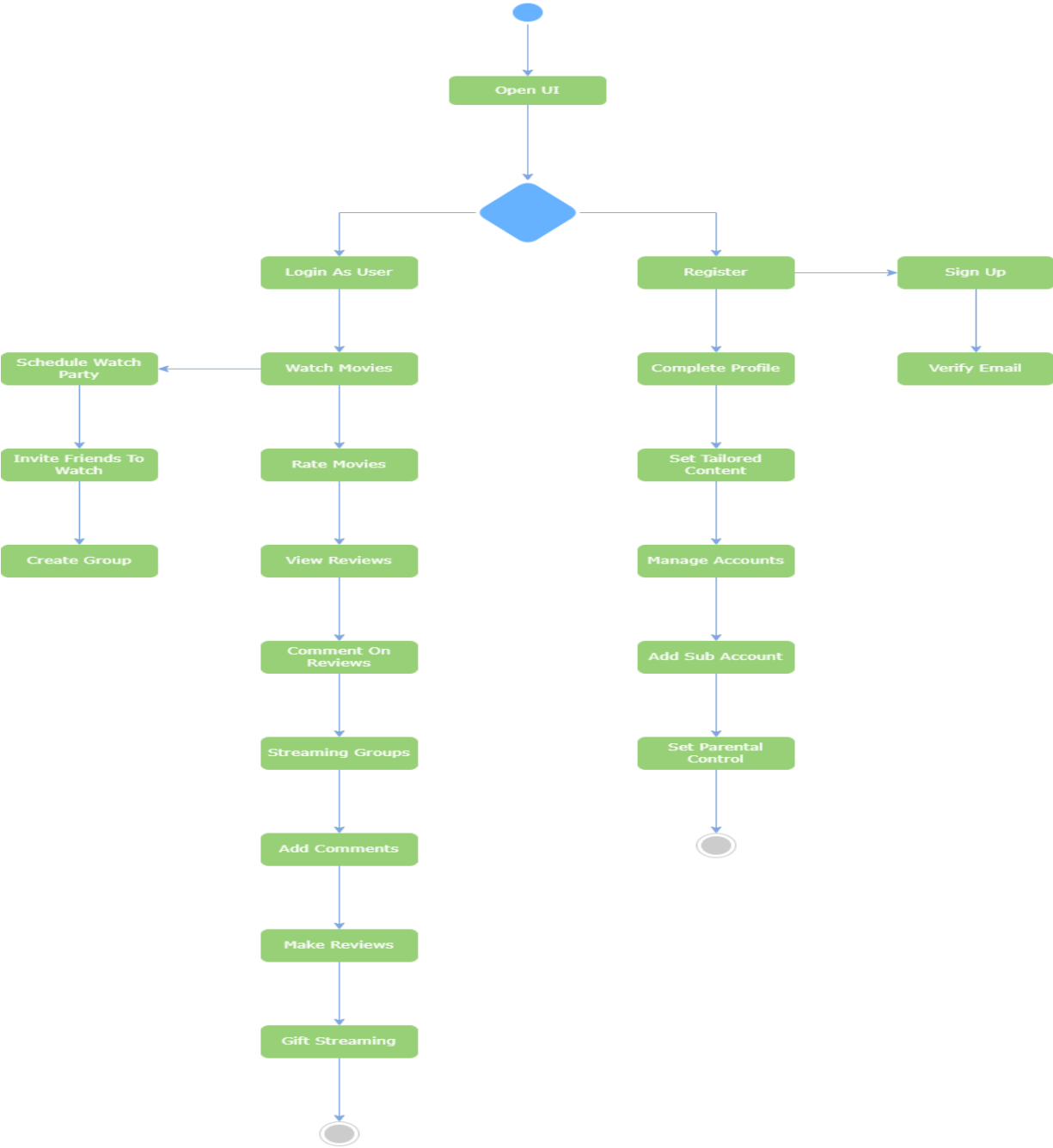
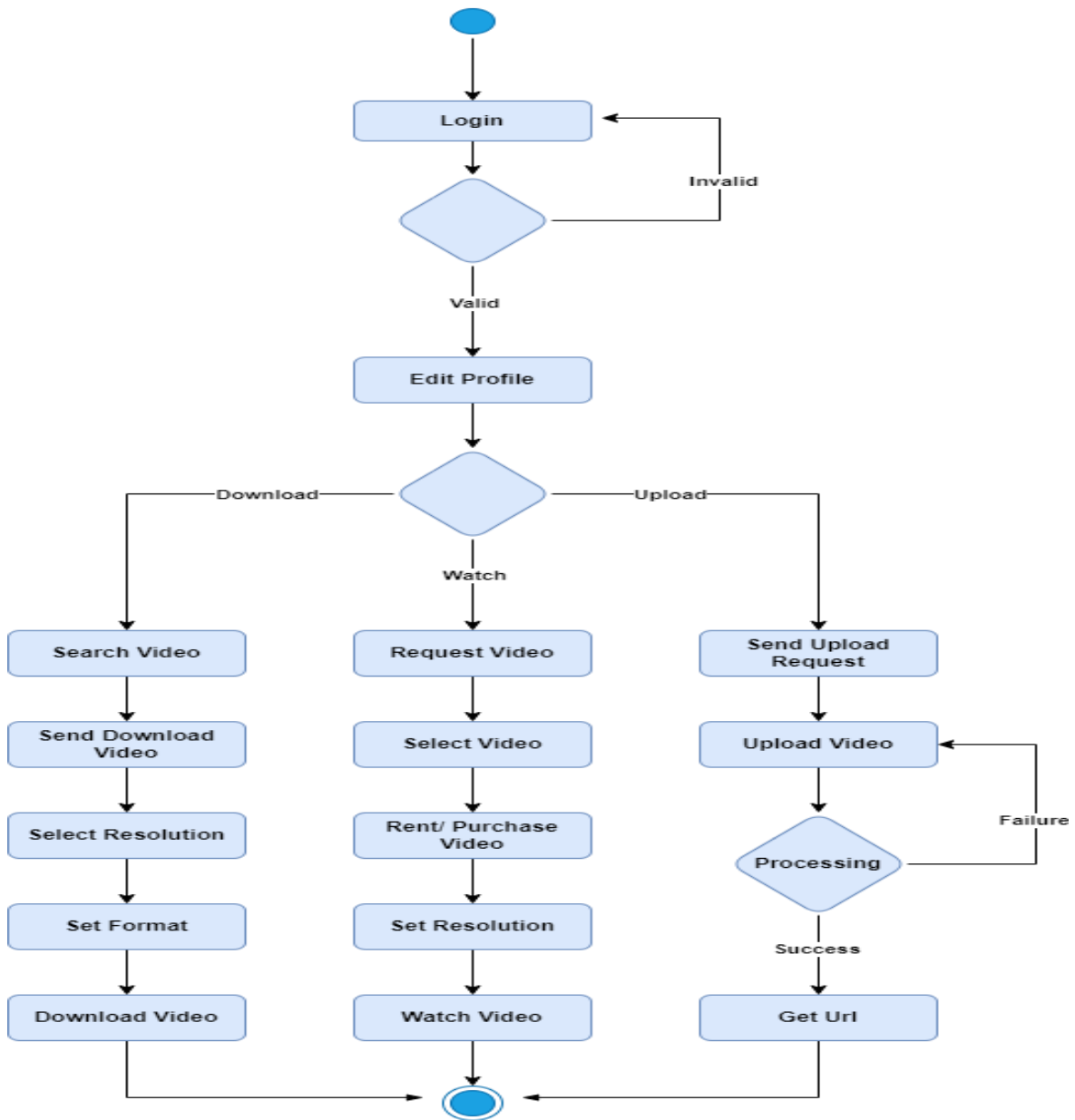


