

CineList

1. Introduction and Context

This project aims to build a website that helps people streamline sharing of and minimize duplicate purchases of movies.

In modern society, with such large social circles and availability of movies, it can be difficult to track exactly what is available at any one time. Often, a friend or acquaintance will own the movie you want to watch at a particular time. Manually keeping a list of the movies friends own would be very time consuming and ultimately an uphill battle. This project aims to streamline the process of sharing and cataloging movie libraries.

CineList will feature a system that allows users to build their own digital library of movies easily. One simply needs to use the database and add the desired movie to their library. Once their library set up, a user may begin initiating friendships with others, allowing each to view their friends' libraries and request to borrow movies. CineList will not be limited to borrowing movies, however. Some users may want to set up a "movie date," or even trade movies permanently. The potential functionality of CineList is limited only by what the users want to see.

With the addition of more databases, CineList could also be expanded to include other forms of media, such as music or books. The initial project will only cover physical movies, but the potential for CineList is limitless.

2. Users and their Goals

CineList's users and their respective goals are depicted with use-case diagrams found in Appendix A.

Four primary users have been identified for CineList. The first user, simply known as "user," depicts the primary clientele of CineList. They do the majority of actions the system offers, such as borrowing movies or building a movie library. In addition, there are privileged users who have access to the "behind-the-scenes" or administrative areas of the website. Finally, there are the 3rd party services which are used by CineList to cut down on development time while enhancing the user experience. These 3rd party clients, such as a mail client and various API services, are depicted as users of the system as well.

3. Functional Requirements

1. User Authentication and Access Controls

1. The system must require all users to authenticate themselves to access all its features.
 1. To login, new users must first create an account using their email address and password.
1. The system will enforce minimal yet specific requirements for a valid password.
2. Upon logging in for the first time, the system will send a verification code to users' emails for additional security.

3. Upon subsequent logins, users must enter their email and current password. If entered correctly, the system must grant the users full access to the system's features. If entered incorrectly, an error message will be displayed prompting the user to try again.
 2. The system will offer all users access to the following features:
 1. Manage Library
 1. All users will have access to a Library feature and the ability to manage it. See FR #3.
 2. Browse and Borrow Movies
 1. All users will be able to Browse and have access to the Borrow feature. See FR #4.
 2. Manage Friends
 1. All users will have access to a personalized Friends List and the ability to manage it. See FR #5.
 3. The system will have Privileged Users and offer them the following exclusive features:
 1. Manage User Accounts
 1. Privileged Users will be able to edit normal user information, handle user problems, and deactivate accounts if need be.
 2. View User Logs
 3. View Website Usage Data
 1. The system will use external services to assist with viewing user data.
 2. This external service will be a different user that handles user data and allows privileged users to view it.
 4. Contact Users
 1. The system will use an external mail service to contact users about Borrow and Return notices as well as Friend Requests.
 2. The mail service will be a different user that allows Privileged Users to contact regular users.
2. User Profile Management (For authenticated (logged in) users only)
 1. The system will allow users to add optional personal information (name, age, movie tastes).
 2. The system will allow users to add a picture to their profile.
 3. The system will allow users to update their passwords.
 4. The system will allow users to view and manage their Library via their profile. See FR #3.
 5. The system will allow users to view and respond to Borrow Requests via their profile. See FR #4.3.1.
 6. The system will allow users to view and manage their Friends List via their profile. See FR #5.
 3. Manage Library Feature
 1. The system will include a Library feature for each user and allow each one to add and delete movies.
 2. Users will be able to view the contents of each Friend's Library.
 3. Add Movie to Library
 1. The system will allow users to add the physical movies they own to their virtual Libraries.
 2. Search for Movies
 1. The system will allow users to search for movies in their own Library or a Friend's.
 2. If a movie cannot be found in any Library, a message stating such will be displayed.
 3. If the movie can be found but is currently unavailable, a different message will be displayed.
 3. View Movie Details
 1. Users will be able to view the title, box art, and a summary of any available movie.
 2. The system will display each movie's MPAA rating. (MPAA: Motion Picture Association of

America. They are the group who rate films G, PG, PG-13, R, etc.)

