Group Name: Project SQL: Some Quality Library

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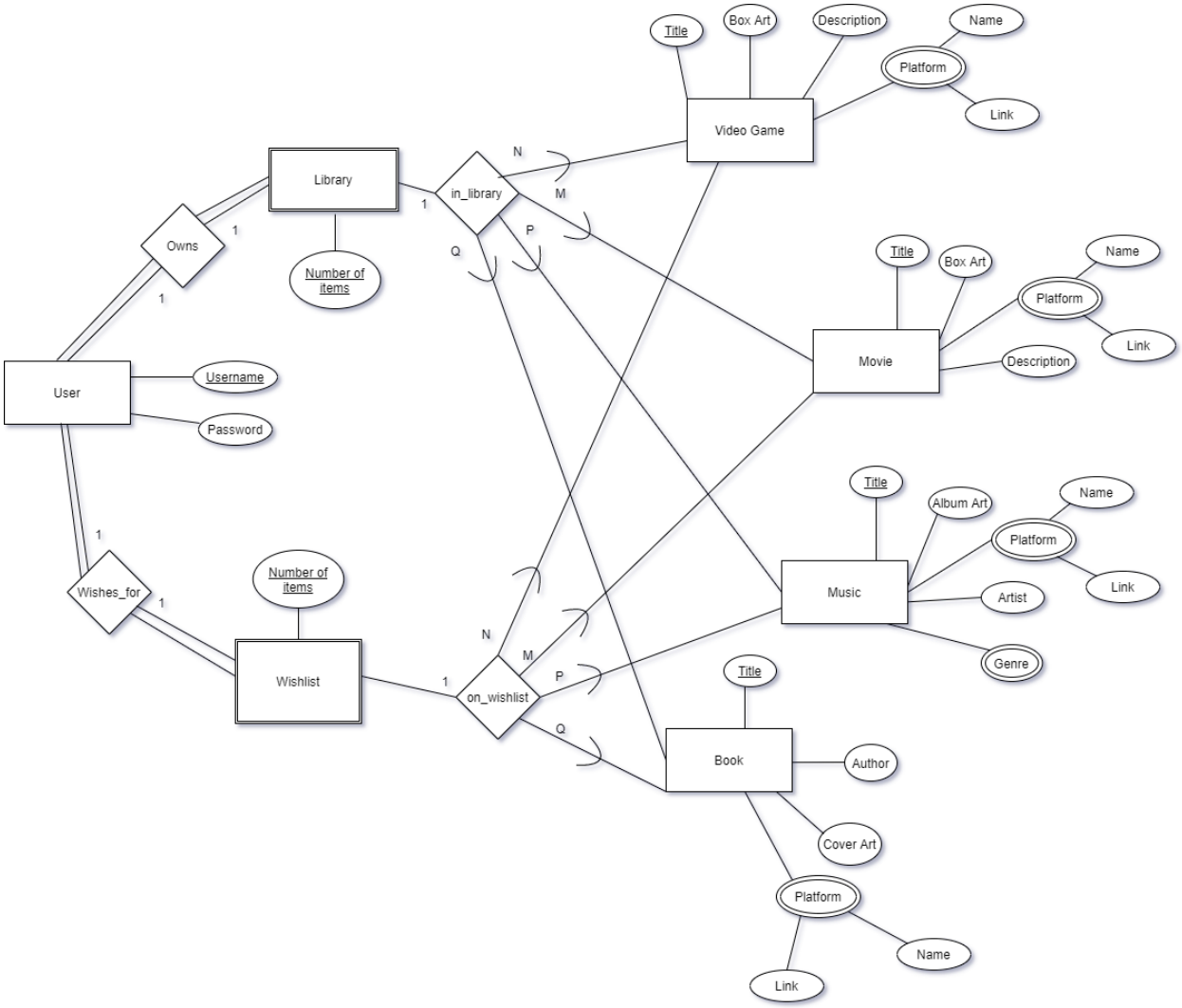
Problem Statement

Project Idea: Cross Platform Media Manager

Description: This web application provides the ability for someone to store all of their media information with links to the media in one place. Users would have their own accounts and would be able to add, modify, and delete media. Users can also add media to a wishlist that displays media that the user wants but does not currently own. Each media entity would have a general description and a link to where the media is stored at (Steam/Netflix/Spotify/etc.). A database would be necessary for this application because with a database the users could log in and access their media library anywhere. Also a database would allow this application to be scalable. If a user adds a large amount of media entities, it would not take up any storage on the user's local machine since all of the data would be stored on a database.

Conceptual Database Design



Each user has a library and a wishlist. Each library or wishlist can have different types of media. Each media relationship must have a wishlist or library and one media entity. Each title is unique for each media entity type.

Changes

- Changed image attributes to be data type string. These attributes now store a link to the image rather than the image itself.
- Changed all string types to CHAR(80)
- Added a modify media box that allows a user to modify media in their library or wishlist, as well as to delete the media from their library or wishlist.

Entities

- Video Game:
    - Title
    - Box Art
    - Description
    - Platform
    - Link to store page (if applicable)
- Movie:
    - Title
    - Box Art
    - Platform
    - Description
    - Link to movie (if applicable)
- Music
    - Title
    - Album Art
    - Platform
    - Artist
    - Genre
    - Link to Spotify (if applicable)
- Book
    - Title
    - Author
    - Cover Art
    - Platform
    - Link to Amazon (if applicable)
- User
    - Username
    - Password
- Library
    - Number of Items
- Wishlist
    - Number of Items

Functional Requirements

- Add media to library
- Remove media from library
- Add/remove media from wishlist
- Edit media
- Different views of libraries for different users
    - Library entity owned by users
- User login to view specific library
- Create user
- Delete user
- Each media has page with all its information on it
- Search function to find media in your library/wishlist