Figure 21 Activity Diagram

It represents the system as a flow of activities i.e. similar to a flow chart.



Chapter 5

Implémentation

Chapter 5: Implémentation

Implementation is that how we will implement our project. This describes how the flow of the project will move, With respect to both client and programmer. This will contain the flow control which will describe how the project works. The component and libraries that are been used in project implementation.

1. Important Flow Control/Pseudo codes

This is the control flow of the App.

- User will open the App.
- Will login or register in it?
- They will search and select and video they liked.
- Client can chat.
- Second Client can reply to the client.

2. Components, Libraries, Web Services, and stubs

Next Js: Next-Bootstrap, Material-UI(MUI), antd or core UI or Next itself things

3. Deployment Environment

We have designed our frontend in Next Js using visual studio code and storage and all in firebase

4. Tools and Techniques

Tools:

- Visual Studio Code
- Firebase

Technology:

- **Front-End:** React.Js
- **Database:** firebase

5. Best Practices / Coding Standards

Component-Based Model

Component based model would be used to complete this project.

- **Import:** Import libraries and packages to for Next Js.
- **APIs:** APIs for the coordination of Next Js and firebase
- **Packages and Modules:** Packages and module name should be use for implementations.

6. Version Control

This is the version 1.0.0 of the project. Have made the complete design of the app. And start making the front end in Next Js. User signup and Sign in are completed yet.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

Software Testing is evaluation of the software/ system against requirements gathered from users and system specifications. Testing is conducted at the phase level in software development life cycle or at module level in program code depending on the approach model. While software evaluation is a type of assessment that seeks to determine if software or a combination of software programs is the best possible fit for the needs of a business/ client.

1. Use Case Testing

Use case testing is a technique that helps to identify test cases that cover the entire system, on a transaction-by-transaction basis, from start to finish. It is a description of a particular use of the system at the end of user. It is used widely in developing tests or systems for acceptable levels.

2. Equivalence partitioning

Equivalence partitioning which is also known as Equivalence Class Partitioning. In this method, the input domain data is divided into different equivalence data classes – which are generally termed as ‘Valid’ and ‘Invalid’. The inputs to the software or system are divided into groups that are expected to exhibit similar behavior. Thus, it reduces the number of test cases to a finite list of testable test cases covering maximum possibilities.

3. Boundary value analysis

It is a Black-Box testing technique used to check the errors at the boundaries of an input domain. The name comes from the boundary, which means the limits of an area. So, BVA mainly focuses on testing both valid and invalid input parameters for a given range of a software component. The basic idea in normal boundary value testing is to select input variable values at their:

- Minimum

- Just above the minimum

- A nominal value

Just below the maximum

Maximum

4. Data flow testing

This testing technique emphasize to cover all the data variables included in the program. It tests where the variables were declared and defined and where they were used or changed.

5. Unit testing

While coding, the programmer performs some tests on that unit of program to know if it is error free. Testing is performed under white-box testing approach. Unit testing helps developers decide that individual units of the program are working as per requirement and are error free.

6. Integration testing

Even if the units of software are working fine individually, there is a need to find out if the units if integrated together would also work without errors. For example, argument passing and data updating etc.

7. Performance testing

This test proves how efficient the software is. It tests the effectiveness and average time taken by the software to do desired task. Performance testing is done by means of load testing and stress testing where the software is put under high user and data load under various environment conditions.

8. Stress Testing

Stress testing verifies the stability and reliability of the system. This test particularly determines the system on its robustness and error handling under extremely heavy load conditions.

