InfiniMuse BRD

Business Requirement Document

Hello World

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Introduction

Statement of Intent

- This BRD document was made to enumerate and describe all the components that will need to be implemented for the Intelligent Matcher project, and all the requirements for those components, both functional and nonfunctional requirements.

Project Description

- Our project's goal is to build a web application that makes it easy for a user to match and collaborate with other users who are also looking for matches in similar areas. The core functionality of this application is an intelligent search engine that gives the user the ability to search for other users as if they were searching Google. This centralized, intelligent application

eliminates the need to use a variety of different websites to find the matches that are needed, and makes it easy to find what one is looking for using natural language. It can be thought of as a central hub where users can connect and meet new friends, teammates, contributors, project collaborators, coaches, mentors, therapists, dates, and anyone else who shares an aligned purpose.

Scope

- Type of Web Application
    - MVC Web Application
- Compatible Browsers
    - All modern browsers
- Collected Data
    - Account Information
    - IP Information
- Audience
    - The United States

Core Features

User Access Control / User Access Control Dashboard

Functional Requirements

- There will be four types of users:
    - User
        - Access to:
            - All application-specific components.
            - Session Management
        - Registered by: Registration Component or admin registering through User Management.

        - Scenario 1
            - Success
                - Upon login, a User is taken to the website and has access to all application specific components.
            - Failure

        - Upon login, a User is taken to the website and does not have access to all application specific components.
        - Upon login, a User is taken to the website and has access to features that belong to the moderator, admin, and/or super admin.

- Moderator
    - Access to:
        - All application-specific components.
        - Session Management
        - Moderator Panel
        - Automod
    - Registered by: Admins
    - Moderation Scope: Can only use moderator functions within a given component that they were given access to by admins.

    - Scenario 1
        - Success
            - Upon login, a Moderator is taken to the website and has access to all application specific components, the moderator panel, and the auto mod.
        - Failure
            - Upon login, a Moderator is taken to the website and does not have access to all application specific components, the moderator panel, and the auto mod.
            - Upon login, a Moderator is taken to the website and has access to features that belong to the admin and/or super admin.
    -
- Admin
    - Access to: All components
    - Registered by: Super Admin
    - Moderation Scope: The entire application

    - Scenario 1
        - Success
            - Upon login, an Admin is taken to the website and has access to all application specific components, the moderator panel, the auto mod, and the admin dashboard.
        - Failure

            - Upon login, an Admin is taken to the website and does not have access to all application specific components, the moderator panel, the auto mod, and the admin dashboard.
            - Upon login, an Admin is taken to the website and has access to features that only belong to the super admin.
    - Super Admin
        - Access to: All components
        - Registered by: Database Administrator
        - Moderation Scope: The entire application
            - Special features on User Access Control Dashboard
        - Special Role: Assign other admins

        - Scenario 1
            - Success
                - Upon login, the Super Admin has access to all features and components, and they also have the additional ability of assigning moderators.
            - Failure
                - Upon login, the Super Admin does not have access to all features and components, and/or they do not also have the additional ability of assigning moderators.
- User List
    - There will be a list on the home page of the User Access Control Dashboard that contains a list of all users.
        - Scenario 1
            - Success
                - There is a list on the homepage of the User Access Control Dashboard that contains a list of all users.
            - Failure
                - There is not a list on the homepage of the User Access Control Dashboard that contains a list of all users.
                - There is a list on the homepage of the User Access Control Dashboard that contains a list of users, but it does not contain all users.
    - For each user in the list, the following information will be displayed:
        - First Name
        - Last Name
        - User Id
        - User Account Type