4. Delete Movie form Library

1. The system will allow users to delete movies from their virtual Libraries

4. Browse and Borrow Movies Feature

1. The system will allow users to browse available movies in their Library or any of their Friends' Libraries

2. Request to Borrow Movies

1. After finding a movie, the system will allow the user to request to borrow the movie from the other user who owns it.

2. Send Request

1. The system will allow a user to request a movie by sending a Borrow Request.

3. Respond to Request

1. The system will subsequently allow a user to respond to a Borrow Request by confirming or denying it.
2. If the request is confirmed, a message will be sent to the user who sent the request to confirm the details.
3. The request can be denied for the sake of modifying any of the details in the request (time, location, etc.)

3. Filter Browsable Content

1. The system will allow users to manage the kinds of movies they will be shown in case they are not interested in movies above a certain rating, or they are only looking for a specific genre.

1. This may be controlled with a setting in the user's profile or as part of the Browse feature.

5. Manage Friends Feature

1. If a user knows another user, then the system will allow them to become Friends.

2. The system will allow users to find and manage Friends.

3. Friends can browse other Friends Libraries and request to borrow movies from them.

4. The system will only show a user's Library to another user if they are friends.

5. The system will only allow users to send Borrow Requests to other users if they are Friends.

6. Search for Friends

1. The system will allow users to search for other users.

7. Send Friend Requests

1. The system will allow users to send other users Friend Requests.

8. Add Friend

1. The system will allow a user to add another user to a Friends List if one accepts the Friend Request the other sent.

9. Delete Friend

1. The system will allow users to delete other users from their Friends Lists

6. Security

1. The system will hide the session ID from the URL and referrer header at all times. The system will also ensure that session ID's are not easily predicted.

2. The system will employ an HTTPS certificate at all times.

3. The system will store all user passwords in encrypted format.

4. The system will assign and store all data objects with UUID keys.

7. Usability

1. The system will have a self-evident and user-friendly interface.

4. Non-functional Requirements

1. CineList will be developed using an Agile-based development process. The features will be placed into a backlog, where they will be completed progressively during sprints. Scrum meetings will be conducted daily, along with monthly retrospectives.
2. CineList will be designed in such a way that expanding the scope of the website will be possible in the future. See future features below.
3. Performance: CineList will perform to a standard observed in other common websites (Google, Facebook, etc.)
4. Security: CineList will regularly perform database backups depending on database size, with a backup occurring no less frequently than every 30 days and having at least one backup onsite.
5. Security: CineList will employ a cloud-based web application firewall to inspect all incoming and outgoing traffic
6. Security: CineList will not include components, packages, or code with known vulnerabilities.
7. Security: CineList's coding standards will be strongly adhered to by all software developers involved in the project.

5. Future Features

CineList will be a potentially expandable website. It will initially be developed for the sharing of physical movies, but it could be expanded to allow for the cataloging and sharing of most physical media. Some potential avenues for expansion are: books, video games, hiking/gardening equipment, textbooks, etc.

Sharing digital media is presently unlikely as being able to "share" digital media is dependent on the platform through which it was purchased. In the event that CineList is to expand beyond movies, it will likely need to undertake a rebranding, as the name "CineList" implies it is for movies only.

A home feed that displays a layout of browsable movies may be implemented. User will be able to decide how they prefer to display the movies in the home feed with a profile setting if a home feed is implemented.

Users may be given a rating feature that allows them to let other users know how they felt about a movie. It will be a simple thumbs up/thumbs down review system. It may display a cumulative user rating of the percentage of users who liked the movie. The rating may be limited to Friends, but that could change to be a global rating to account for every user who'd rated the movie. The rating will be displayed when a user views a movie.

The system will allow users to offer or recommend a movie to other users. A user's Library will feature an Offer/Recommend option connected to each movie. Upon selecting that option, the user's Friends List will pop up, and the user can select a friend to offer or recommend the movie to. Users receiving Offer/Recommend Requests can accept or decline the request. If the request gets accepted, the system proceeds as if a Borrow Request was processed. If the request gets declined, the system resumes like normal.

The system will have a user agreement that acts as a disclaimer. This agreement will show up when a new user attempts to create a new account informing them they are using this system at their own risk. It will caution

them to only lend movies to people they trust to return them. It will require the new users to check a box indicating they have read and understand the risks and are comfortable proceeding.

Users will be able to add their own profile pictures to personalize their profile pages.

6. Appendix A: Use-case Diagrams