Chapter 7

Screenshots and Code

7.1. Sign up

START YOUR MEMBERSHIP

Create New Account

Already have an Account? [Sign in](#)

Email

Password

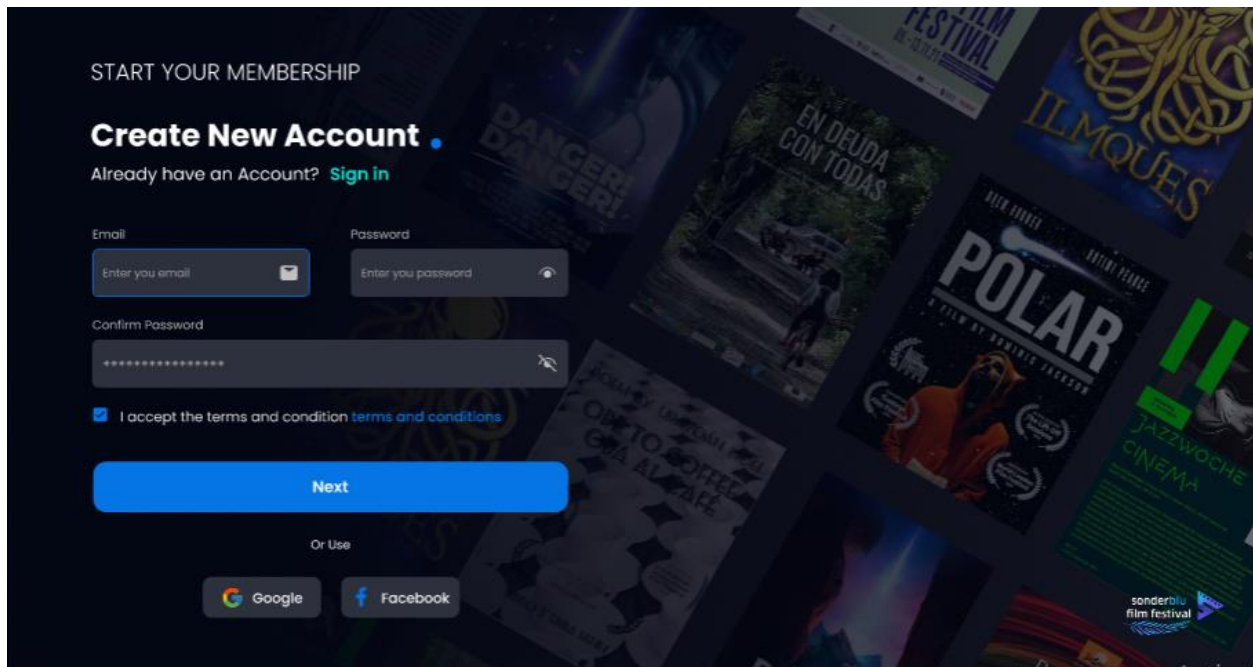
Confirm Password

I accept the terms and condition [terms and conditions](#)

[Next](#)

Or Use

[Google](#) [Facebook](#)



7.2. Sign in

Welcome Back

Have a Good Movie Day

Don't have an account yet? [Sign up](#)

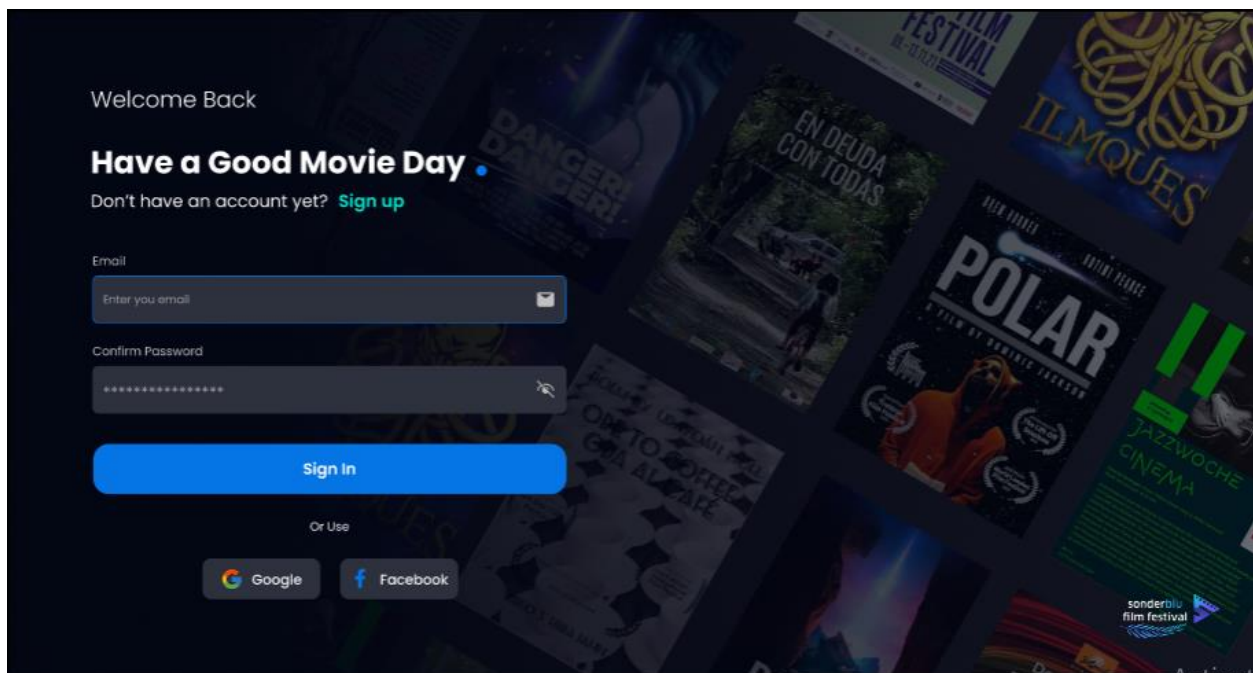
Email

Confirm Password

[Sign In](#)

Or Use

[Google](#) [Facebook](#)



7.3. Payment

Choose your plan.