        - Scenario 1
            - Success
                - For each user on the list, all the above information is displayed.
            - Failure
                - One or more users fails to display one or more of the above listed information.
- User Search Bar
    - There will be a search bar that can be used to search for a specific user in the list.
        - Scenario 1
            - Success
                - There is a search bar that can be used to search for a specific user on the list.
                - The search bar successfully finds the user.
            - Failure
                - There is not a search bar that can be used to search for a specific user on the list.
                - The search bar fails to find the desired user.
- Change Access
    - Change to Moderator
        - Scenario 1
            - Success
                - The desired user's account access type is successfully changed to moderator.
                - Upon logging out and then logging back in, the user has access to all features and functionality of the moderator.
            - Failure
                - The desired user's account access type is not successfully changed to moderator.
                - Upon logging out and then logging back in, the user does not have access to all features and functionality of the moderator.
    - Change to Admin
        - Scenario 1
            - Success
                - The desired user's account access type is successfully changed to admin.
                - Upon logging out and then logging back in, the user has access to all features and functionality of the admin.
            - Failure

        - The desired user's account access type is not successfully changed to admin.
        - Upon logging out and then logging back in, the user does not have access to all features and functionality of the admin.
    - Demote to User
        - Scenario 1
            - Success
                - The desired user's account access type is successfully changed to user.
                - Upon logging out and then logging back in, the user has access to only the features and functionality of the user.
            - Failure
                - The desired user's account access type is not successfully changed to user.
                - Upon logging out and then logging back in, the user has access to more than just the features and functionality of the admin.
- Assign Moderator Scope
    - Assign Scope of Website
        - Scenario 1
            - Success
                - The moderator successfully has access to moderate the desired section of the website.
            - Failure
                - The moderator does not successfully have access to moderate the desired section of the website.
    - Assign Scope of Moderator Actions
        - Scenario 1
            - Success
                - The moderator successfully has access to the desired moderator tools and functionalities.
            - Failure
                - The moderator does not successfully have access to the desired moderator tools and functionalities.
                    - action.

Non-Functional Requirements

- Access
    - The admin and the super admin should be able to access the User Access Control Dashboard
        - Scenario 1

        - Success
            - The admin and super admin can access the User Access Control Dashboard.
            - No other user type can access the User Access Control Dashboard.
        - Failure
            - The admin and/or cannot access the User Access Control Dashboard.
            - At least one other user type can access the User Access Control Dashboard.
- Reliability
    - The User Access Control Dashboard should be available at all times of the day, except during maintenance. Super admin and admin should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The User Access Control Dashboard is available at all times of the day, except during maintenance.
            - Failure
                - TheUser Access Control Dashboard had a down time that did not occur during scheduled maintenance.
- Compatibility
    - The User Access Control Dashboard should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The User Access Control Dashboard works on any device on all compatible web browsers.
            - Failure
                - The User Access Control Dashboard fails to work on a given device that is running a compatible web browser.
- System Response Time
    - No action should take longer than 5 seconds.
        - Scenario 1
            - Success
                - System response is no longer than 5 seconds to load information.
            - Failure
                - System response is longer than 5 seconds to load information.

        - If longer than 30 seconds, the load is timed out and an error message appears to the admin.

Admin Dashboard

Functional Requirements

- Contains Admin Components
    - The admin dashboard will contain a button that links to the User Management component.
        - Scenario 1
            - Success
                - The admin dashboard contains a button that links to the User Management component.
            - Failure
                - The admin dashboard does not contain a button that links to the User Management component.
    - The admin dashboard will contain a button that links to the User Analysis Dashboard.
        - Scenario 1
            - Success
                - The admin dashboard contains a button that links to the User Analysis Dashboard component.
                - The button successfully takes the user to the User Analysis Dashboard Component, upon being pressed.
            - Failure
                - The admin dashboard does not contain a button that links to the User Analysis Dashboard component.
                - The button fails to take the user to the User Analysis Dashboard Component, upon being pressed.
    - The admin dashboard will contain a button that links to their Moderator Panel.
        - Scenario 1
            - Success
                - The admin dashboard contains a button that links to the Moderator Panel component.
                - The button successfully takes the user to the Moderator Panel, upon being pressed.
            - Failure
                - The admin dashboard does not contain a button that links to the Moderator Panel component.

