

Lab 4 – FlixPicks User Manual

Team Orange: Cody Rabie, Maulahna Robinson, James Powers,
Logan Blanton, Zachary Carpenter, Roxy Egger, Nicholas Van Tol, Chance Sadler

Old Dominion University

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Professor Janet Brunelle

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1. Introduction – FlixPicks

Streaming is the most popular fee-based medium for consuming media content at home. Streaming represented 34.8 percent of viewership in August 2022, surpassing cable television (Fischer, 2022). The projected annual growth rate for streaming is roughly nine percent, versus cable's projected annual growth rate of four percent (Raj, 2023). More than 200 paid streaming platforms exist as of September 2023 (Cook, 2023).

The large number of streaming platforms, combined with the large and differing media libraries, has created a time consuming browsing experience for subscribers in search for content to view. A study conducted in July 2016, established that Netflix users spend an average of 17.8 minutes browsing prior to selecting something to watch (Moscaritolo, 2016). Another study conducted in August 2020 reported that users spend up to 187 hours per year searching for desirable media (Ward, 2020).

The overwhelming amount of different streaming platforms, each with their own respective libraries, has created a problem for users called decision fatigue. Decision fatigue is a phenomenon in which a large amount of choices or decisions hinders the ability to make further choices (Natal & Saltzman, 2022).

Modern streaming often detaches viewers from the social aspects of the movie watching experience. Socializing during movies or shows during viewing requires extra applications such as Rave - Watch Party, and others. Time wasted, decision fatigue, choice overload, and an isolating streaming experience are all common negative traits of the current streaming service user experience.

FlixPicks solves all of these streaming experience problems. FlixPicks has three built in features, each addressing one or more of the common user experience issues. FlixPicks is

designed to provide a single inventory to see all of a users' streaming services, with built-in features that provide a social experience, eliminate decision fatigue, collect user experience data to improve recommendations across all platforms, and eliminate choice overload.

2. Introduction – Prototype

FlixPicks is an online webpage/application that allows users to see an aggregated collection of streaming service content. The FlixPicks prototype showcases the important and innovative features to demonstrate feasibility on a larger scale. The prototype has a limited amount of movie data that is accessed to populate the user library. It is capable of accessing and modeling fake users with simulated inputs for testing and risk mitigation. The Taste Profile augments user specified preferences with an Apriori algorithm to provide users with recommendations. Each media viewed by a user is fed back into the algorithm to better populate recommendations. The three main features of FlixPicks are CineRoll, CineWheel, and CineMap. CineRoll selects a recommended content choice randomly for the user. CineWheel allows for manual input of media options and randomly selects from the inputted options for the user. CineMap overlays media content (if enabled) and allows for users to see/make time-stamped interactions while viewing.

3. Getting Started

To access the Pre-Production environment, navigate to the current Pre-Production domain name <http://localhost/> while connected to the ODU VPN.

To access the Production environment, navigate to the current Production domain name <http://FlixPicks.com>.

3.1 Navigation

3.1.1 The header can be found at the top of any page on the FlixPicks web application and is used for navigation between pages. From any point, the user can click on the search bar in the right half of the header and search for a movie (X.X.X Search bar info). If the user is not signed in to an account, any page they view will have the Guest header which contains the text “Guest” in the profile circle to the right of the search bar. Hovering the mouse over this circle allows the user access to the login, and register pages by clicking on the respective buttons in the dropdown. If the User clicks on the FlixPicks Logo on the left of the header, they will be redirected to the Guest Home page.

Logo that sends users to the Home page →



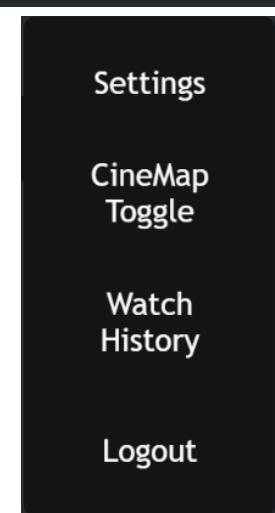
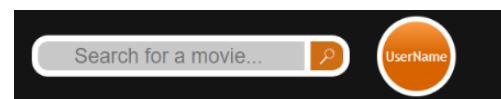
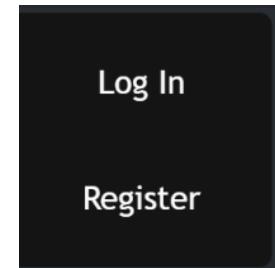
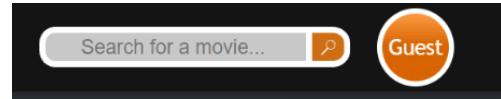
If the user is signed in, any page they view will have the

Registered User header which contains the user’s

first name in the profile circle to the right of the

search bar. Clicking on the FlixPicks Logo will redirect the user to the Registered user's home page instead of the Guest Page.

Hovering over the profile circle will allow the user to navigate to the Settings page, Watch History page, and to Logout by clicking on the respective buttons from the dropdown menu.

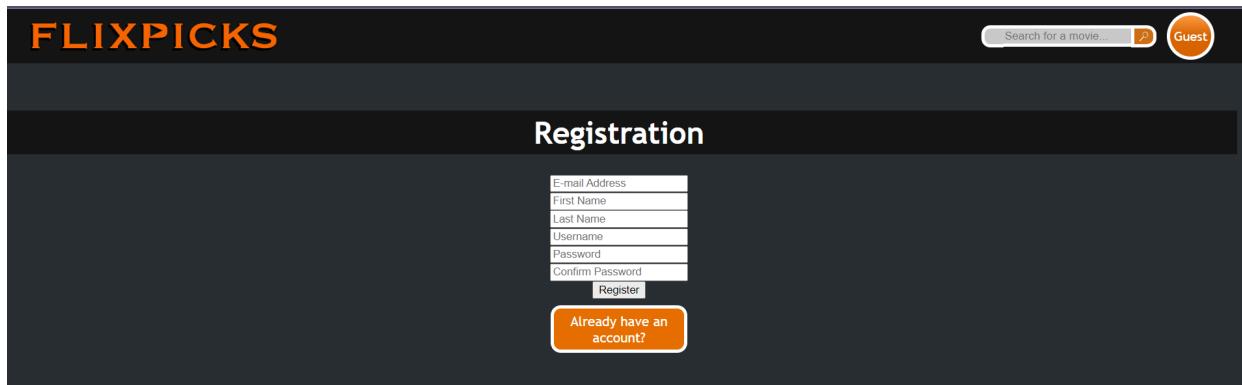


4. Account Management

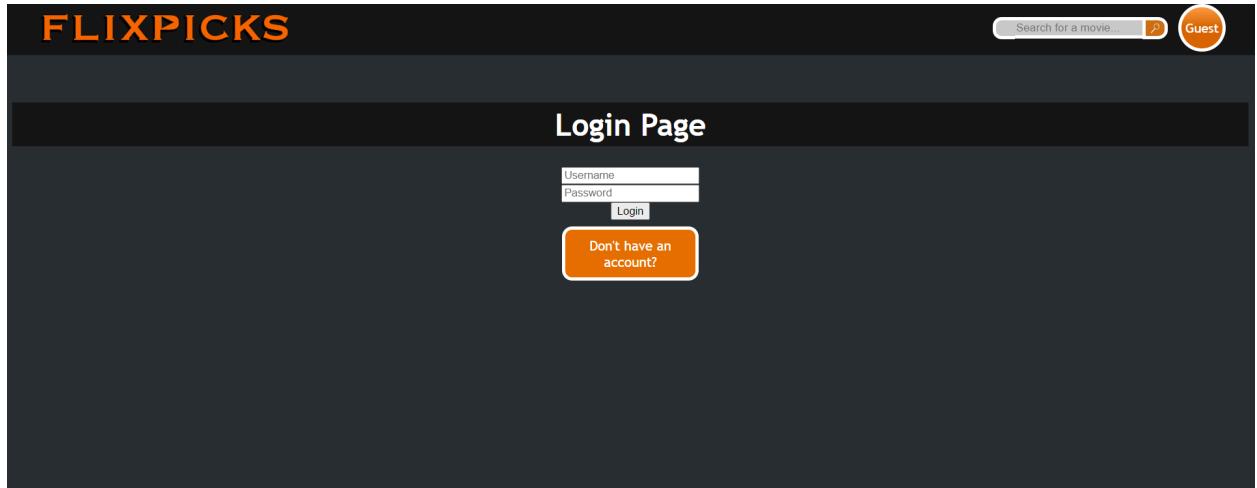
This section details functionalities and features that are related to Account Management, including Registration and Logging in as a registered user. Each button is further detailed in the subsequent subsections of this section.

4.1 Registration

4.1.1. On startup, the default FlixPicks screen is the guest user interface. This user interface is explained in the Guest section. To be able to login and enjoy FlixPick's registered user interface and features, a user needs to register as either a Registered User or a Representative.