- ✓ No commitments, cancel anytime.
- ✓ Everything on Sonder Blue for one low price.
- ✓ No ads and no extra fees.

\$8/m Mobile Upto 1 connection	\$14/m Basic Upto 3 connections
\$22/m Standard Upto 5 connections	\$29/m Premium Upto 5 connections

All pricing in USD and renews automatically unless cancelled. Event completions count towards your total page views per month. If you need more than 50 sites, get in touch for pricing.

Next

All plans include: Monthly Entire Festival

- ✓ Good Video Quality
- ✓ 720 Resolution
- ✓ You can watch on Phone | Tablet | Computer | TV
- ✓ Free Trial
- ✓ Cancel anytime
- ✓ Privacy lay compliance
- ✓ Join unlimited groups

Have you the promo code?

Enter Promo Code **Apply**

Discounted Price

Sub total: **\$14**

7.4. Verification code:

We sent you a code

Please, enter it below to verify your email

johndoe@gmail.com

7 _ _ _ _ _

Don't reviewed code yet? [Send Again](#)

Sonderblue film festival

7.5. Pricing plan:

sonderblu
film festival

Plan Summary

- ✓ Good Video Quality
- ✓ 720 Resolution
- ✓ Cancel Anytime
- ✓ Free Trial

Purchase Summary

Customer Name	John Doe
Date	04-04-2022
Plan	Monthly
Total Due	\$14
Promo Code	G45F

Final Amount Due **\$12**

Sonderblu, Inc. XYZ street abc street, USA

All pricing in USD and renews automatically unless cancelled. Event completions count towards your total page views per month. If you need more than 50 sites, get in touch for pricing.

Enter Your Credit or Debit Card

VISA MASTERCARD AMERICAN EXPRESS DISCOVER

Enter 14 digit card number

Expiration date (MM-YY)

Security code (CVV)

\$14/month Basic [Change](#)

Your payments will be processed internationally. Additional bank fees may apply.

I agree Powered by [stripe](#)

[Start Membership](#)

7.6. Biography Section:

Biography

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquet proin sit in nunc, leo tortor. Metus fringilla elit donec sed malesuada pulvinar eget faucibus. Lectus est ut potenti consectetur lectus sollicitudin leo, augue massa. Aliquam penatibus amet donec lectus sit commodo lorem. At mollis commodo feugiat turpis eu.

POLYTECHNIQUE SICARIO PRISONERS INCEN

7.6. Film maker:

Denis Villeneuve

“
"F filmmaking is a chance to live many lifetimes."
”

Why I became a Film Maker?

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

My Production

- Sicario
- Blade Runner 2049
- Arrival
- Prisoners
- Incendies

7.7. Movie player:

Blade Runner

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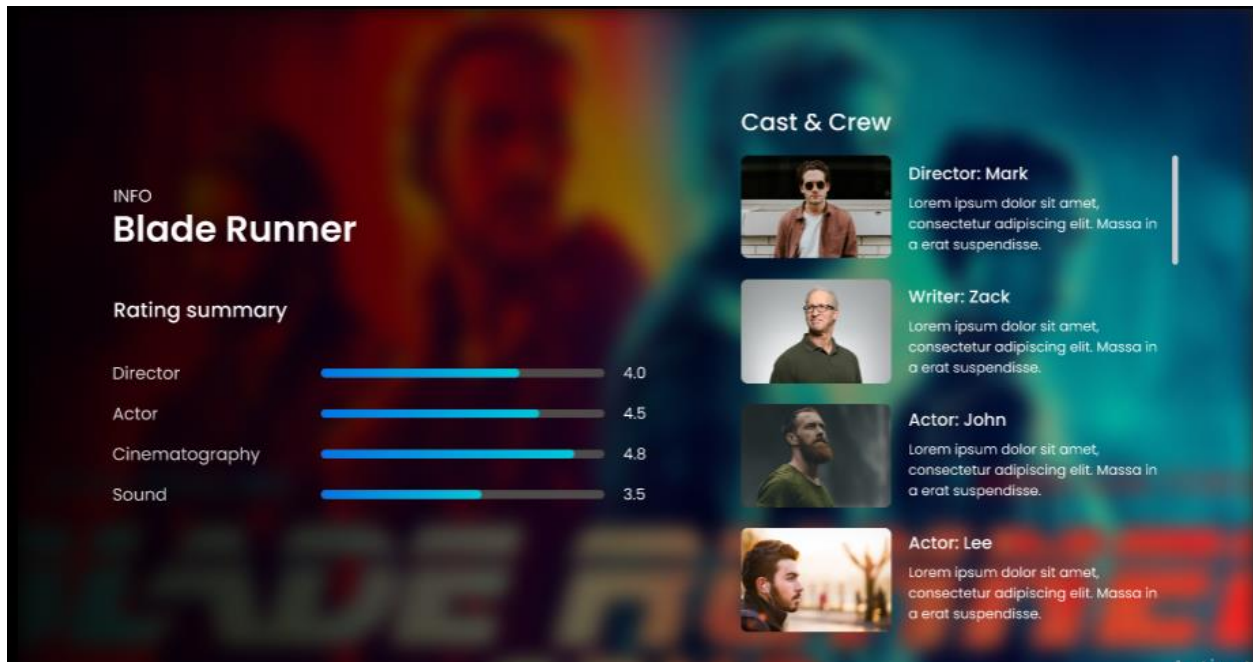
[Play](#) [More Info](#) [+](#)