Logical Database Design

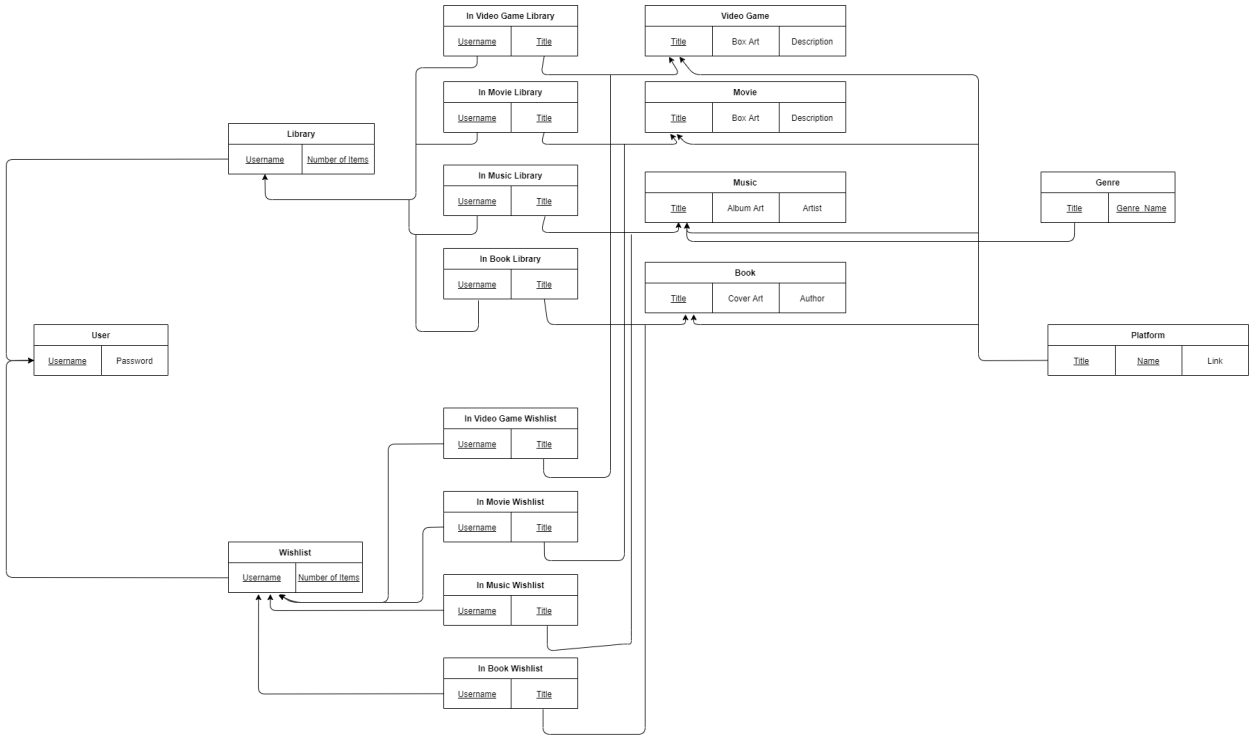


Table	Attribute	Type	Constraint
User	Username	CHAR(255)	Primary Key
User	Password	CHAR(255)	NOT NULL
Library	Username	CHAR(255)	Foreign Key
Library	Number of Items	INTEGER	Primary Key
Wishlist	Username	CHAR(255)	Foreign Key
Wishlist	Number of Items	INTEGER	Primary Key
In Video Game Library	Username	CHAR(255)	Foreign Key
In Video Game Library	Title	CHAR(255)	Foreign Key
Video Game	Title	CHAR(255)	Primary Key
Video Game	Box Art	CHAR(255)	
Video Game	Description	CHAR(255)	
In Movie Library	Username	CHAR(255)	Foreign Key
In Movie Library	Title	CHAR(255)	Foreign Key
Movie	Title	CHAR(255)	Primary Key
Movie	Box Art	CHAR(255)	
Movie	Description	CHAR(255)	
In Music Library	Username	CHAR(255)	Foreign Key
In Music Library	Title	CHAR(255)	Foreign Key
Music	Title	CHAR(255)	Primary Key
Music	Album Art	CHAR(255)	
Music	Artist	CHAR(255)	
Genre	Title	CHAR(255)	Foreign Key
Genre	Genre Name	CHAR(255)	Foreign Key

In Book Library	Username	CHAR(255)	Foreign Key
In Book Library	Title	CHAR(255)	Foreign Key
Book	Title	CHAR(255)	Primary Key
Book	Cover Art	CHAR(255)	
Book	Author	CHAR(255)	
Platform	Title	CHAR(255)	Foreign Key
Platform	Name	CHAR(255)	Primary Key
Platform	Link	CHAR(255)	
In Video Game Wishlist	Username	CHAR(255)	Foreign Key
In Video Game Wishlist	Title	CHAR(255)	Foreign Key
In Movie Wishlist	Username	CHAR(255)	Foreign Key
In Movie Wishlist	Title	CHAR(255)	Foreign Key
In Music Wishlist	Username	CHAR(255)	Foreign Key
In Music Wishlist	Title	CHAR(255)	Foreign Key
In Book Wishlist	Username	CHAR(255)	Foreign Key
In Book Wishlist	Title	CHAR(255)	Foreign Key

Application Program Design

```
login(username, password)
        if (username == query users table for match && password == user from user's
table password)
                logged_in = true
        else
                logged_in = false

create_user(username, password)
        if (username not in query users table for match)
                Execute query to insert into users table (username, password)
        else
                create_user = false

delete_user(username)
        if (username == query users table for match)
                Execute query to delete user from users table (username)
        else
                delete_user = false

add_media_to_library(media_obj)
        // Check to make sure data constraints are met
        Execute query to add media_obj to corresponding media library table

remove_media_from_library(media_title)
        If (media_title not in query media table)
                Execute query to remove media_title from corresponding media table
        Else
                Remove_media = false

add_media_to_wishlist(media_obj)
        // Check to make sure data constraints are met
        Execute query to add media_obj to corresponding media wishlist table

remove_media_from_wishlist(media_title)
        If (media_title not in query media table)
                Execute query to remove media_title from corresponding media table
        Else
                Remove_media = false
```