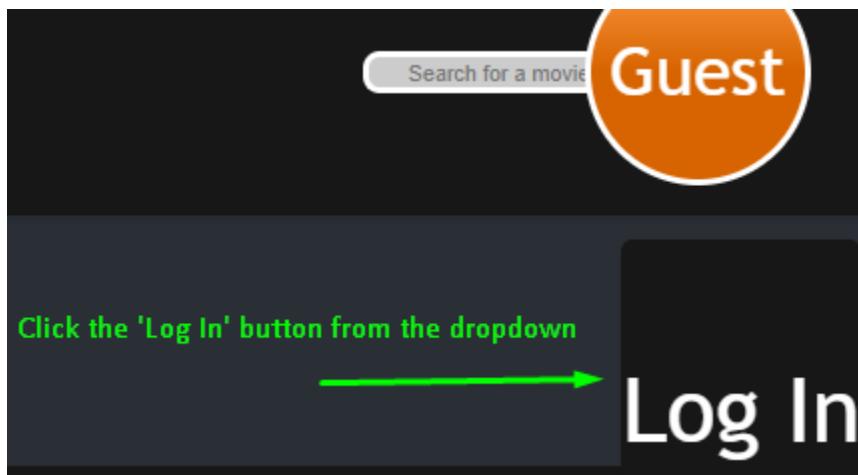


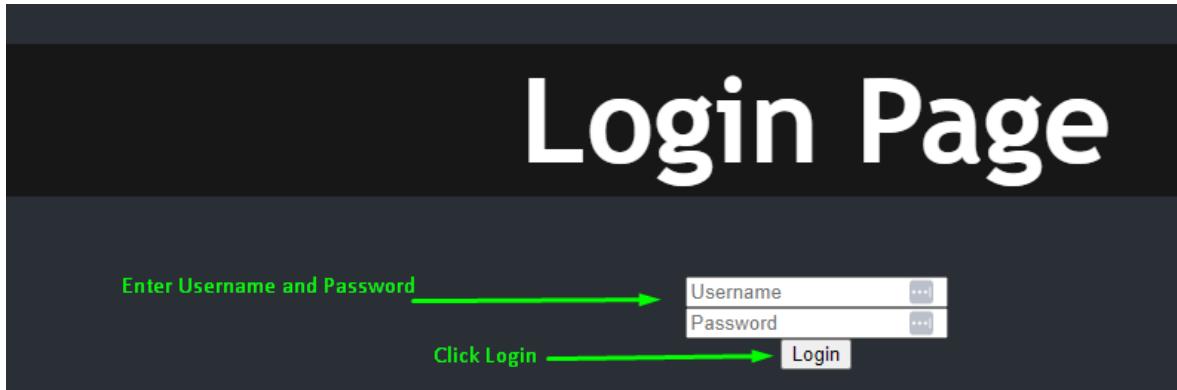
Users must fill out the email address, first name, last name, username, password, and confirm password fields and submit the registration form to create an account. If the user presses the Register button with incomplete fields a “missing fields” error is displayed allowing the user to fill them in. Upon successful registration, the user is redirected to the Login page.



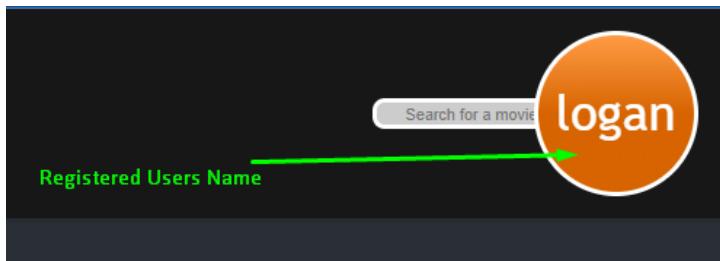
4.2 Login

4.2.1 After successful registration ([Registration](#)), the user will be taken back to the login screen where they can login with their new credentials.





Success! A registered user will see the user icon updated:

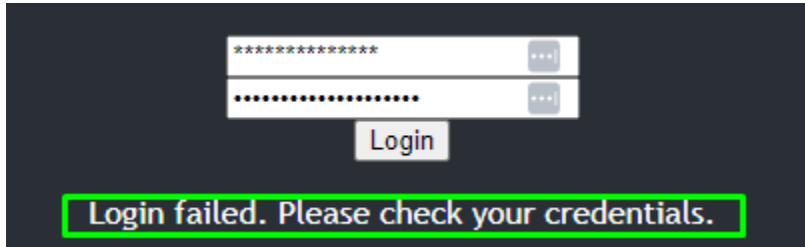


If a user wants a new account click the “Don’t have an account?” button. This redirects the user to the registration page.



4.2.2 Troubleshooting Logins

Recheck the username and password if you see the below error.

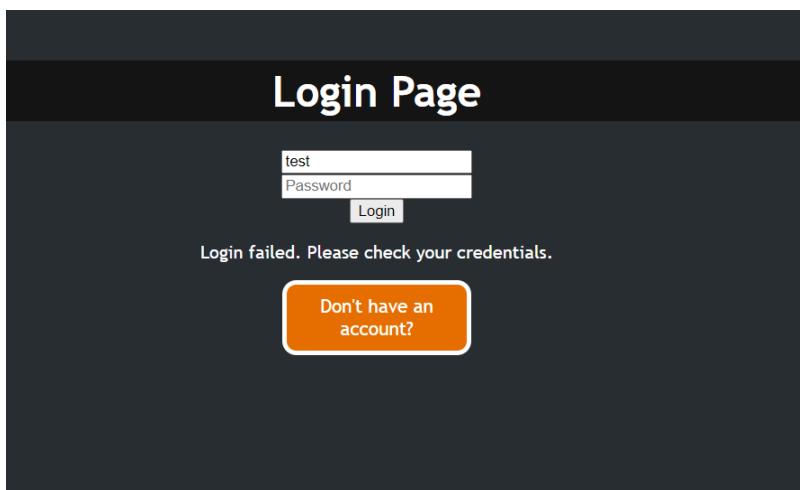


4.3 Authentication and Verification

In order to authenticate each user and differentiate between registered users and representatives, an algorithm during the login process is in place and will show appropriate error messages and pop-ups for each case.

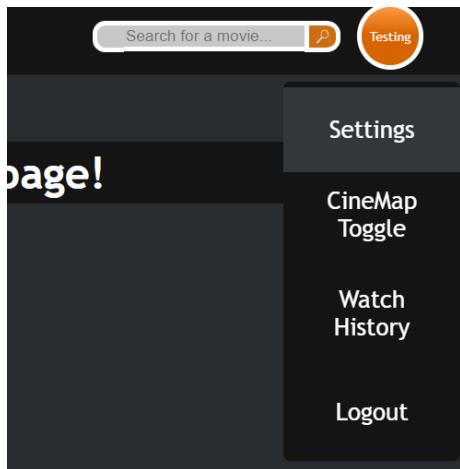
4.3.1. Invalid User Credential Input

If the user inputs credentials that FlixPick's database does not recognize, an error message will be displayed at the bottom of the password field stating, “Login failed, please check your credentials.”