RYAN GOSLING

HARRISON FORD

BLADE RUNNER

7.8. More info:



Blade Runner

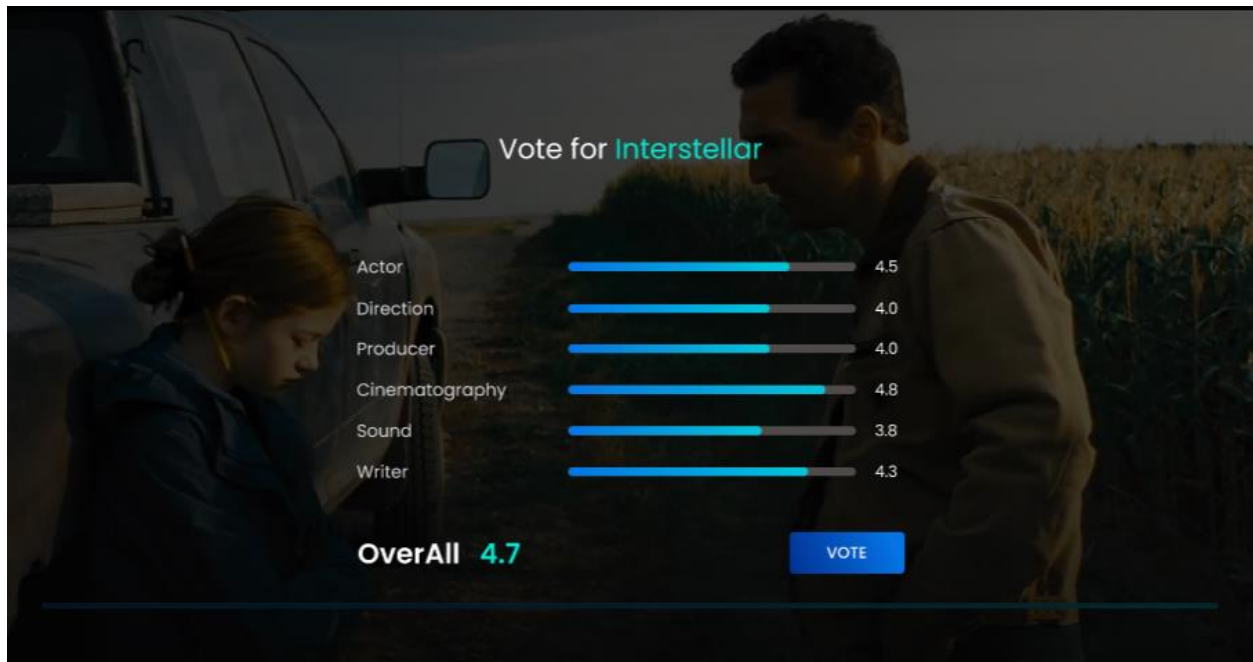
Rating summary

Director	4.0
Actor	4.5
Cinematography	4.8
Sound	3.5

Cast & Crew

- Director: Mark**
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Massa in a erat suspendisse.
- Writer: Zack**
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Massa in a erat suspendisse.
- Actor: John**
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Massa in a erat suspendisse.
- Actor: Lee**
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Massa in a erat suspendisse.

7.9. When movie end (Rating)



Vote for **Interstellar**

Actor	4.5
Direction	4.0
Producer	4.0
Cinematography	4.8
Sound	3.8
Writer	4.3








OverAll 4.7

VOTE

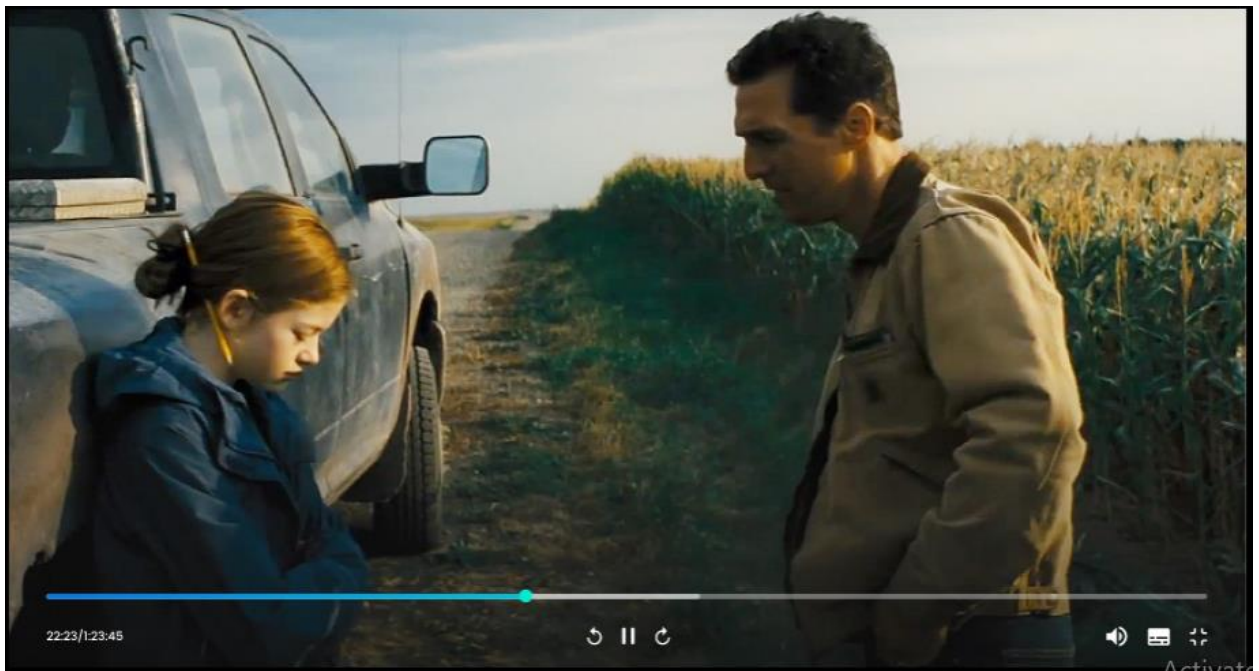
Thank You for Casting Your Ballet!