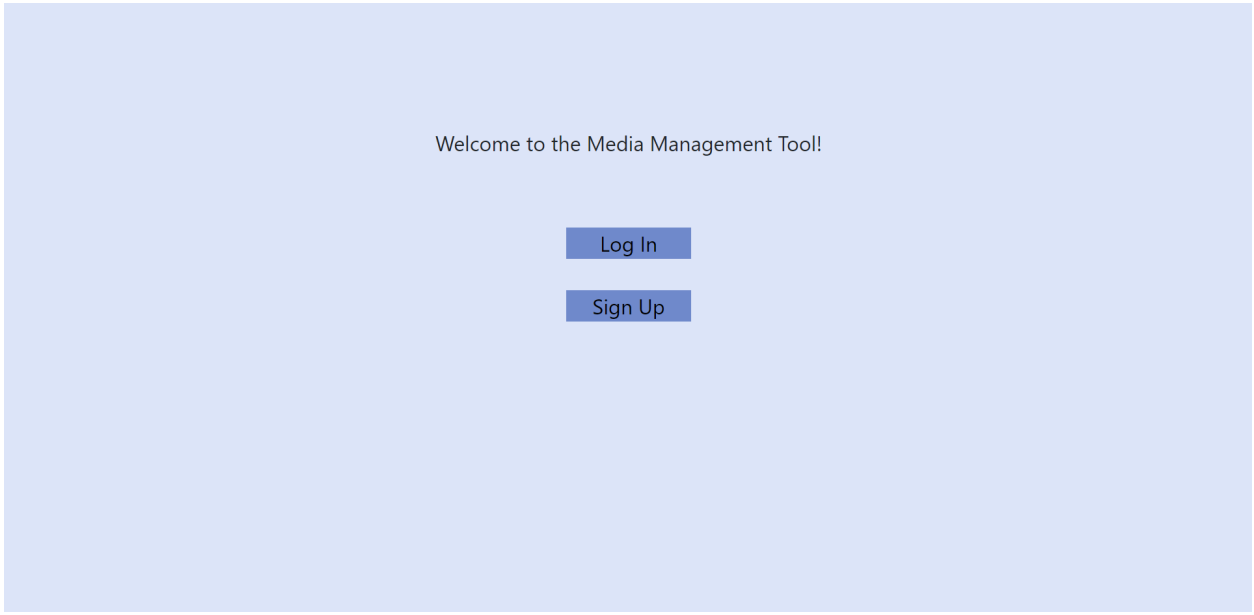
```
modify_media(media_obj)
        // Execute query to find media by media_title
        // Set media_obj in corresponding media table = local variable media_obj

find_media(media_title)
        // Execute query to find media by media_title
        return media_obj
```

Data Aggregation Functions

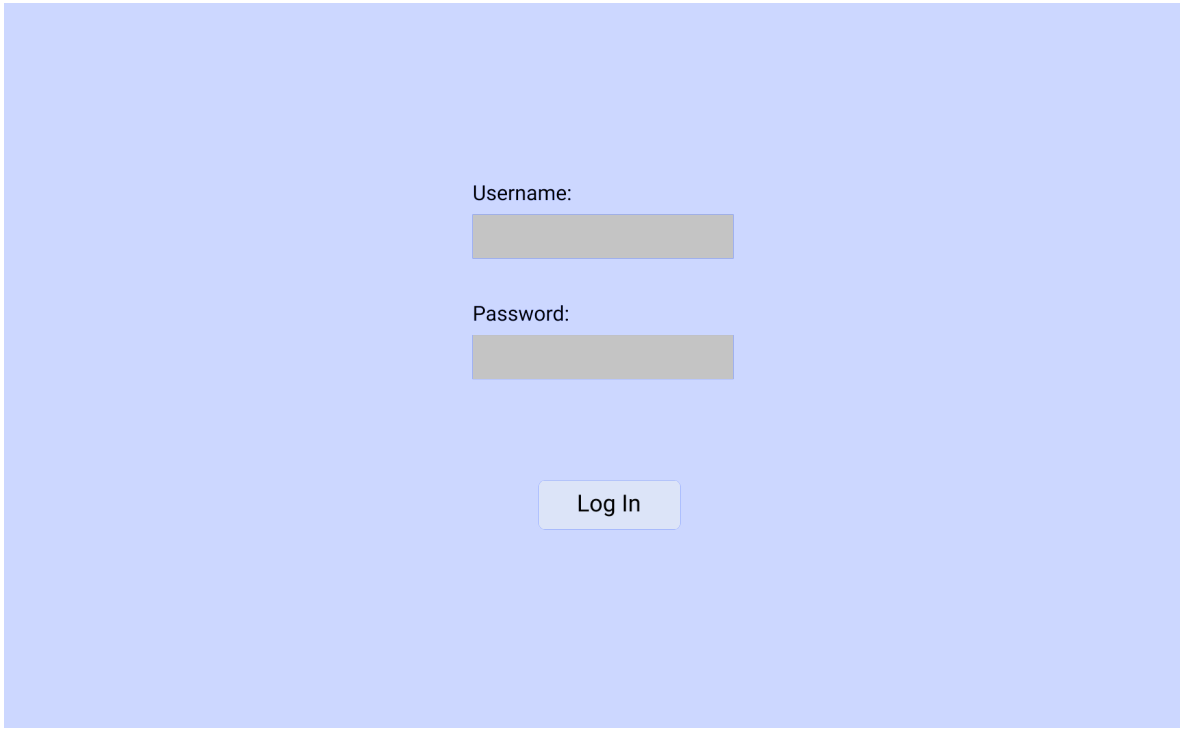
```
sum_of_all_library_media()
        // Iterate over all the media in the library, adding to a total count variable. Once it has iterated over all the media in the library, return the count variable


sum_of_all_wishlist_media()
        // Iterate over all the media in the wishlist, adding to a total count variable. Once it has iterated over all the media in the wishlist, return the count variable
```

User Interface Design

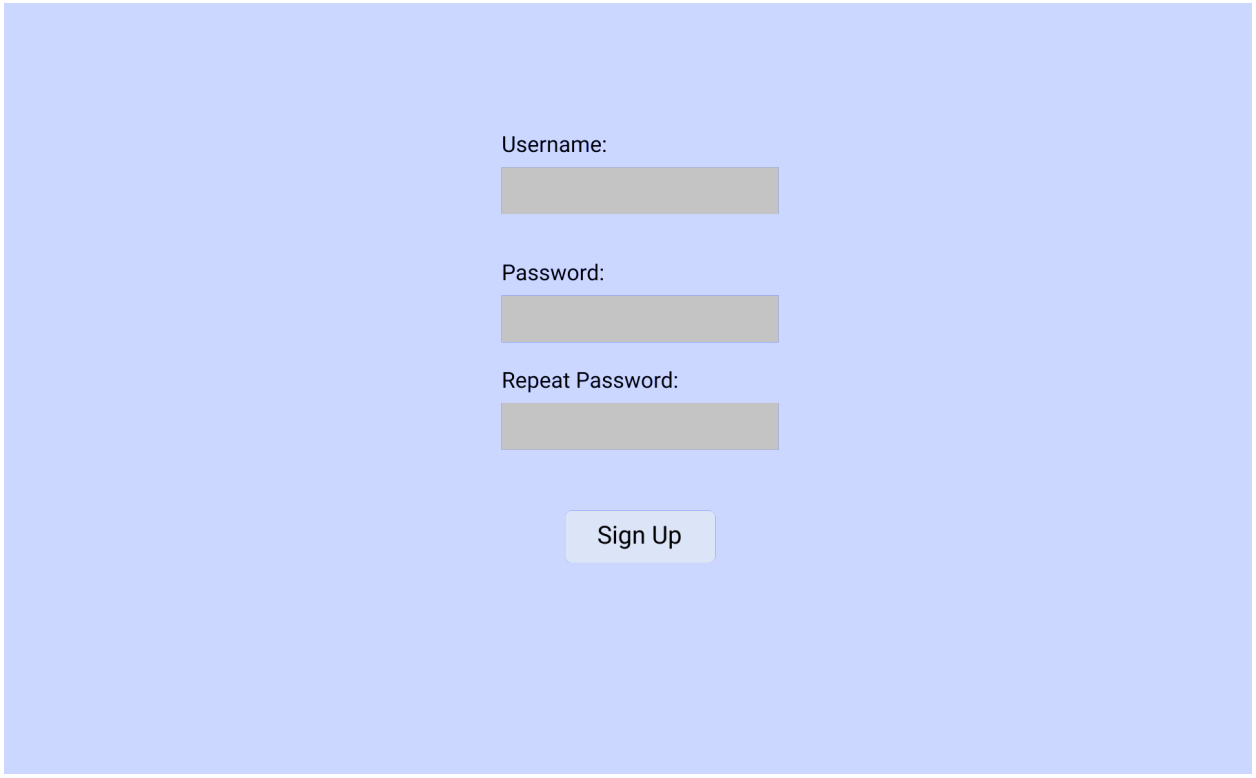
Welcome Page:



Log In:

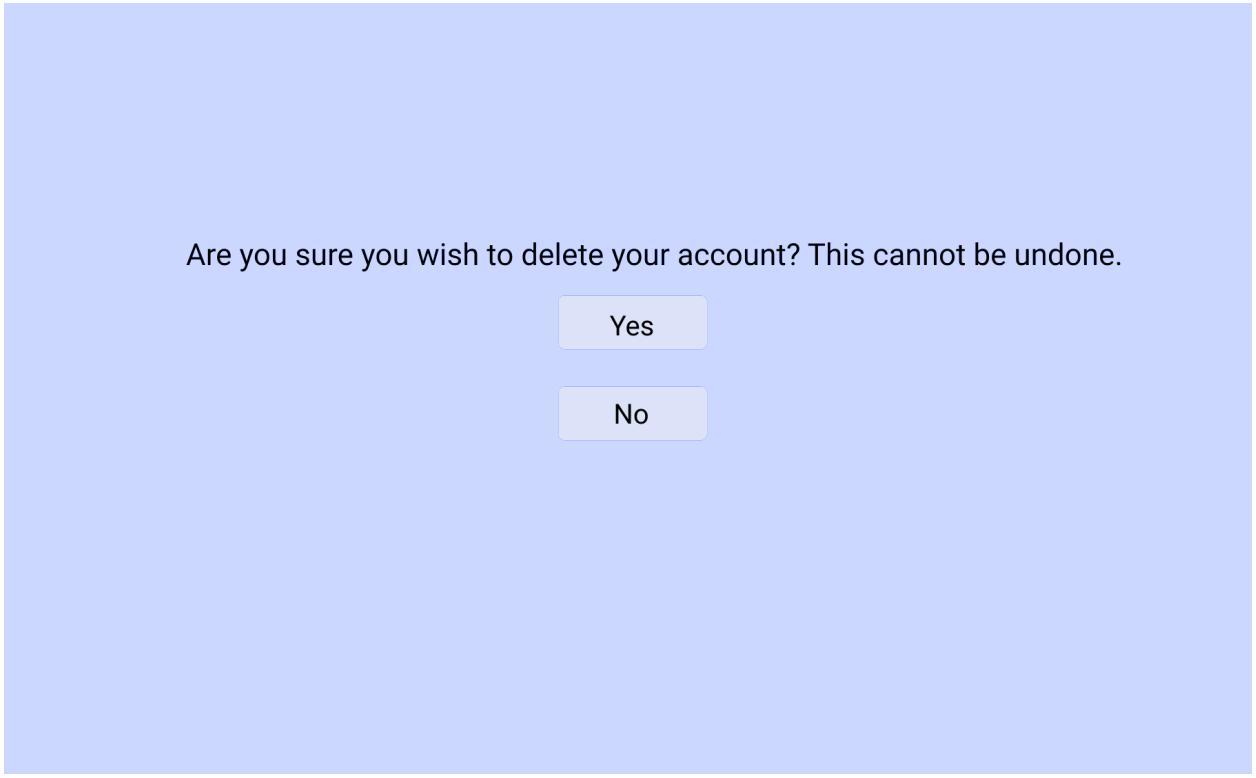


Sign Up:

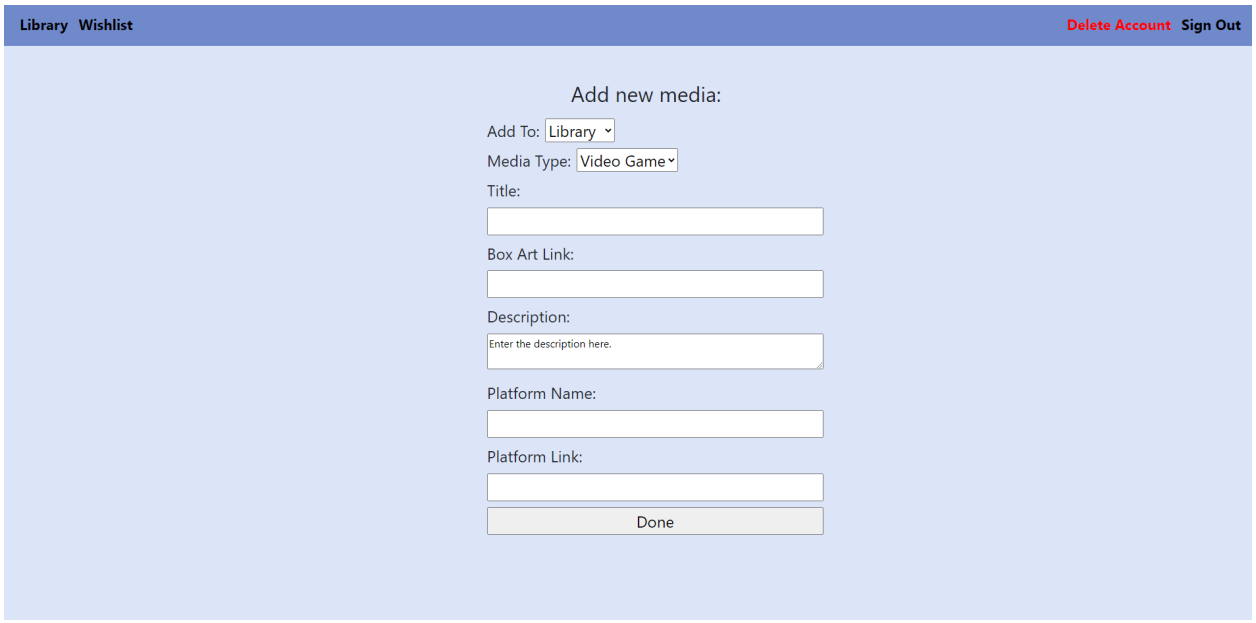


Library/Wishlist View:

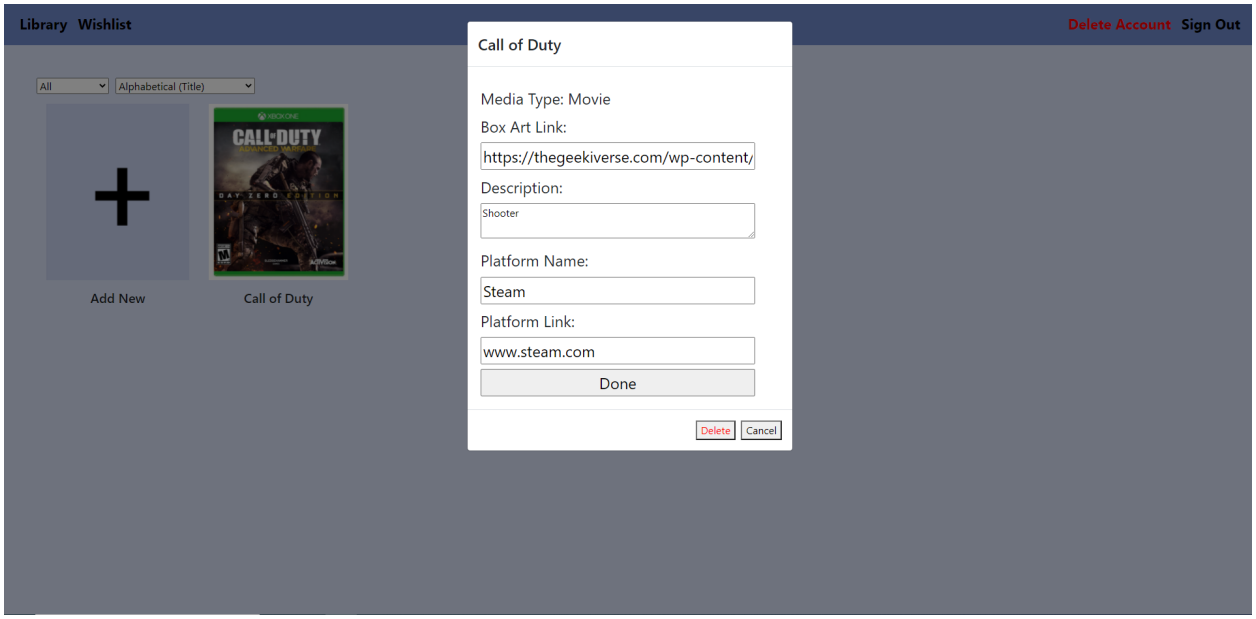
Delete Account Page:



Add New Media Type:



Modify Media Box:



Installation Instructions (works on any OS)

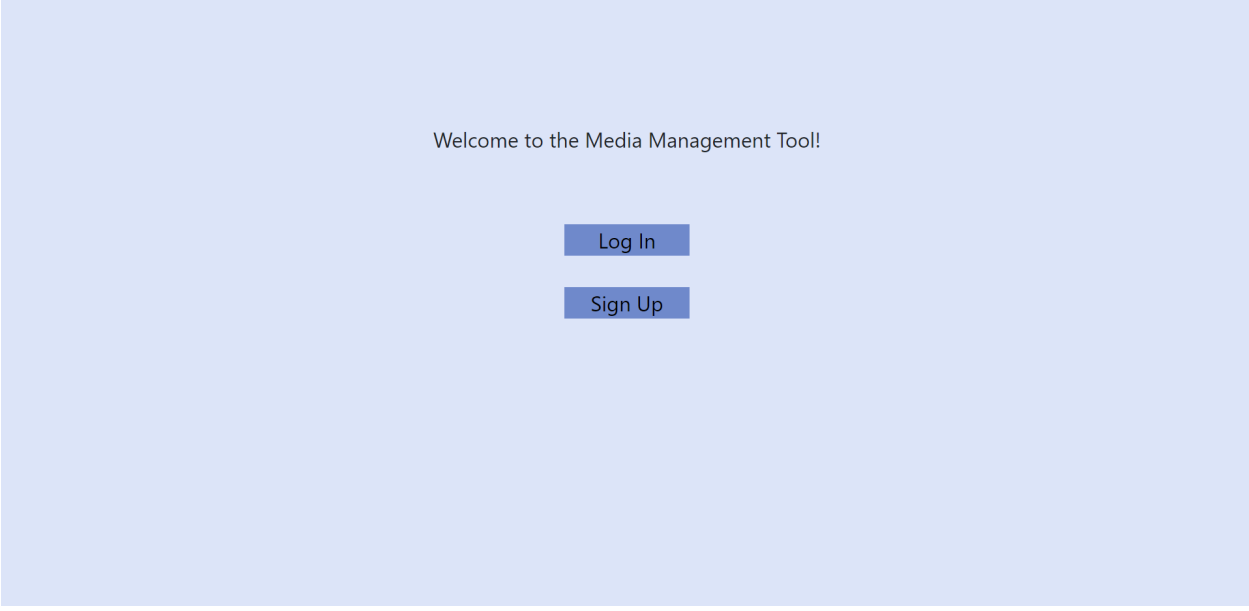
1) Install MySQL on computer using the instruction PDF that was provided to us

2) From the MySQL console, execute the query `CREATE DATABASE testdb` to create the database.
3) Install the latest version of Node.js from https://nodejs.org/en/download/
4) Unzip project folder
5) In Database_project/app/config/db.config.js, put your MySQL password where it says “<put_password_here>”
6) In Database_Project directory, type “npm install”
7) In Database_Project directory, type “npm start” to run the backend with the MySQL database
8) In Database_Project/front-end directory, type “npm install” (may take a few minutes)
9) In Database_Project/front-end directory, type “npm start” to start the client front end

