Chatflix

A community where television and silver screen enthusiasts can discuss highlights of their favorite television shows and movies.

CEN 4010 Principles of Software Engineering

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Team 5

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# Revision Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Revision History** | **Revision Class** | **Comments** |
| 16-FEB-2021 | 0.1 | New | Released new document |
| 06-APR-2021 | 0.2 | Major | Updated High-Level System Architecture. Added new FR12 to Registration and Login Functional Requirements. Re-numbered remaining functional requirements. Added High-Level UML Diagrams. Added Database organization. Added Key Risks. |
|  |  |  |  |

# Executive Summary

Suffering from a Netflix “hangover’? We know post-binge-watching blues is real, especially in the modern age of quarantine. After investing so much time into a captivating show and immersing into a reality outside of your own, a wave of emptiness washes over when you realize you had just finished watching the final episode. Filled with so many questions, comments, and concerns about the show and an urge to further discuss, there must be an outlet to fill this new-found void. We know it’s all you can think about for days post-binge, hence our development of Chatflix!

Chatflix will be a social-networking website that will make it easy for you to connect and share with virtually anyone. The main concept is to build an online community of avid bingers and movie enthusiasts alike to openly chat about any show or movie. Not only will be this be a fandom, but users will also be able to create their own customizable profile, add friends, subscribe to their favorite show or movie’s page, stay up to date with an activity feed, leave reviews, keep track with a watch-list queue, interact in a watch party and more! The purpose is to build a broad social network with emphasis on creating a sense of connection and interaction amongst fellow fans of the film entertainment industry.

# Competitive Analysis

|  |  |  |  |
| --- | --- | --- | --- |
| **Chatflix** | **IMDB** | **Rotten Tomatoes** | **Reddit** |
| Highly Customizable Profile Page | Static Profile Page | Static Profile Page | Static Profile Page |
| Discussion Page for related topics, with a focus on pop culture, i.e., communities or fandoms. | Discussion Page for related topics | Discussion Page for related topics | Discussion Page for related topics |
| Quizzes/Interactive Content | Quizzes/Interactive Content | Quizzes/Interactive Content | Quizzes/Interactive Content |
| News about New Releases | News about New Releases | News about New Releases | News about New Releases |
| User Watch-lists | User Watch-lists | User Watch-lists | User Watch-lists |
| Shows User Activity Status (ie, online/offline) | Shows User Activity Status (ie, online/offline) | Shows User Activity Status (ie, online/offline) | Shows User Activity Status (ie, online/offline) |

Within the social media market, there is little room for change when considering overall features, but a focus on target audience is what makes and breaks a competitive social media platform. For example, Facebook’s competitor Instagram has similar concepts of user posts, profiles, and activity feeds, but the difference is seen by the sites’ userbase. Facebook hosts users typically older than 30 while the typical Instagram user is 30 or younger. With the same principle of focusing on an audience rather than features, Chatflix aims to replace media giants like IMBD and Rotten Tomatoes by focusing on pop culture and simplistic modern design. Chatflix can appeal to many teens and young adults as a platform that promotes internet pop culture with a focus on movies and shows.

# Data Definition

|  |  |
| --- | --- |
| **<spoiler>** | An element that, when placed around a body of text, prevents the text from being displayed unless the user hovers their cursor over it. |
| **Availability** | The amount of time that the public has access to the website when maintenance is not being performed. |
| **Avatar** | A figure or icon that can be selected and personalized to represent a person. |
| **Binge-Watching** | The practice of watching multiple episodes of a television program or multiple movies in rapid succession, typically by means of digital streaming. |
| **Community Page** | An index of posts relating to television and film media. |
| **Fandom** | A subculture of enthusiasts who share a common interest. |
| **Forum** | A place, meeting, or medium where ideas and views on movies and television shows can be exchanged. |
| **Maintainability** | The process of updating the website to prevent any future errors. |
|  |  |
| **Media Quiz** | Interactive content that tests the user’s knowledge on a television series or movie. |
| **Meme** | A humorous image, video, piece of text, etc., that is copied (often with slight variations) and spread rapidly by internet users. |
| **Moderator** | A person who monitors the online discussions. |
| **Modular Programming** | The process of subdividing the software into separate components, e.g., forum, profile page, activity feed. |
| **Performance** | The capabilities of each action performed on the website. |
| **Post** | Content that is shared through a user’s profile. |
| **Reliability** | The amount of time that the website is available to the public without any errors. |
| **Response** | The result of each action performed on the website. |
| **Scalability** | The process of allowing the website to accommodate a sudden increase in users. |
| **Subscribe** | To arrange to receive notifications regularly about discussions relating to a favorite television series or movie. |
| **Security** | The process of protecting a user’s information and identity when using the website. |
| **Theme** | A collection of related images that decorate a user’s profile page. |
| **Thread** | A series of replies to a single post. |
| **Usability** | The criteria that determine how easy the website is to use for a person. |
| **User** | A person who can create discussion posts and manage their individual profile. |
| **Verified User** | A person that passes security measures and identity verification to ensure validity, e.g., producers, director. |
| **Watch-list** | A set of television series and/or movies that have been watched in their entirety. |
| **Watch-party** | A social gathering for the purpose of viewing a movie or an episode of a television series. |