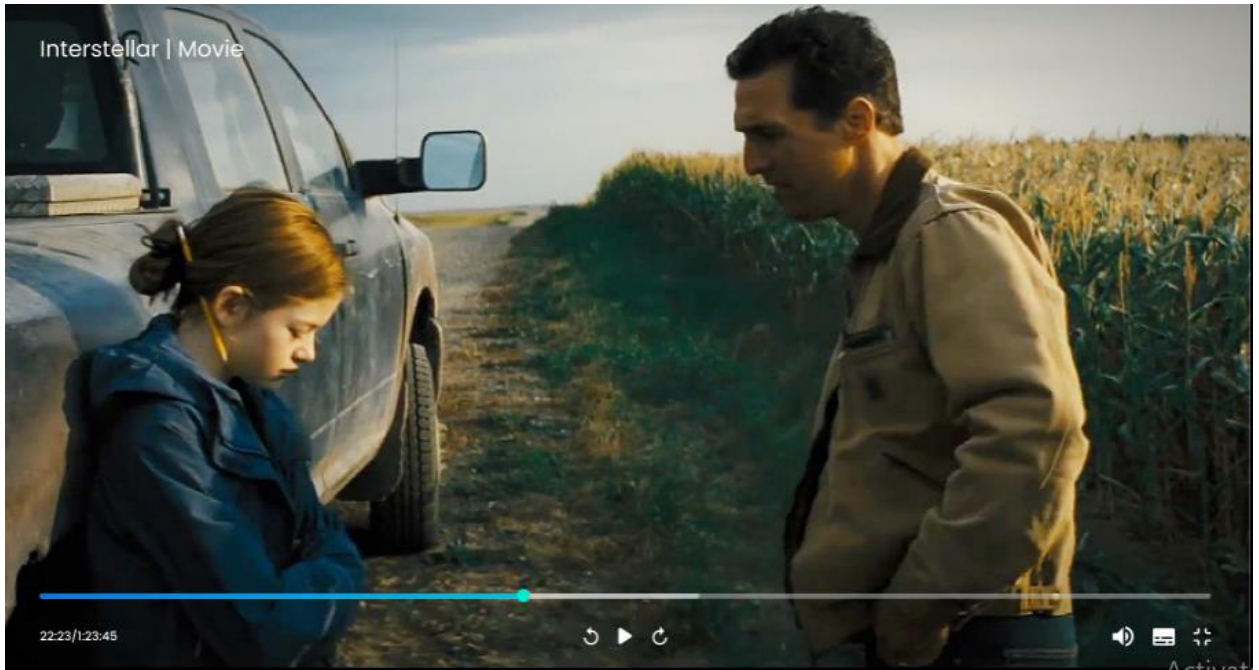
Go Watch More Films

Categories [View all categories](#)

						
Feature Film	Feature Documentary	Short Film	Adventure	Animated Feature	Horror	Animated Short

7.10. Video pause and play:





7.11. Premium plan:

The website uses cookies

Some are used for statistical purposes and others are set up by third party services. By clicking "Accept all", You accept the use of cookies. [About cookies](#)

- Strictly necessary** Strictly necessary cookies help make a website navigable by activating basic functions such as page navigation and access to secure website areas. Without these cookies, the website would not be able to work properly.
- Functional** Functional cookies make it possible to save information that changes the way the website appears or acts. For instance your preferred language or region.
- Statistical** Statistical cookies help the website owner understand how visitors interact with the website by collecting and reporting information.

The modal is overlaid on a dark background featuring promotional text for a premium plan: "Try Premium Only \$10.99/ Streaming c Watch on a Start your 3 Already have c". The background also includes logos for "FILM FESTIVAL", "ILMQUES", "LAR", "TJZWAACHE CINEMA", and "sanderdu film festival".

Try Premium plan free for 30 days

Only \$10.99/month after free trial

Streaming a variety of movies solo, with friends, or with community

Watch on any device, unlimited time and commercial free

Start your 30-

Already have an

If you decline settings, your experience on the platform will be compromised and limited