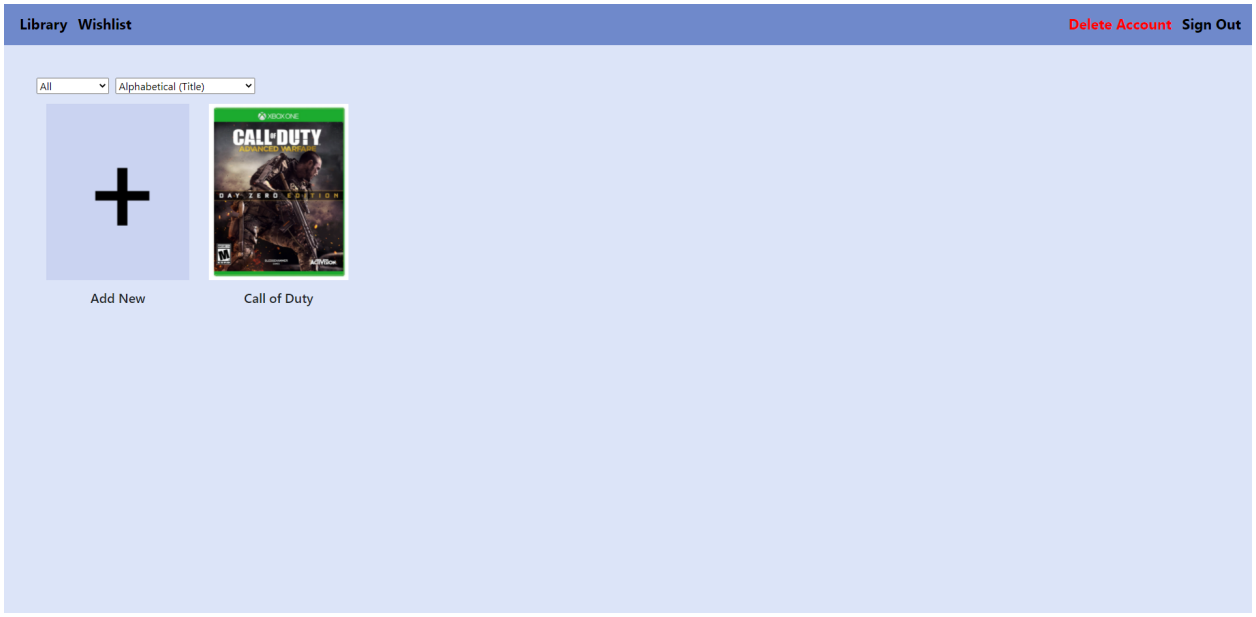
User Manual

Pages:

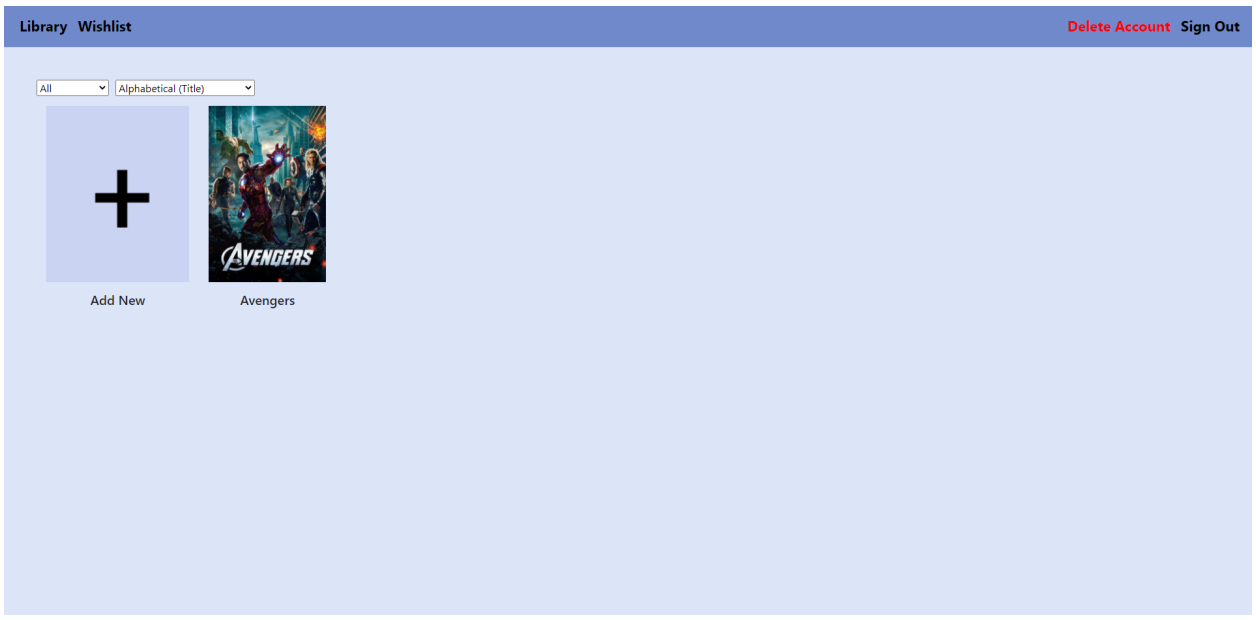
Welcome Page: On this page, the user is displayed a welcome message and is prompted to log in or sign up. This is the landing page for the site. At the top of all pages on this site is the navigation bar that allows quick access to the library, wishlist, delete account, and sign out pages.