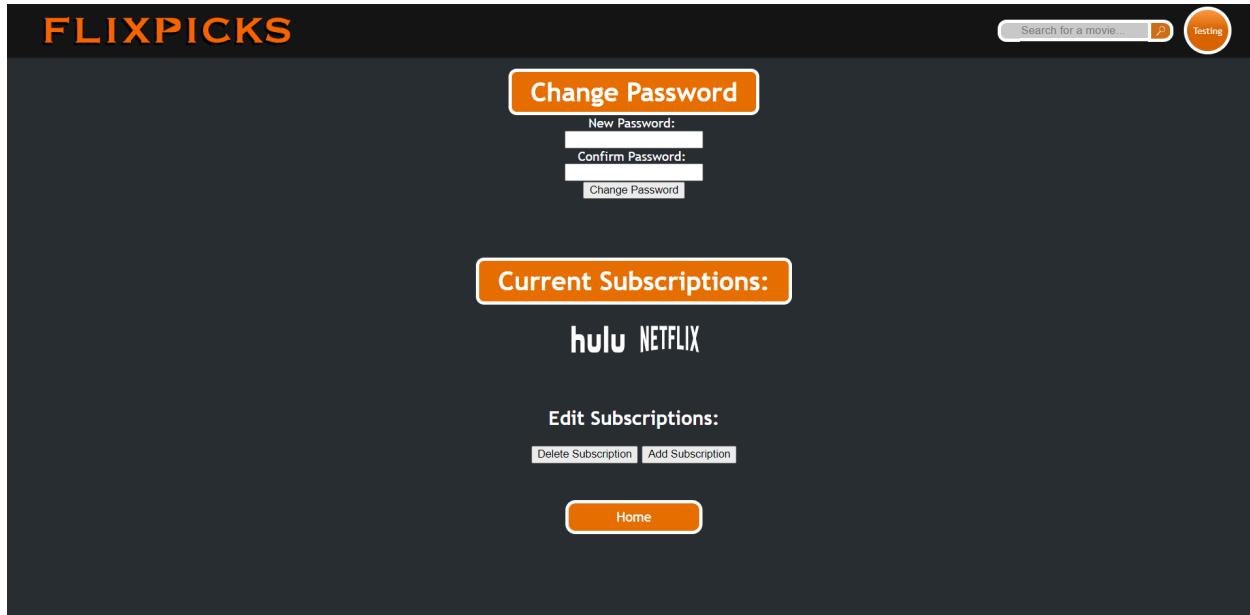


4.4. Settings

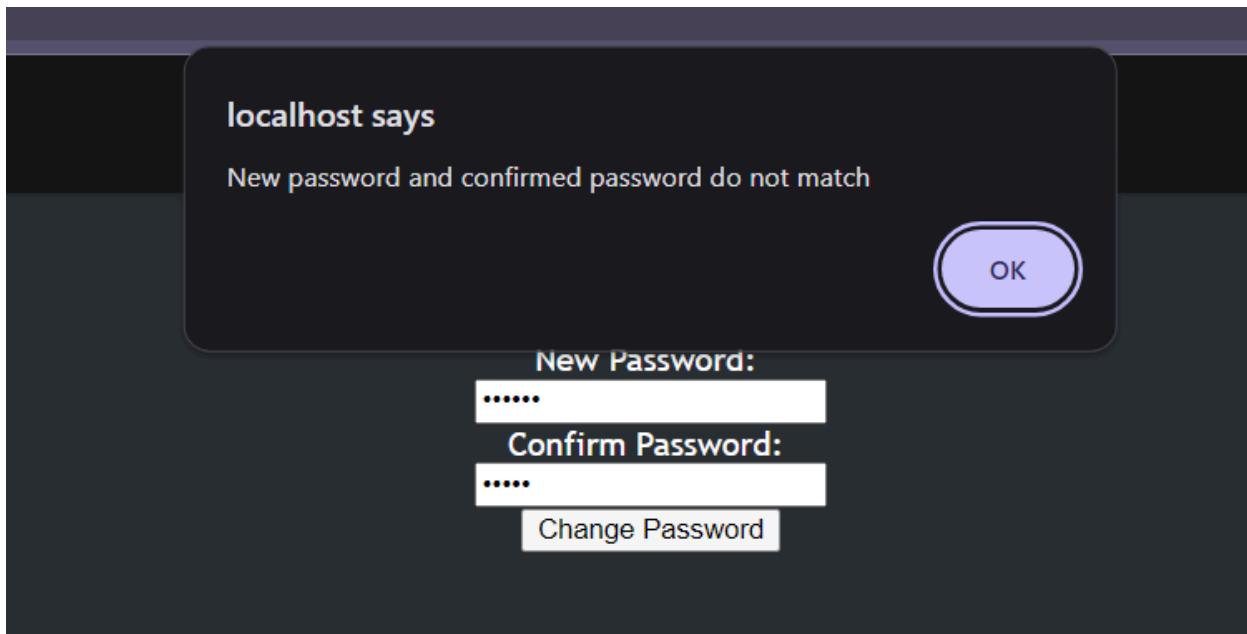
4.4.1. Login is required to access the user settings page. If a user is successfully logged in they can select settings from the drop down menu.



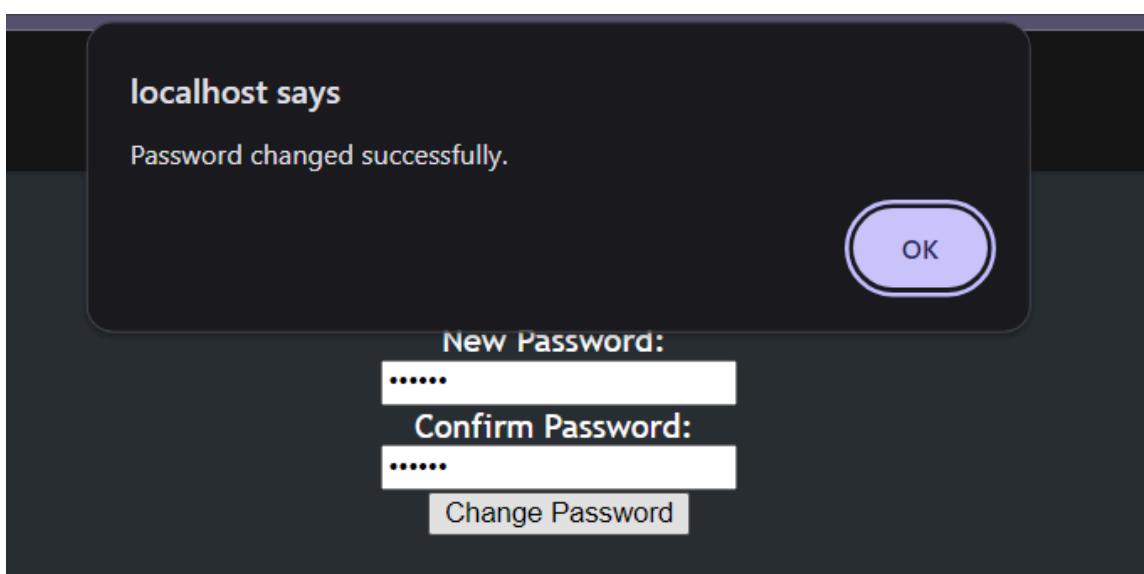
Upon selecting the Settings option, the user is redirected to the Settings page. This page displays a Change Password option with two fields required for doing so. Current Subscriptions are also displayed, with options to delete a subscription and add a subscription.



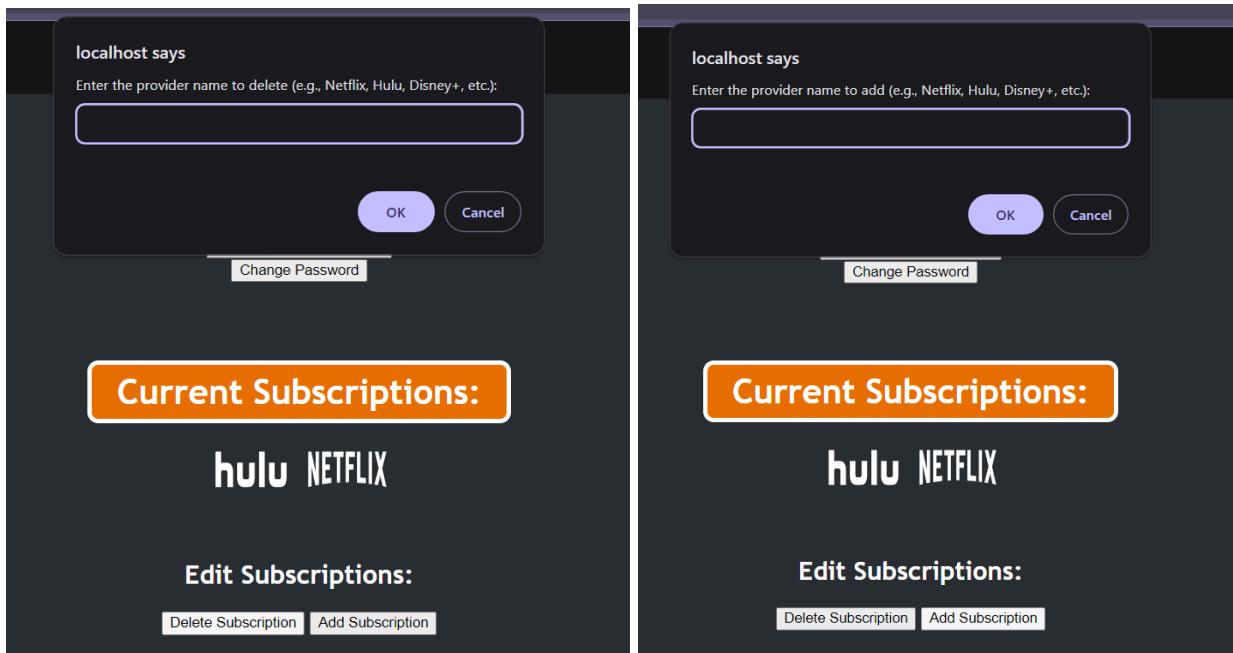
4.4.2. To change their password the user must input matching new passwords and click the Change Password button. If the user inputs non-matching passwords in the fields they will receive a “New password and confirmed password do not match” message.



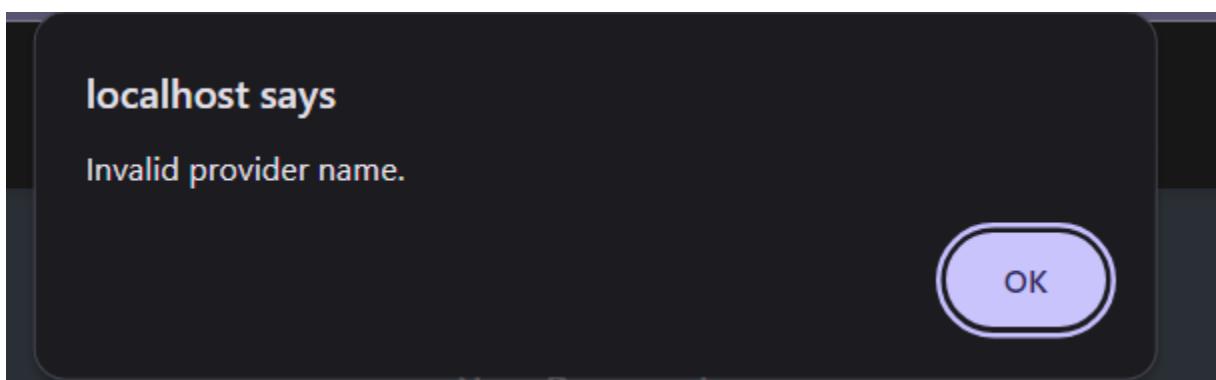
If the user inputs two matching passwords in the fields and clicks the Change Password button, they will receive a “Password changed successfully” message, and the user’s password will be updated in the database.