Decline

Accept

sanderbilu
film festival

Try Premium plan free for 30 days

Only \$10.99/month after free trial

Streaming a variety of movies solo, with friends, or with community

Watch on any device, unlimited time and commercial free

Start your 30-

Already have an

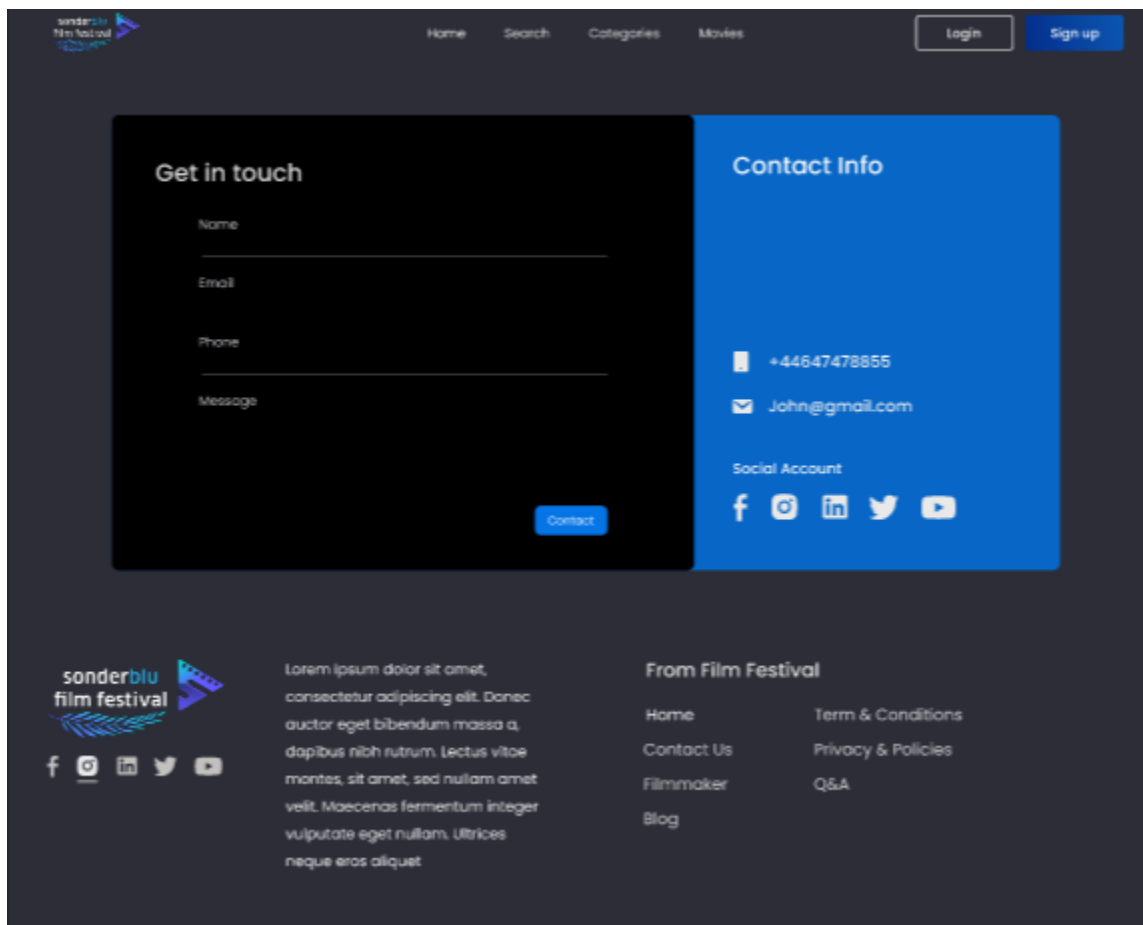
If you don't accept all settings, your experience on the platform will be compromised and limited

Decline

Accept

sanderbilu
film festival

7.12. Contact page :



7.13. FAQ

The FAQ's

Help Center

Your every question's answer about sonder blue film festival will be here

Support

FAQ's

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Is there any free trail on film festival? ▲

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Is there any free trail on film festival? ▼

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[Privacy & Policies](#)

[Q&A](#)

7.14. Terms and conditions:

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Term and Conditions

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Sonderblo Film Festival

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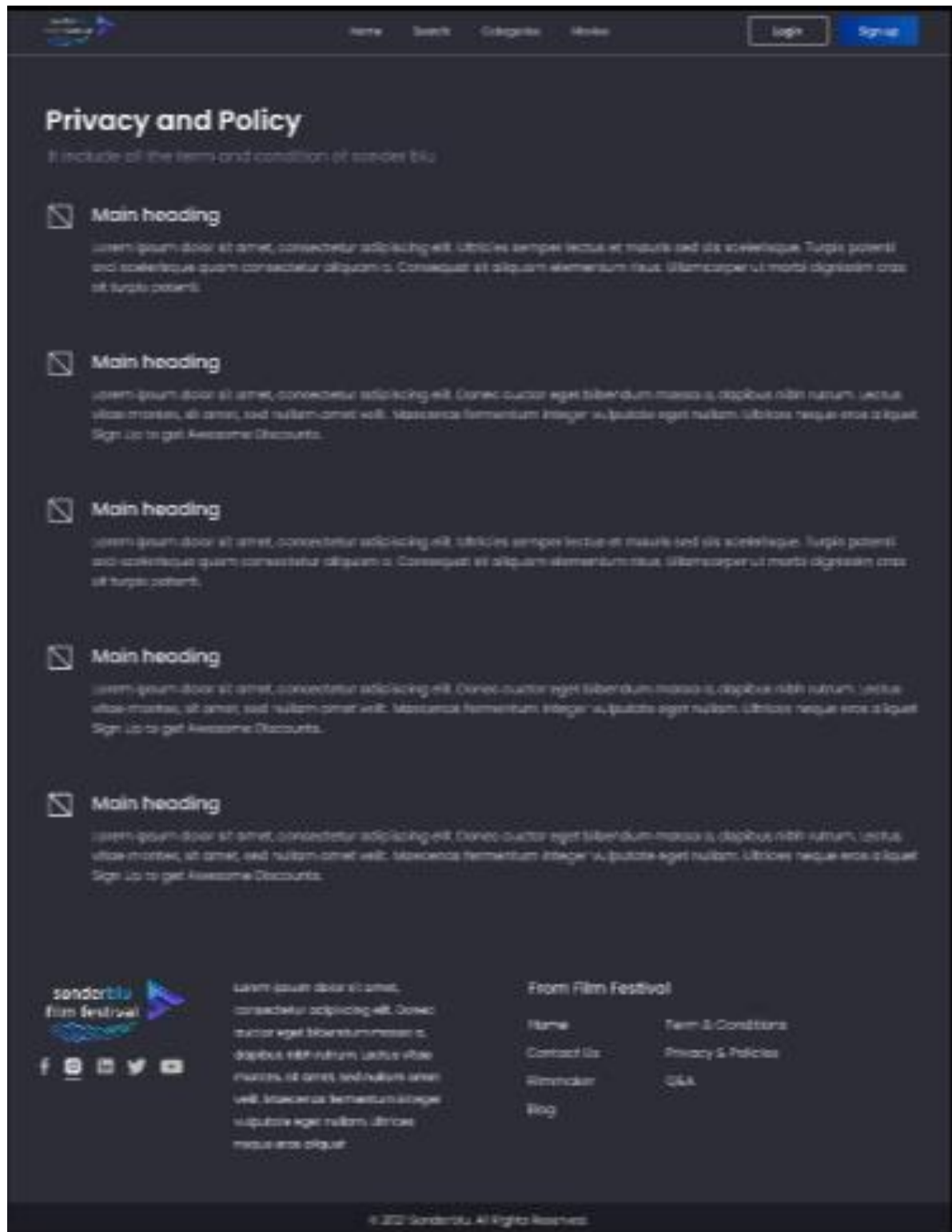
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec auctor eget nisl. Nam nunc est odio. Pellentesque maximus mi tellus, nec ullamcorper congue, risus semper interdum mauris. Nullam varius, nibh in aliquam. Quis lacinia sapien faucibus et molestie ac, auctor adipiscing elit. Ut timeque velit, quam sit ad accipitque. Tunc ut enim dolor, odio amet congue magna aliquam. Et in sed nibh vestibulum mollis et lorem. Egestas magna congue amet accipit.