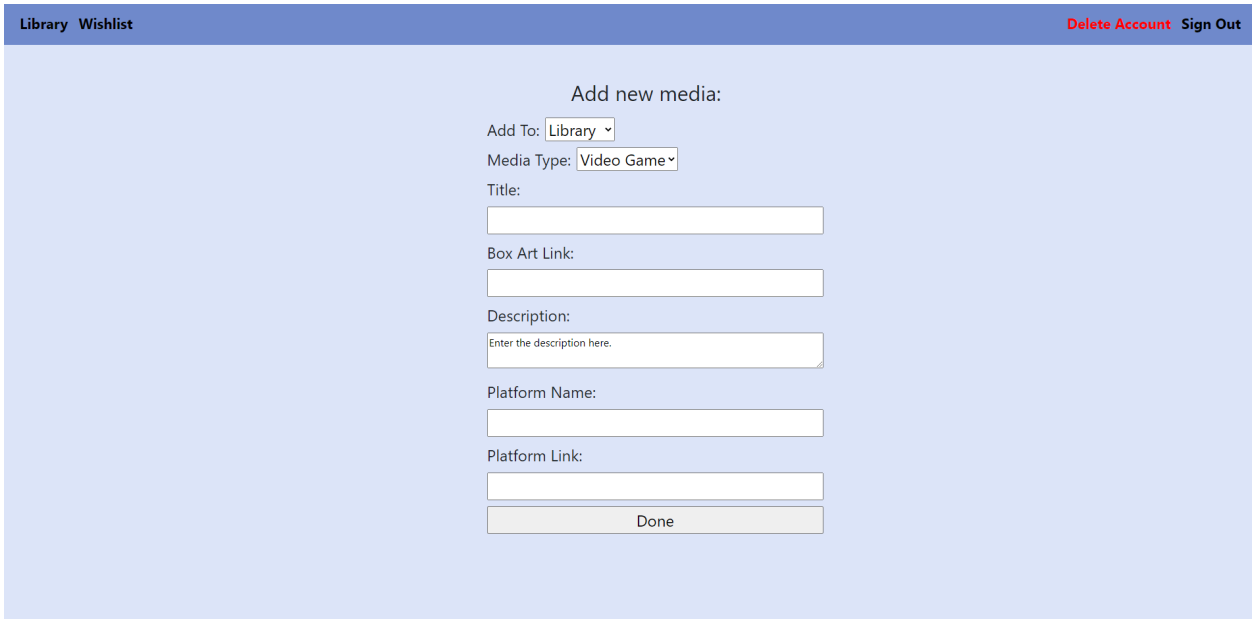
Library Page: On the library page, the user can view all the media in their library. The user can also choose to add a new piece of media by clicking the “add new” button. The media in the library can be filtered by type and sorted by alphabetical or reverse-alphabetical order of the title.



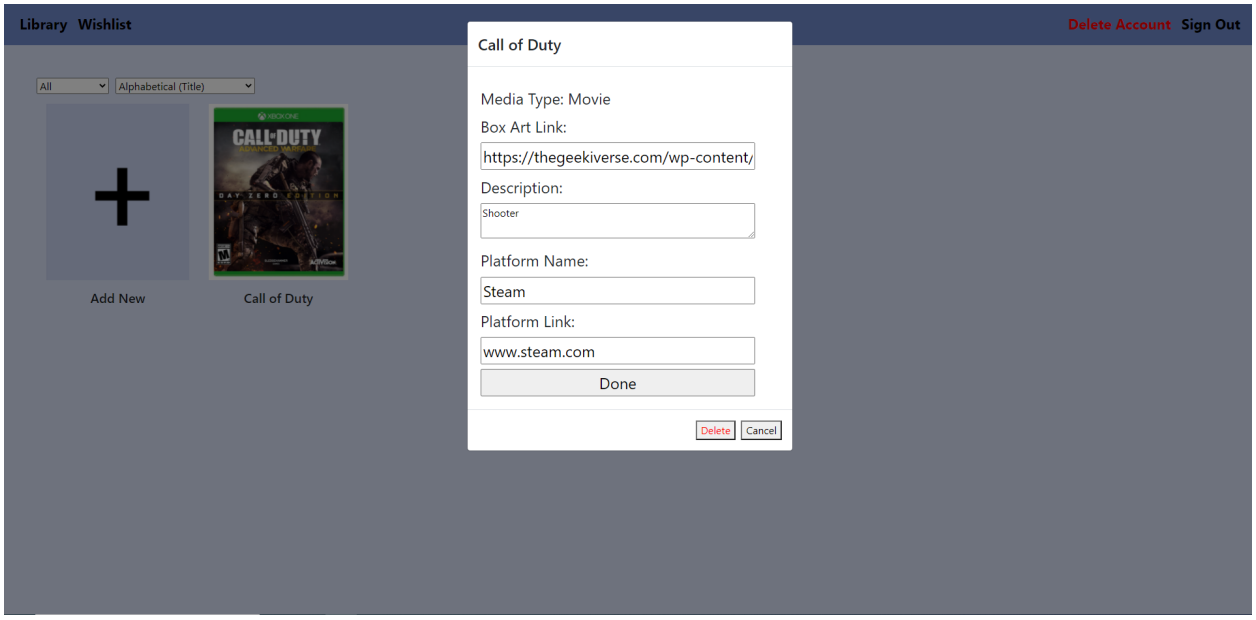
Wishlist Page: On the wishlist page, the user can view all the media on their wishlist. The user can also choose to add a new piece of media by clicking the “add new” button. The media in the wishlist can be filtered by type and sorted by alphabetical or reverse-alphabetical order of the title.



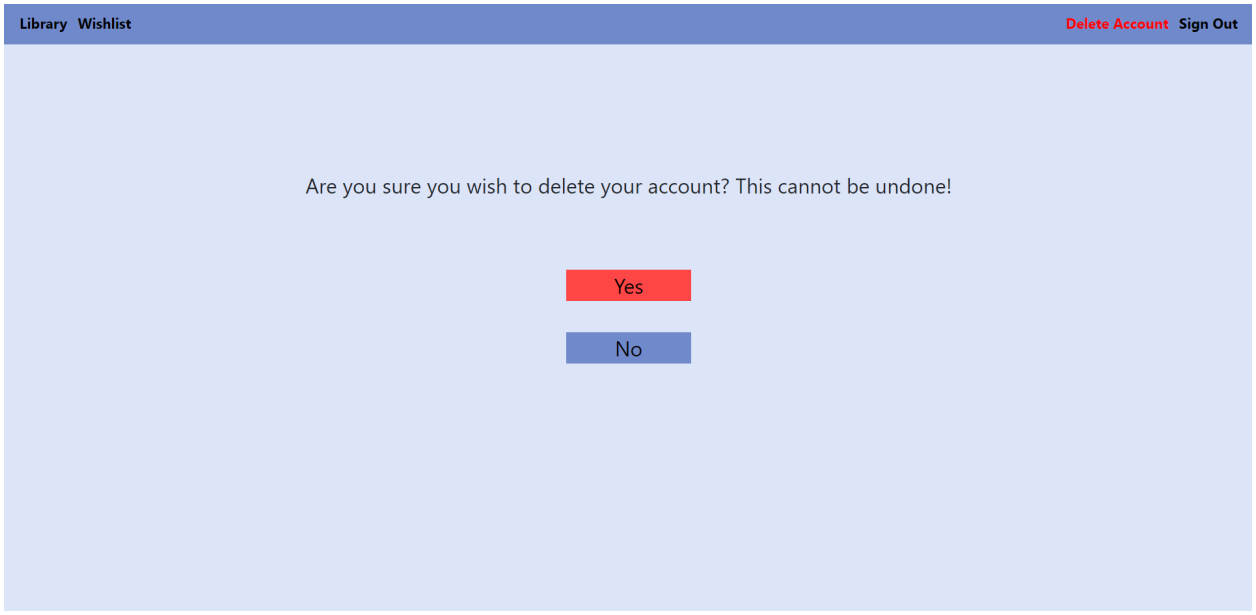
Add New Media Page: On the add new media page, the user can fill out a form to add a new piece of media to their library or wishlist. This form contains all the information about the media.