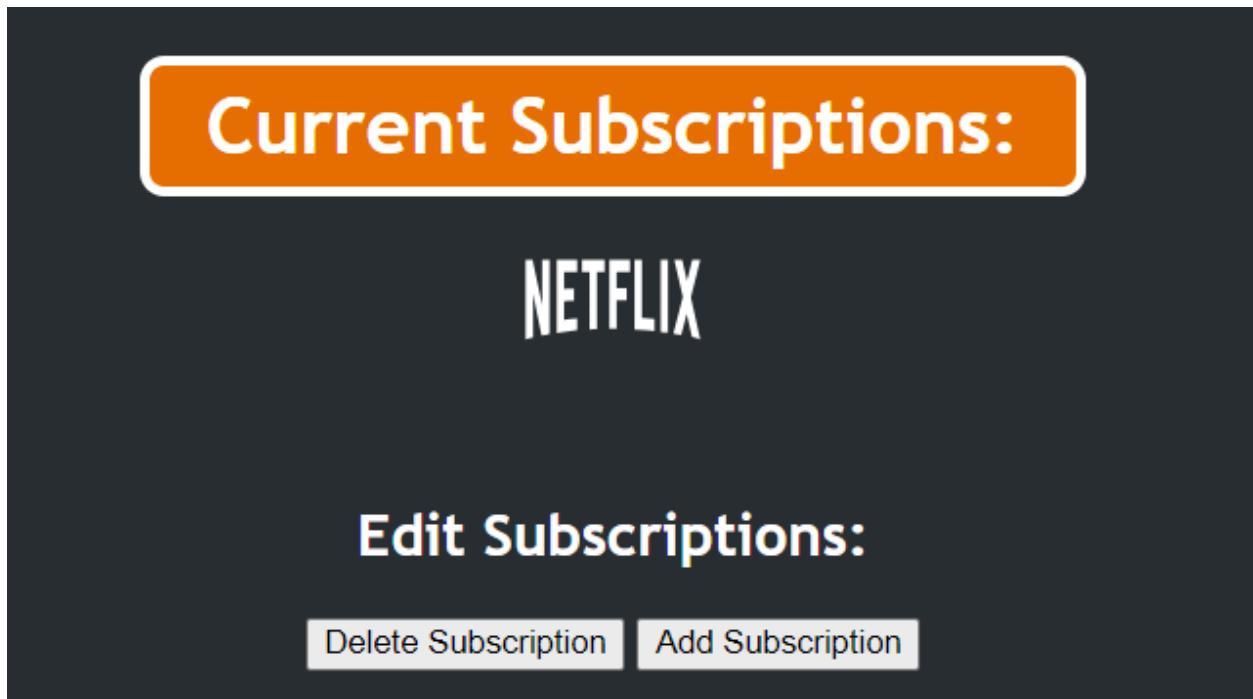
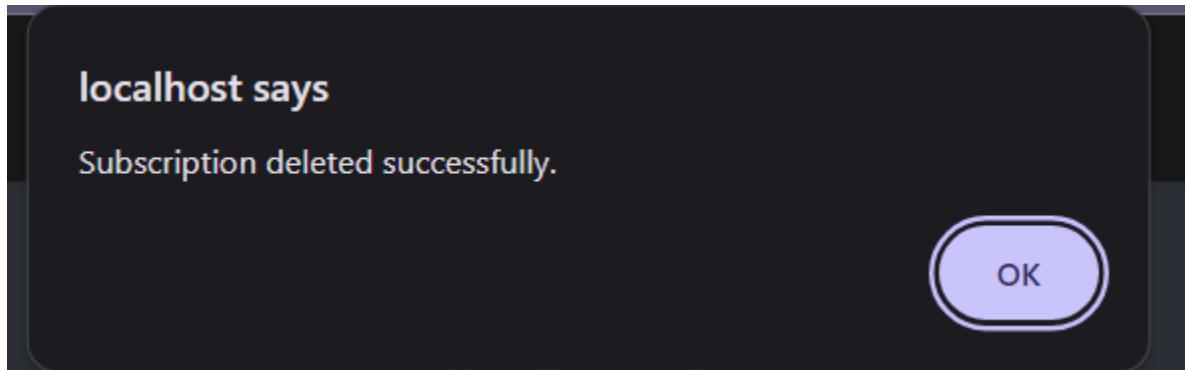
4.4.3. Current subscriptions are displayed under the “Current Subscriptions:” header. The user has the ability to remove current subscriptions with the Delete Subscription button. The user also has the ability to add new current subscriptions with the Add Subscription button. If a user selects Delete Subscription, they are prompted to enter the name of the subscription they wish to delete. If a user selects Add Subscription, they are prompted to enter the name of the subscription they wish to add.



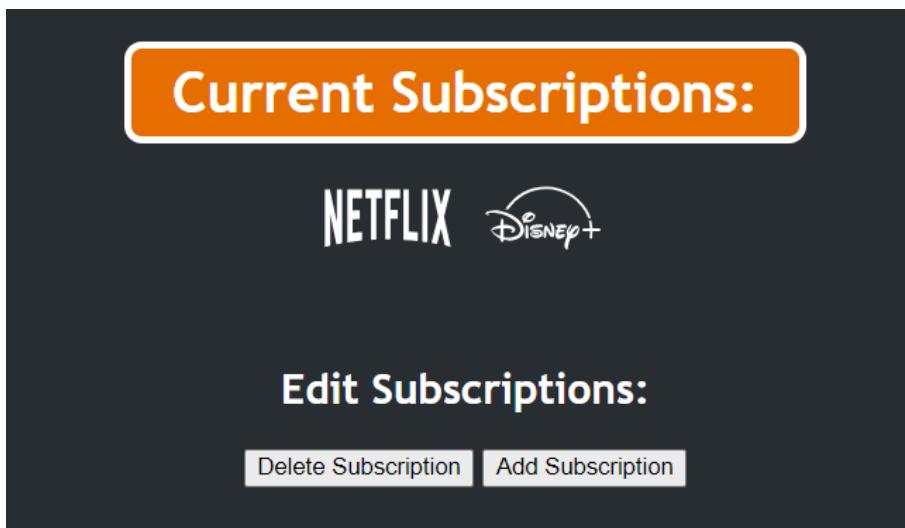
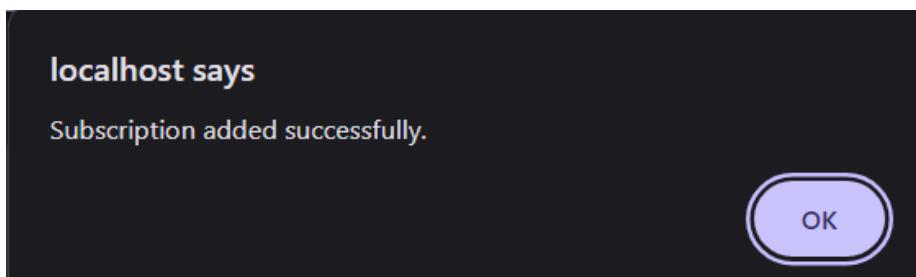
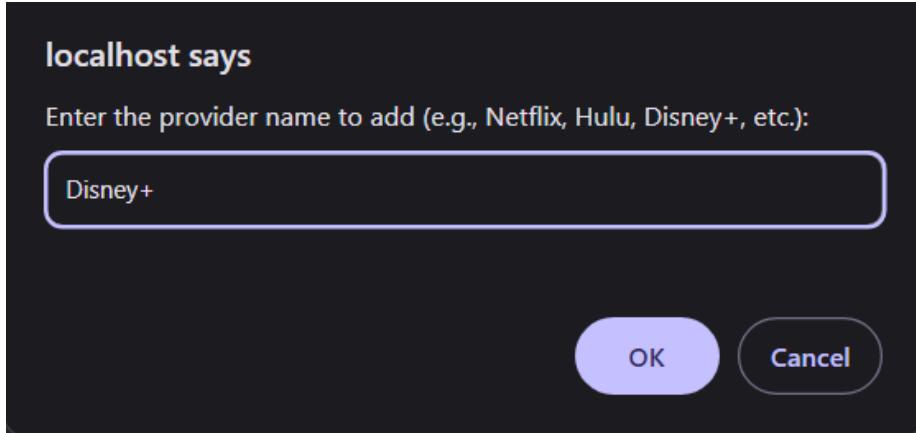
If a user inputs an invalid subscription name, an error message is displayed letting the user know they inputted an invalid name.