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sondorbli film festival

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From Film Festival

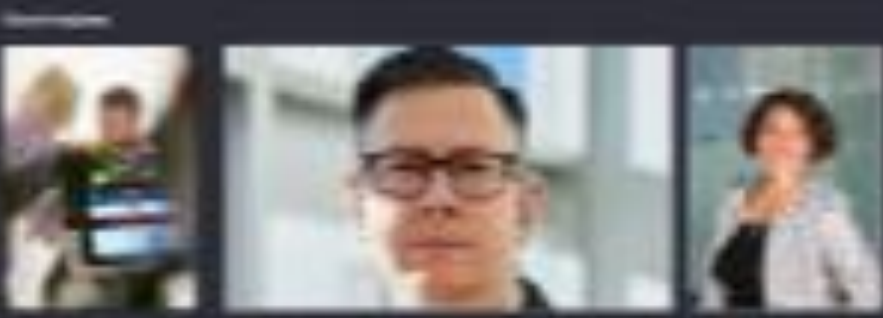
Name	Term & Conditions
Contact Us	Privacy & Policies
Reminder	Q&A
Blog	

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7.16. Landing page :



Nominates Spotlight



View

Julia
Nominating Committee

Julia is a member of the Nominating Committee and is responsible for identifying and recommending candidates for the Board of Directors.

Julia is a member of the Nominating Committee and is responsible for identifying and recommending candidates for the Board of Directors.

7.17. Search :



7.18. category :



7.19. Blog :



Chapter 8

Summary, Conclusion and Future Enhancements

Chapter 8: Summary, Conclusion & Future Enhancements

- **Project Summary**

Scope of the Project To develop an iOS, Android, Smart TV, Fire Devices, Roku, Chrome, and Web application with a focus on connecting friends before, after, and during a movies/videos streaming session using audio, text, and video conferencing with simultaneous controls of Stop, Pause, Play, Rewind. Additionally, creating social communities around movies, television, and filmmakers that include individual user to user recommendations, User to friend group reviews, and entire platform reviews of movies, TV, and trailers. Also, providing filmmakers with tools to develop an audience for their content using user data and customer analytics. The back end/administrative/production side will enable us to input Content, Customer relationship management and get the user analytics to create a unique user experience, with accurate search that match streaming partners based on mutual similar taste, friends viewing recommendations and views, and the user's usage

- **Achievements and Improvements**

The system will allow users to select and view videos when they want instead of watching them when they are broadcasted. An IPTV (internet protocol television) system will be used to stream videos to the customers' TV and personal computers. IPTV is a system that allows delivery of video content using IP (internet protocol) suite over a packet-switched networks such as internet or LAN, rather than satellite or cable. Unlike traditional video broadcast methods, IPTV allow the s streaming of videos in small batches directly from the source. Due to this, the client can start playing the movie before it is fully transferred. Users will be able to watch, rate, share with friends and schedule a movie on their mobile, personal computer or television using this system

- **Critical Review**

Competitors

- Disney Plus. Disney Plus is the top Netflix competitor for many reasons. ...
- HBO (Home Box Office) ...
- Hulu. ...
- Amazon Prime Video. ...
- Peacock. ...
- Apple TV Plus. ...
- YouTube TV.
- Netflix

- **Future Enhancements/Recommendations**

Firstly Bring Back Free Trials. Everybody loves free stuff. Even if you don't even want something, you may get it if it's free. Sometimes viewers need a little encouragement to sign up for content, and free trials do just that. Secondly, the Ability to Share Content Directly to Social Media A share button is one of the most basic, yet most important functions of any online platform.

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