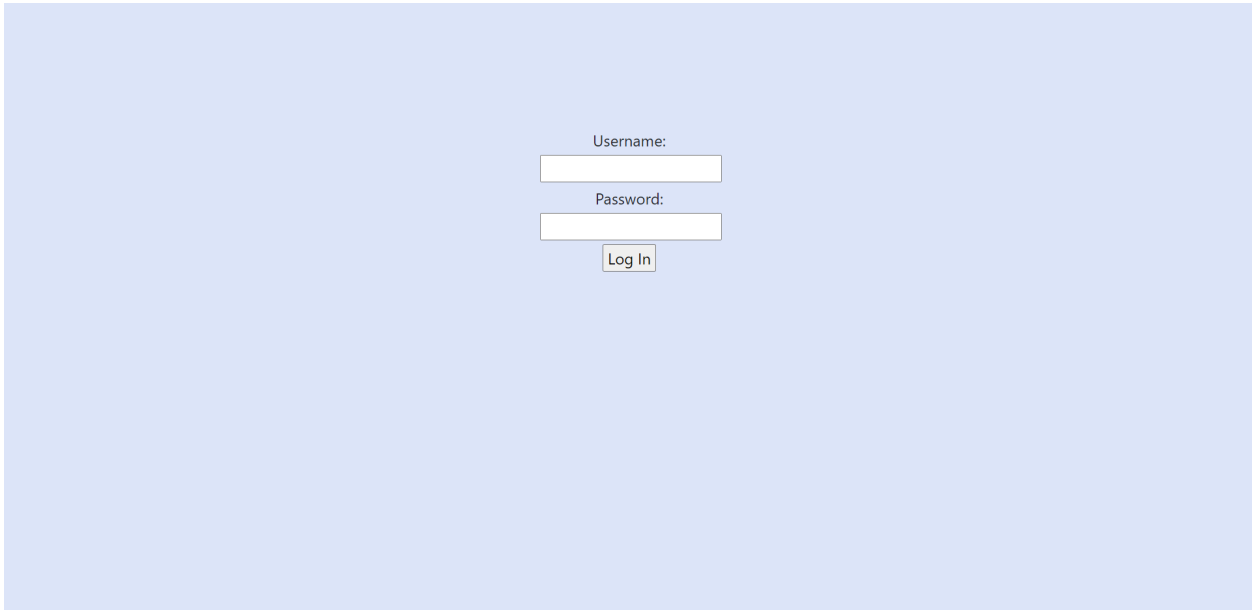
Modify Media Box: By clicking on a media item you can open the edit media popup modal. Here you can edit or delete your media item.



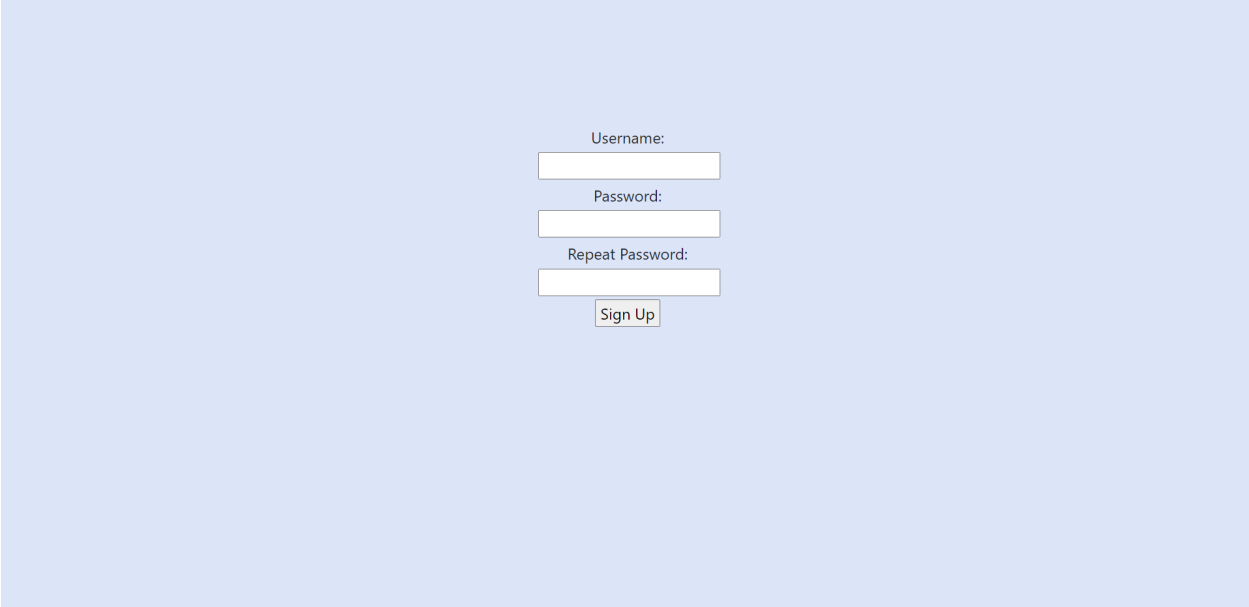
Delete User page: On this page, the user is displayed a message asking them to confirm whether they wish to delete their account. If they choose yes, they are taken to the welcome page. If they choose no, they are taken back to their library.



Login Page: On the login page, the user can enter their username and password to login. Once the user submits successfully, they are taken to their library page.



Sign Up Page: On the sign up page, the user can enter their username and password to sign up. The password must match with the repeat password. Once the user submits successfully, they are taken to their library page.



Data Aggregation

To find the count of a particular media type in a library or wishlist, use the api link: http://localhost:8080/api/{media_type}/{library_or_wishlist}/count

Usage

To use the application (after completing installation instructions):

1. From the Database_Project directory, issue the command `npm start` to start the database service.
2. From the Database_Project/front-end directory, issue the command `npm start` to start the web application.