If a user inputs an existing subscription name to delete, the system removes the subscription from the database for the user. It also updates the Current Subscriptions section to display updated Current Subscriptions.



If a user selects the Add Subscriptions option and inputs an existing and valid subscription service name, the system adds the subscription to the database. It also updates the Current Subscriptions section to display updated current subscriptions.



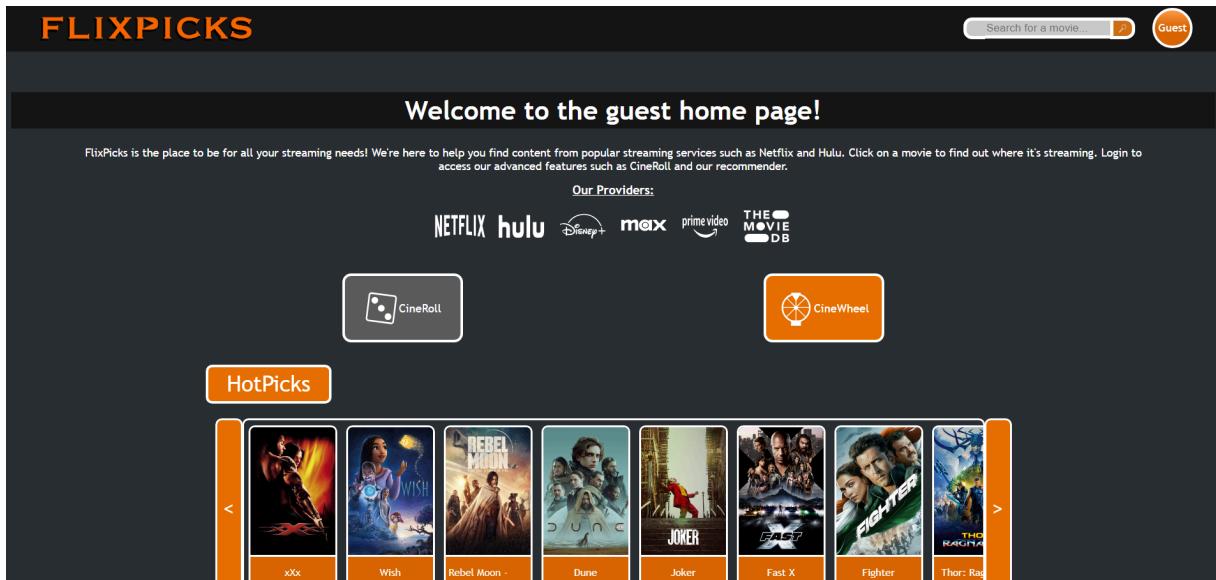
4.4.4. Home button allows the user to return to the registered user home interface after finishing in settings. The top left FlixPicks name is also clickable and redirects the user back to the home page.



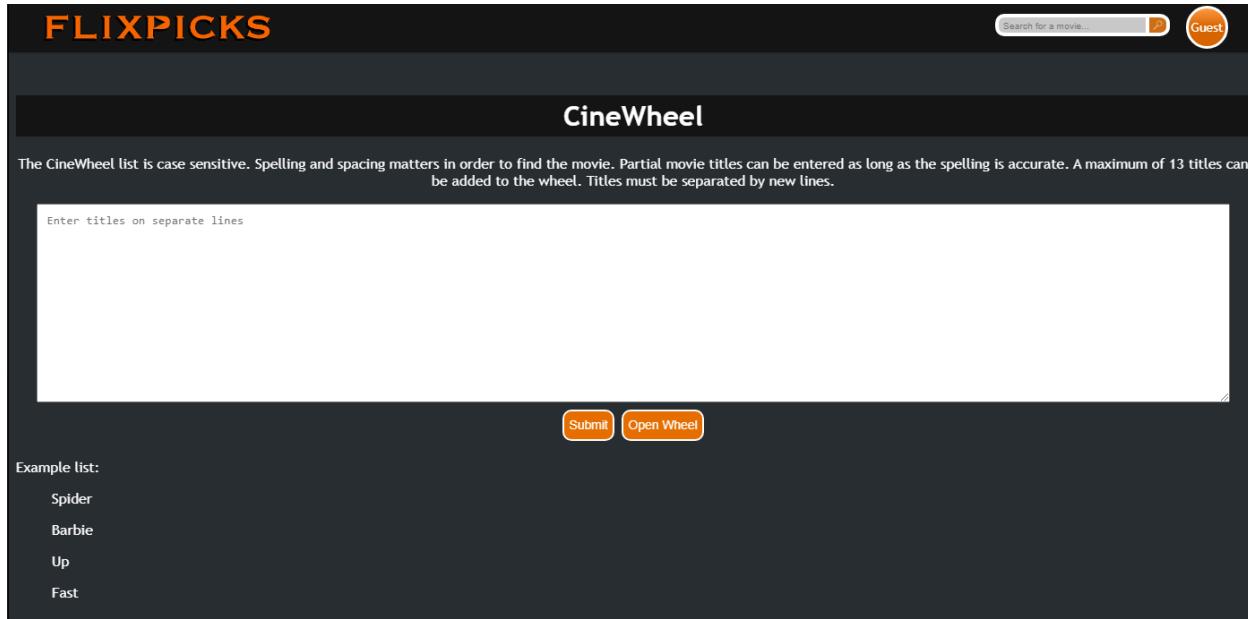
5. Guest

5.1 CineWheel

CineWheel is a feature that allows users to enter movie titles of their choosing to select one at random from a spinning wheel. Any movie title can be entered, but movies not in the system will not be displayed. CineWheel is included in the home page of Guests and logged in users. Users can access CineWheel from the button on the home page which will bring them to the CineWheel page.



5.1.1 On the CineWheel page, users are prompted to enter a list of movies separated by new lines. Users must click the “Submit” button to have the list appear on the wheel. Only 13 movie titles fit on the wheel, any more the user adds will be ignored. Users can change the list of movies after clicking on the “Submit” button as long as they update the wheel by re-clicking the button. Once a user is satisfied with their list and has clicked the “Submit” button they can open the wheel using the “Open Wheel” button.



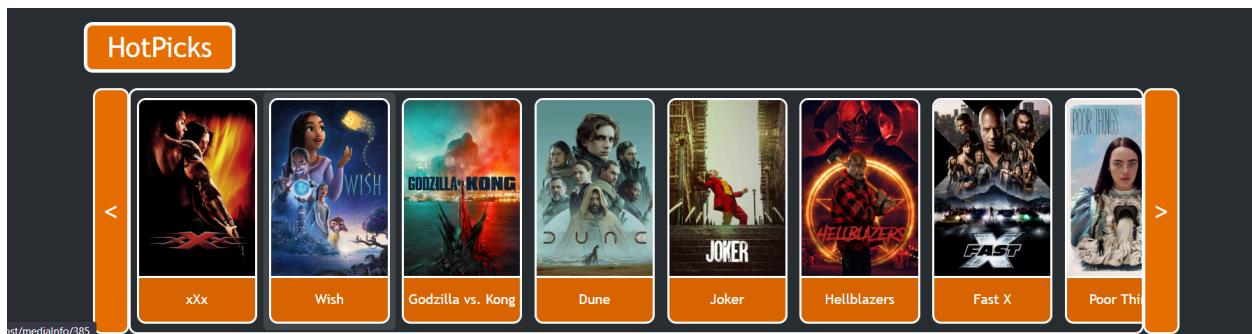
5.1.2 Upon clicking the “Open Wheel” button, the wheel will display over the web page.

To spin the wheel, click the “Spin the Wheel” button. When the wheel stops spinning, a new tab will open with the selected movie entered into the search feature. If the movie title is in the database it will be displayed for the user. If the user wants to respin the wheel they can switch back to the tab with CineWheel open.



5.2 HotPicks

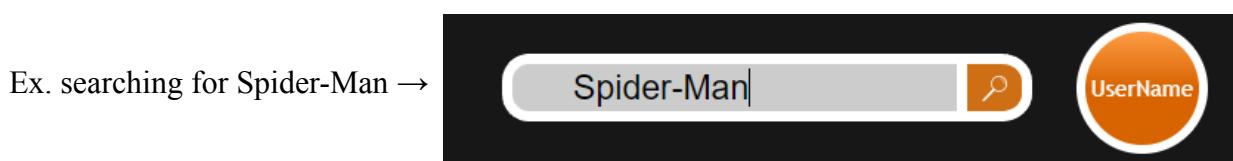
5.2.1. HotPicks is a media category included in FlixPicks that is available for the guest user interface and the registered user interface. It displays many popular movie options that can be selected, upon selection displaying the media information. HotPicks movie options are from the TMDB API popular movies, then filtered through our API Gateway to exclude movies that are not available on streaming services yet.