# Overview, Scenarios, and Use Cases

Jan, a twenty-four-year-old college student, just finished binge-watching all two seasons of *The Mandalorian*. Wanting to connect with their peers during the isolation of COVID Jan opens Chatflix on their phone web browser, Safari. After navigating to their profile, Jan adds season one and two of *The Mandalorian* to their “seasons completed” watch list. After Jan’s watch list is updated, they click on the title of the newly added *Manelorian* series to navigate to related discussions of their new favorite show. Jan creates a post with an image of a meme with the character in the season finale, captioned with a question to everyone in the community for their opinions related to the ending. After receiving many likes on their post, Jan gets a reply from StarWarsFan76, *<spoiler> “I’m happy my favorite character didn’t die in the end!”<spoiler>*. This use case demonstrates the ability for the user to access a customizable profile, adding watched films to their watch lists, interacting with the community of a film or show, ability to comment on other user’s post, and spoiler tags to hide potential spoilers for others.

Mary a sixteen-year-old high school student loves watching *Game of Thrones* and knows everything about the show. They took every quiz possible on the Chatflix community page and got every question right. As a reward, Mary gets a profile avatar, background themes, and a custom emoji package from the show. Their homepage is flooded with news related to *Game of Thrones* after subscribing to the Chatflix community news tab. They are anxiously waiting for the next episode, and even subscribed to notifications about the next upcoming episode! This use case shows an overview of planned user profile customization and interactive quizzes. Additionally, it illustrates the capability of subscribing to news feeds for related content about a show or movie, and ability to be notified through email for new releases.

# High-Level Functional Requirements

**Note:** Functional requirements highlighted gold shall be implemented for Milestone 3 vertical prototype.

|  |  |
| --- | --- |
| **Main Page** | |
| **FR01** | The system shall enable viewers to see discussions in date order (Descending order, starting from most recent to previous). |
| **FR02** | The system shall display the following in each forum thread:  The title, name and picture of user that started the thread.  The number of comments, e.g., replies.  The date of last post, and the name of user who made the last post.  The discussion that is trending. |
| **FR03** | The system shall allow users who are logged in to create threads. |
| **FR04** | The system shall allow use of tags to mark content keywords. |
| **Discussion Page** | |
| **FR05** | The system shall enable users to view the current show/movie in the thread chosen. |
| **FR06** | The system shall allow users who are logged in to reply to  threads. |
| **FR07** | The system shall allow users who are logged in to rate the discussion, e.g., like or dislike. |
| **FR08** | System must have administrator roles to monitor user content. |
| **Search Catalog** | |
| **FR09** | The system shall allow users to search for a show or movie by title. The results shall display a brief description of the television series or movie of, its ratings, and related discussions. |
| **Registration and Login** | |
| **FR10** | The system shall authenticate users before logging them in. |
| **FR11** | The system shall require user agreement to Terms & Conditions when user account is created. |
| **FR12** | The system shall capture the user’s full name, a username, and a password if the user is registering for the first time. |
| **Profile Page** | |
| **FR13** | The system shall allow users to update their profile information (i.e., name and bio) and their user avatar. ~~or icons and change their profile background color.~~ |
| **FR14** | The system shall allow users to view activity feed of shows and movies they have watched and shows and movies their friends have watched. |
| **FR15** | The system shall allow users to add friends. |
| **FR16** | System shall allow users to leave comments on profile page. |
| **Privacy Settings** | |
| **FR17** | The system shall allow users to make their profile public or private. |
| **FR18** | The system shall provide the option to show or hide friends list. |

# Non-Functional Requirements

|  |  |
| --- | --- |
| **Performance** | |
| **NFR01** | The system’s home page supporting 3000 users per hour must provide a response time of 3 seconds or less. |
| **NFR02** | Interactions with the navigation bar should take one second or less. |
| **NFR03** | Searching the catalog must take one second or less. |
| **Capacity and Scalability** | |
| **NFR04** | The system must store data effectively, and storage must increase as the system gets used more often. |
| **NFR05** | The system must be able to process 1000 queries per minute. |
| **Availability** | |
| **NFR06** | The system must be available 91% during the month. |
| **Maintainability** | |
| **NFR07** | Latest standards and designs must be used for the system’s base architecture. Common coding styles must be used. |
| **NFR08** | The system must implement modular programming. |
| **Recovery** | |
| **NFR09** | The system must backup data every hour. Backup must take one minute or less. |
| **Security and Privacy** | |
| **NFR10** | The system must use encryption to store data securely. |
| **NFR11** | Users must be logged in to see private posts and profiles. |
| **Mobility** | |
| **NFR12** | The system must support the following browsers:  Chrome  Safari  Firefox |

# High-Level System Architecture

**Components**

The system consists of 7 components: User Interface, Website GUI, Catalog Search, User Posting, Discussion Thread, Series Page, and User Profile. The User Interface component is dependent on the Website GUI, User Posting, and Search Catalog components. The Catalog Search and User Posting components are both dependent on the Discussion Thread and Series Page components. In addition to Discussion Thread and Series Page components, the Search Catalog Component is also dependent on the User Profile component.