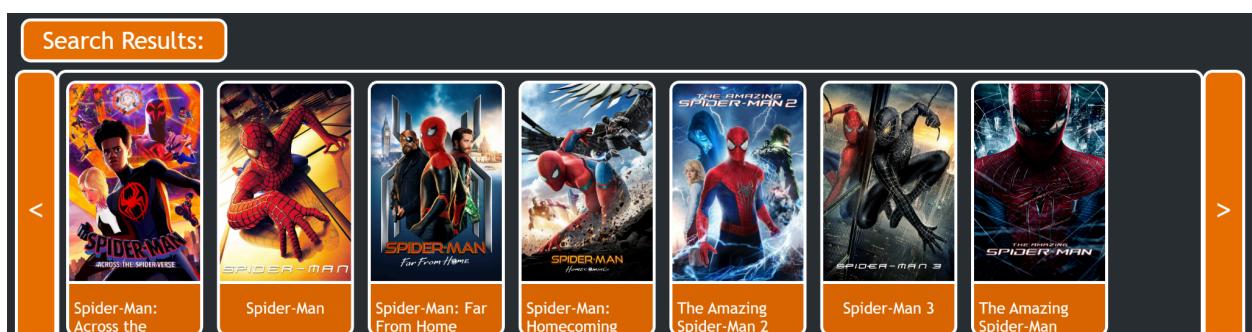
The user can press the arrows to view more HotPick's options.

5.3 Search

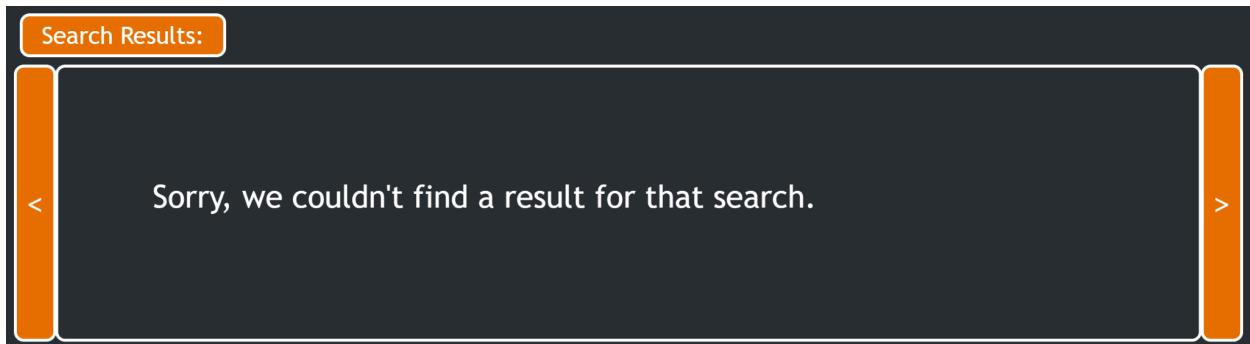
5.3.1 The Search Bar can be found on the right side of the header of any page for both registered and guest users. The user can enter the name of any movie and press on the magnifying glass to search for that movie in FlixPicks' database.



The user will be redirected to the Search Results page that displays all of the movies in FlixPicks' database that are related to the input text.



If there are no movies related to the input text, a notice will appear where the search results normally are.

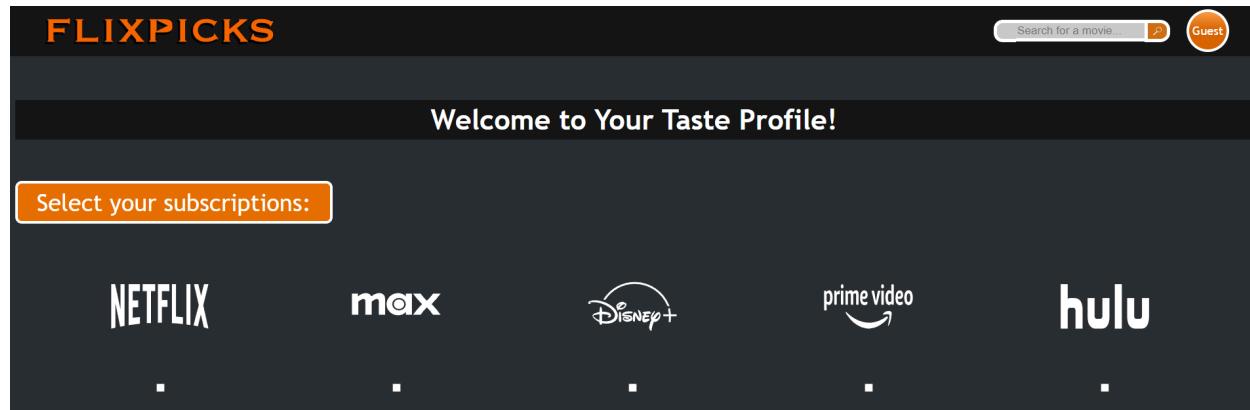


6. Registered User

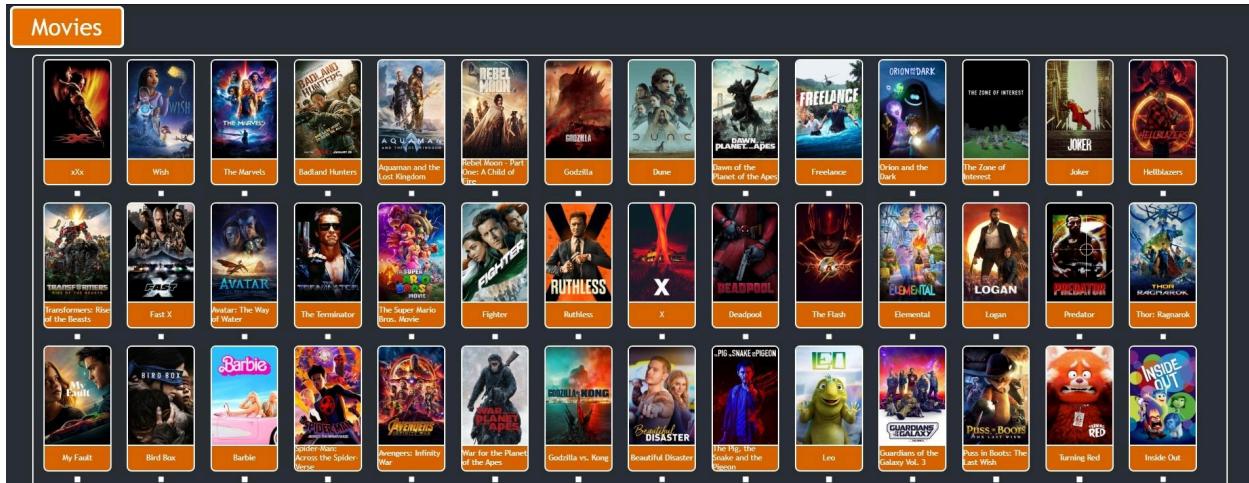
6.1 Taste Profile

The Taste Profile survey is where users are asked to select the streaming subscriptions they own and movies they have watched. The Taste Profile survey is presented upon logging into a newly created account for the first time.

First, select owned subscriptions:



Second, select watched movies:



Third, click the finish button:

Finished!

After clicking on the finish button, a thank you screen will appear. Click on “Home” to be directed to your new Home Page!

6.2 Home Page

The screenshot shows the FlixPicks user interface. At the top, there's a navigation bar with the FlixPicks logo, a search bar labeled "Search for a movie...", and a button labeled "Testing". Below the navigation bar, a banner says "Welcome Testing! This is your personal home page!". There are two orange buttons: "CineRoll" with a film reel icon and "CineWheel" with a wheel icon. A section titled "Recommended Content" displays a grid of movie cards. Each card has a thumbnail, the movie title, and a brief description. The cards shown are: "The Twilight Saga: Breaking Dawn - Part 2" (description: "Dangerous Waters"), "Dangerous Waters" (description: "Dangerous Waters"), "Orion and the Dark" (description: "Orion and the Dark"), "Jurassic World: Fallen Kingdom" (description: "All of Us Strangers"), "All of Us Strangers" (description: "Mission: Impossible"), "Mission: Impossible" (description: "Uncharted"), and "Uncharted" (description: "Heredit"). Navigation arrows on the sides of the card grid allow users to scroll through more recommendations. At the bottom left, there's a button labeled "HotPicks".

6.3 CineRoll

CineRoll is a feature that allows the user to randomly select a movie from their recommendations. The CineRoll button is located on the user's home page. To use CineRoll a user just has to click on the button and they will be taken directly to the randomly selected movie page.



6.4 Watch History

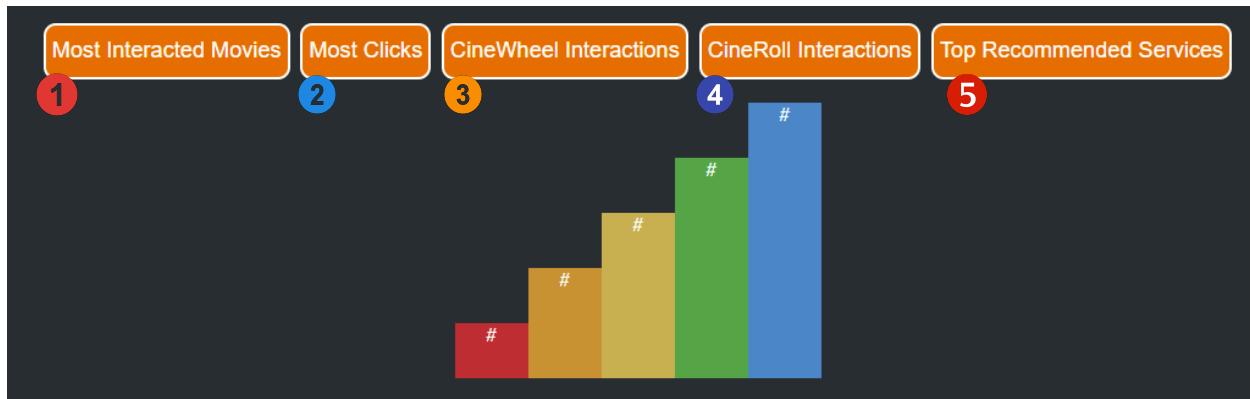


7. Streaming Service Representative

With successful credentials upon logging in as a Representative, the user is directed from the login screen to the Representative Dashboard home screen.

7.1 Representative Dashboard

The Representative Dashboard is displayed for Streaming Services Representatives. The prototype version is a mockup. If it were implemented, the buttons would allow the Representative to change what displays on the graph.



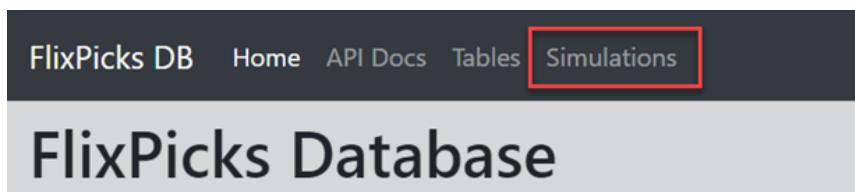
1. Change the graph display to the top five most interacted movies.
2. Change the graph display to the top five pages with the most clicks.
3. Change the graph display to show CineWheel Interactions.
4. Change the graph display to show CineRoll Interactions.
5. Change the graph to display the number of times each streaming service is recommended.

8 Administrators

8.1 Generating Simulations

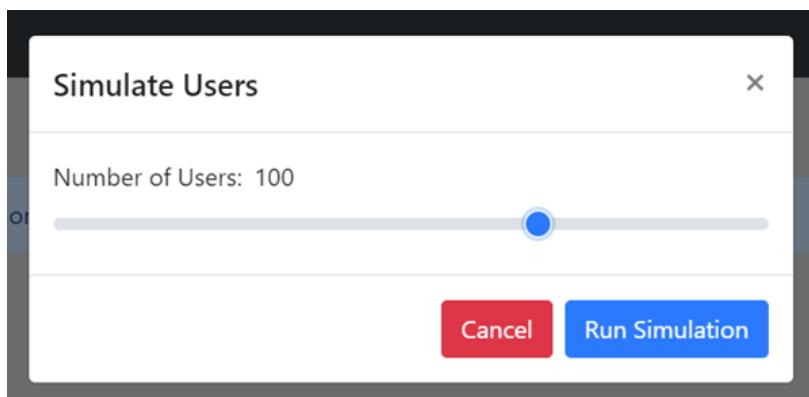
The FlixPicks prototype is provided with a simulation engine to generate user data for testing. To access simulations use the pre-production domain: <http://localhost:3000>.

From the main menu choose the “Simulations” button.

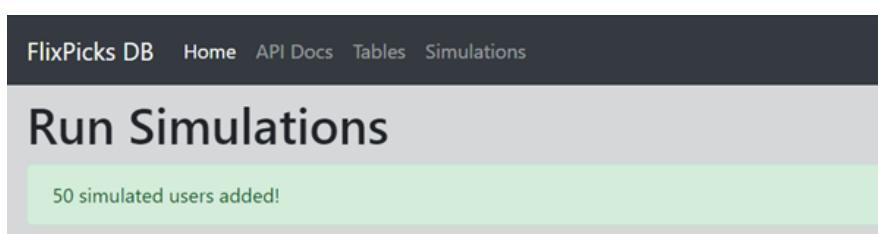


8.1.1 Simulating Users

The database can be populated with between 1 and 146 simulated users by pressing the “Generate Users” button found on the “Simulations” page. Upon pressing “Generate Users” a popup dialog will appear prompting for the number of users to add. Simply drag the slider to the appropriate number of users, then press “Run Simulation”.



Once the users have been generated, a confirmation message will appear at the top of the page indicating the number users successfully added. Duplicate users will not be added, which may result in a smaller number of generated users than selected.



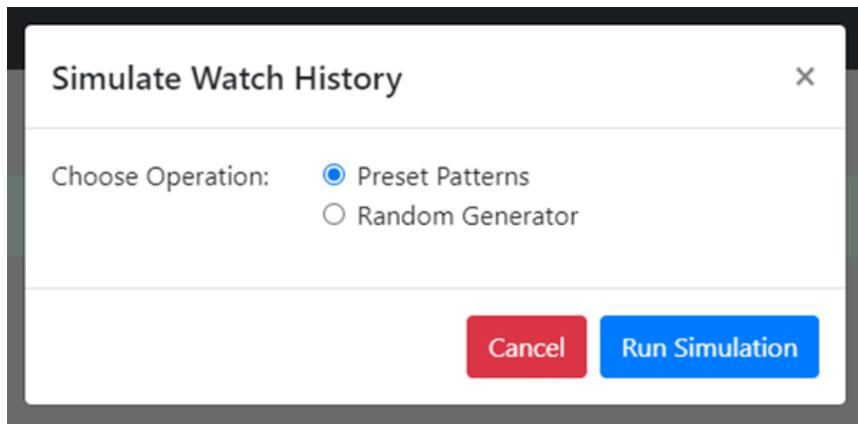
8.1.2 Simulating Watch History

User Watch History can be simulated in one of two ways: Preset Patterns or Random Generator.

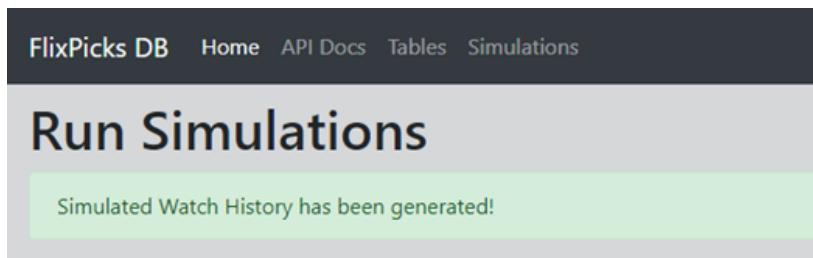
8.1.2.1 Preset Patterns

The Preset Patterns operation uses several predetermined movie lists, which are randomly applied to each user profile by the simulation. These predetermined movie lists are developed to generate specific recommendations for recommendation algorithm testing.

Upon pressing “Generate Watch History” a popup dialog will appear prompting for an operation. Simply leave the default option “Preset Patterns” selected, then press “Run Simulation”.



Once the watch history has been generated, a confirmation message will appear at the top of the page indicating successful completion of the operation.

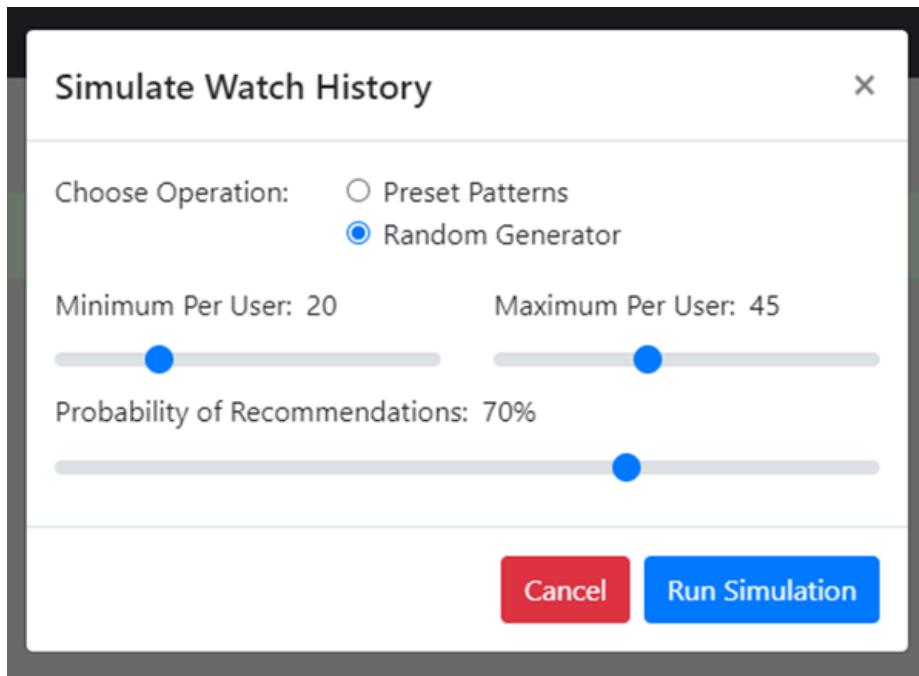


8.1.2.2 Random Generator

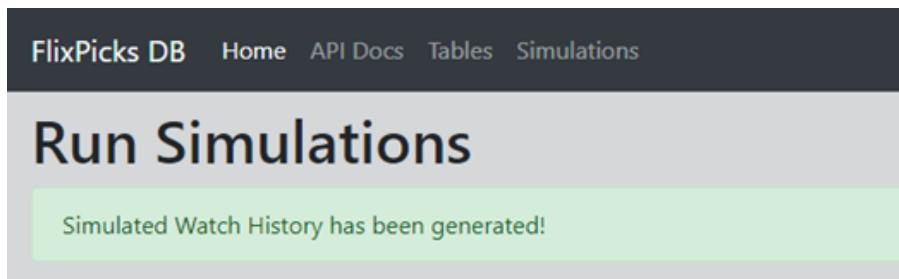
For a more robust and diverse set of movies for each user profile, use the Random Generator operation. This operation randomly adds movies each user's watch history using the provided parameters.