**Integration & Deployment**

Website content, which is made up of Website GUI, Catalog Search, and User Posting components, shall be deployed on a web server, and integrated with the User Interface component via HTTP. HTML, CSS, and JavaScript shall support deployment of Website content. The User Interface component shall be deployed on a web client. Searchable content and creatable content, consisting of Discussion Thread, Series Page, and User Profile components, shall be deployed on a database server and integrated with website content utilizing PHP and MySQL.

**Media Storage**

Images shall be kept in a file system. Accepted file types for images shall be .jpg, .png, and .gif.

**Search/Filter Architecture and Implementation**

The system shall use Boolean search algorithm. Discussion thread topics, series/movie titles, and usernames shall be searchable content. Discussion thread topics shall be identified with a unique thread ID, series titles with a unique series ID, and usernames with a unique user ID.

**APIs**

No APIs shall be used by the system.

**Database Organization**

**Table:** defaultuser

|  |  |
| --- | --- |
| **Schema** | cen4010\_s21\_g05 |
| **Responsible** | Maksym Mostovy |

defaultuser holds Chatflix users.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| id | bigint(20) | Permanent ID that serves as a unique identifier for each user. |
| user\_id | bigint(20) | Permanent ID that serves as a unique identifier for each user. |
| user\_name | varchar(20) | Permanent ID created by the registered user. |
| password | varchar(20) | Registered user’s login password. |
| avatar\_id | int(11) | Permanent ID that serves as a unique identifier for each user. |
| fullName | varchar(20) | The first and last name of the user. |
| dateJoined | timestamp | Date the user registered for Chatflix. |
| userEmail | varchar(25) | Registered user’s email address. |
| activityStatus | int(11) | 0 = offline, 1 = online |
| privacySet | int(11) | Registered user’s profile privacy setting: 0 = public, 1 = private |
| date | timestamp | Date on which registered user was recently active. |

**Table:** seriespg

|  |  |
| --- | --- |
| **Schema** | cen4010\_s21\_g05 |
| **Responsible** | Maksym Mostovy |

seriespg holds series information.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| seriesId | int(11) | Permanent ID that serves as a unique identifier for each series or movie. |
| seriesSeasons | int(11) | [description] |
| seriesImg | int(11) | Permanent ID that serves as a unique identifier for each user. |
| seriesName | varchar(20) | Title of series or movie. |
| seriesBio | varchar(2000) | Summary of a series or movie. |

**Table:** discthread

|  |  |
| --- | --- |
| **Schema** | cen4010\_s21\_g05 |
| **Responsible** | Maksym Mostovy |

discthread holds discussion topics created by uers.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| threadId | int(11) | Permanent ID that serves as a unique identifier for each topic. |
| threadTopic | varchar(20) | Title of a discussion topic. |

**Table:** discpost

|  |  |
| --- | --- |
| **Schema** | cen4010\_s21\_g05 |
| **Responsible** | Maksym Mostovy |

discpost holds discussion posts from users.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| postId | int(11) | Permanent ID that serves as a unique identifier for each discussion post. |
| threadId | int(11) | Permanent ID that serves as a unique identifier for each discussion post. |
| avatar\_id | int(11) | Permanent ID that serves as a unique identifier for each user. |
| userName | varchar(20) | Permanent ID created by the registered user. |
| postCont | varchar(2000) | Contents of a user’s discussion post. |

**Table:** friendlist

|  |  |
| --- | --- |
| **Schema** | cen4010\_s21\_g05 |
| **Responsible** | Maksym Mostovy |

friendlist holds the friends of a default user.

|  |  |  |
| --- | --- | --- |
| **Column** | **Data Type** | **Description** |
| user\_id | int(11) | Permanent ID that serves as a unique identifier for each user. |
| avatar\_id | int(11) | Permanent ID that serves as a unique identifier for each user. |
| userName | varchar(20) | Permanent ID created by the registered user. |

# High-Level UML Diagrams

**Note:** Modules framed in gold shall be implemented for Milestone 3 vertical prototype.

Diagram

Description automatically generated

Diagram

Description automatically generated

**Note:** Scenarios framed in gold shall be implemented for Milestone 3 vertical prototype.

Diagram

Description automatically generated

# Key Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk Type** | **Risk Severity** | **Description** | **Strategy** |
| People | High | Key staff is unavailable at critical times. | Increase communication. |
| Requirements | Medium | Changes to backend framework requires design rework on frontend. | Allow time after PHP integration to review frontend setup and make necessary changes. |