Upon pressing “Generate Watch History” a popup dialog will appear prompting for an operation. Change the operation to “Random Generator” and take note of the new parameters which appear in this dialog. The first two sliders indicate a minimum and maximum set of movies to

add to each user profile. The bottom slider indicates the probability each added movie was recommended for the user. After adjusting the parameters to customize the simulation, press “Run Simulation”.



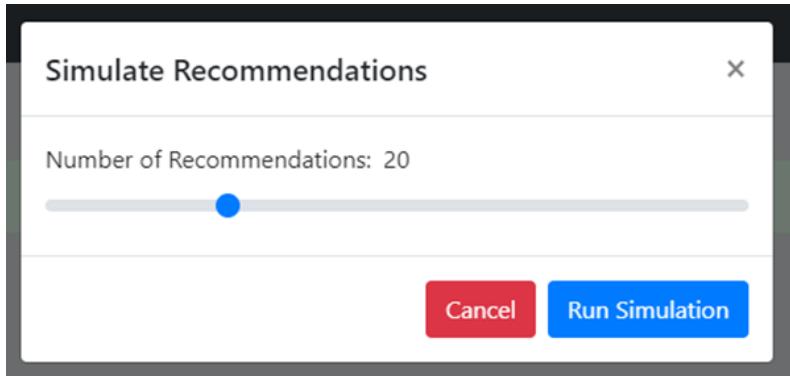
Once the watch history has been generated, a confirmation message will appear at the top of the page indicating successful completion of the operation.



8.1.3 Simulating Recommendations

User Recommendations can be generated randomly using the “Generate Recommendations” button.

Upon pressing “Generate Recommendations” a popup dialog will appear prompting for the number of recommendations to add for each user profile. This will generate a fixed number of recommended movies for each user profile in the database. Drag the slider to indicate the number of movies to add, then press “Run Simulation”.



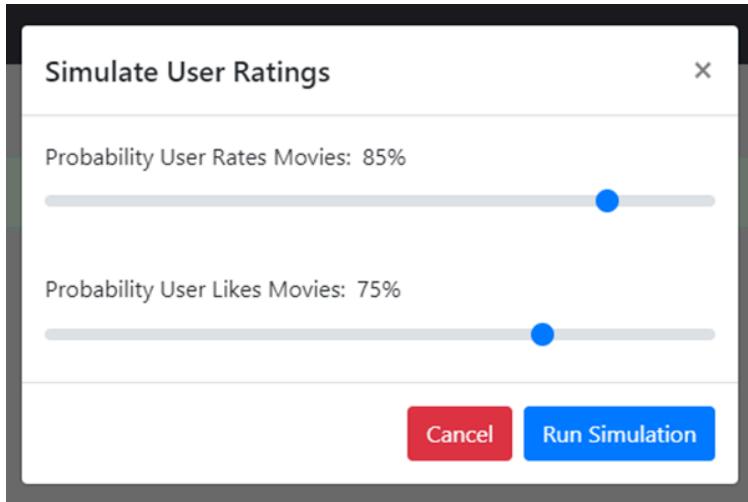
Once the recommendations have been generated, a confirmation message will appear at the top of the page indicating successful completion of the operation.

A screenshot of the FlixPicks DB interface. The top navigation bar includes links for "FlixPicks DB", "Home", "API Docs", "Tables", and "Simulations". The main content area is titled "Run Simulations". A green notification bar at the bottom displays the message "Simulated Recommendations Populated!".

8.1.4 Simulating User Ratings

User Ratings can be generated to simulate users liking or disliking movies from their Watch History. This simulation requires Watch History to be populated, therefore the watch history simulation must be run before attempting this simulation.

Upon pressing “Generate User Ratings” a popup dialog will appear prompting for parameters. The first slider indicates the probability each user decides to rate a movie from their watch history. The second slider indicates the probability the user likes the movie to be rated. After adjusting the parameters to customize the simulation, press “Run Simulation”.



Once the user ratings have been generated, a confirmation message will appear at the top of the page indicating successful completion of the operation.

A screenshot of the FlixPicks DB interface. The top navigation bar includes links for "FlixPicks DB", "Home", "API Docs", "Tables", and "Simulations". The main title "Run Simulations" is displayed. A green notification bar at the top states "Simulated User Ratings have been generated!".

9. Glossary

Administrator: A user who, beyond having access to the full slate of features a Registered user has and the data available to a Representative, can manipulate FlixPicks data.

Android: An operating system for mobile devices manufactured by Google, Samsung, and other companies.

Apache Tomcat: An open-source implementation of the Java Servlet, Java Server Pages, Java Expression Language, and WebSocket technologies. Tomcat provides a “pure java” HTTP web server environment in which Java code can run.

API: An Application Programming Interface is an interface that allows for interactions between multiple software applications or mixed hardware-software intermediaries.

Apriori Algorithm: Association mining that allows for common patterns in a users watch history to be used to help suggest content for other users.

Choice Overload: The phenomenon that choosing between a large variety of options can be detrimental to the decision-making process.

CineFeatures: CineFeatures is the collective name of the three features in FlixPicks: CineRoll, CineWheel, and CineMap.

CineMap: FlixPicks extension that is enabled when a user is watching media. It overlays their media and allows the user to see and make their own time-stamped comments and reactions that are stored on the FlixPicks DB.

CineRoll: FlixPicks feature that generates random selections based on a user’s interests.

CineRoll uses the Taste Profile to generate selections for a user based on their recommendations and chooses one for the user. The user has the option to reroll if they aren’t satisfied with the selection.

CineWheel: FlixPicks feature that randomly selects from a set of user-inputted choices. The user provides the feature with media options and the feature randomly selects from a maximum of ten options.

CSS: Cascading Style Sheets is a style sheet language used for customizing the appearance of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

Decision Fatigue: The fatigue from deciding what to watch can take the joy out of watching anything.

Git: Software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development.

Guest: An unregistered user who has limited access to features offered by FlixPicks.

HotPicks: A micro-experience tile for showing popular and trending media. Dynamically creates the list upon page refresh. Available for registered users and guests.

HTML: Hyper Text Markup Language. HTML is the standard markup language for creating web pages. HTML elements tell the browser how to display the content and define the structure of web pages.

IDE: An integrated development environment is a software application that provides comprehensive facilities to computer programmers for software development.

iOS: An operating system used for mobile devices manufactured by Apple Inc.

JavaScript: A scripting or programming language that allows you to implement complex features and interactivity on web pages.

Library: Aggregated content that is shown to users. Guest users only have access to HotPicks but registered users can see aggregated content from HotPicks and their personalized recommendations.

Linked Subscriptions: User's subscription data that will be used to filter what media is shown in the Library, users can change this in settings if they want to only view their subscriptions.

MySQL: An open-source relational database management system.

Netflix: A subscription-based streaming service that allows members to watch TV shows and movies on internet-connected devices.

Quick Click: A link from FlixPicks that redirects the user to the selected streaming media.

Reactions: Small images that the user attaches to their comment to describe a variety of emotions that the user feels about the media.

Recommendation Algorithm: An algorithm that uses a dynamically built input library and information filtering system based upon the Taste Profile that provides suggestions for media content that is most relevant to a particular user.

Registered User: A user who completed registration and Taste Profile Survey, having full access to features offered by FlixPicks.

Representative: A user who is an affiliate of a particular streaming service who has access to non-account-specific data analytics of Registered Users.

Stakeholder: A person with interest or concern in something, especially a business.

Streaming: A method of transmitting or receiving data over a computer network as a steady, continuous flow, allowing playback to start while the rest of the data is being processed.

Streaming Service: A streaming service is a digital platform that delivers multimedia content over the internet, allowing users to watch or listen to it in real-time without downloading.

Examples include Netflix, Spotify, and Disney+.

Subscription: A user's enrollment with a Streaming Service provider, providing them access to media available through the service.

Survey: A questionnaire to establish the initial information for recommendations in the Taste Profile.

Taste Profile: A user profile on FlixPicks that stores data about user streaming subscriptions, recommended media, and user preference information. As a user makes selections the Taste Profile recommendations become more refined to the users' preferences.

User Roles: Guest, Registered User, Representative, and Administrator are the user roles for FlixPicks.

Watch History: A comprehensive list of past content viewed by a user.