        - The button fails to take the user to the Moderator Panel, upon being pressed.
    - The admin dashboard will contain a button that links to their User Access Control Dashboard.
        - Success
            - The admin dashboard contains a button that links to the User Access Control component.
            - The button successfully takes the user to the User Access Control Dashboard, upon being pressed.
        - Failure
            - The admin dashboard does not contain a button that links to the User Access Control component.
            - The button fails to take the user to the User Access Control Dashboard, upon being pressed.
- Admin Home - The Admin Home is the central information that displays on the homepage of the Admin Dashboard. It displays the following content:
    - Notifications -
        - A list of notifications will be displayed of anything the Admin needs to be aware of, using the notification component.
            - Success
                - There is a list of notifications, if any exist.
                - Each notification accurately reflects notifications that have been pinged toward the Admin from another component.
            - Failure
                - At least one notification meant for the admin exists, but does not display.
                - One or more notifications does not accurately reflect an existent notification that had been pinged for the Admin.
                - One or more notifications on the notifications list was not pinged for the Admin.
        - Upon clicking a notification, a dialogue box will appear that displays the following information about the notification:
            - The sending component
            - The subject matter
            - The message

            - Success
                - Upon clicking on a given notification, a dialogue box successfully appears displaying information about the notification.

        - The information displayed about the notification in question is accurate.
    - Failure
        - Upon clicking on a given notification, a dialogue box fails to appear.
        - Upon clicking on a given notification, the dialogue box appears, but does not display information about the notification.
        - The information displayed about the notification in question is inaccurate.

Non-Functional Requirements

- Access
    - The admin and the super admin should be able to access the Admin Dashboard
        - Scenario 1
            - Success
                - The admin and super admin can access the Admin Dashboard.
                - No other user type can access the Admin Dashboard.
            - Failure
                - The admin and/or super admin cannot access the Admin Dashboard.
                - At least one other user type can access the Admin Dashboard.
- Reliability
    - The Admin Dashboard should be available at all times of the day, except during maintenance. Super admin and admin should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The Admin Dashboard is available at all times of the day, except during maintenance.
            - Failure
                - The Admin Dashboard had a down time that did not occur during scheduled maintenance.
- Compatibility
    - The Admin Dashboard should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The Admin Dashboard works on any device on all compatible web browsers.
            - Failure
                - The Admin Dashboard fails to work on a given device that is running a compatible web browser.

- System Response Time
    - No action should take longer than 5 seconds.
        - Scenario 1
            - Success
                - System response is no longer than 5 seconds to load information.
            - Failure
                - System response is longer than 5 seconds to load information.
                - If longer than 30 seconds, the load is timed out and an error message appears to the admin.

User Management

Functional Requirements

- View All Users
    - Admin should be able to view a list of all users along with the following information:
        - User Id
        - Username
        - First Name
        - Last Name
        - Account Creation Date
        - Account Status
    - Admin should have the ability to delete, reset password, modify, or disable/enable users from this list.
        - Scenario 1
            - Success
                - Successful if the admin can view all users and their relevant information.
            - Failure
                - Unsuccessful if the admin cannot view all users and their relevant information.
- Create a User
    - The admin can create a new user account by specifying the following fields:
        - Account Type
        - Username
        - Password
        - First Name
        - Last Name

        - Email Address
        - Date of Birth

        - Scenario 1
            - Success
                - The user account is successfully created with the above fields and updated in the database.
            - Failure
                - The user account is not successfully created with the above fields and updated in the database.

    - The user must have a unique user id, username, and email address.
        - Scenario 1
            - Success
                - The newly created user has a unique user id, username, and email address.
            - Failure
                - The newly created user does not have a unique user id, username, and email address.
                    - In this instance, the system will prompt the admin to enter a unique field.

- Delete a User
    - Admins can delete any user account.
        - Scenario 1
            - Success
                - Scenario is successful if the selected user account is successfully deleted.
            - Failure
                - Scenario is a failure if the selected user account still exists after deletion.

- Enable
    - Admin can enable a disabled user account, allowing the user to regain access.
        - Scenario 1
            - Success
                - If successful, the disabled user account will be enabled and the user will gain access to the site's features.

        - Failure
            - If not successful, the disabled user account will remain disabled.

Disable

- An admin can disable a user account for the purpose of temporary suspension.
    - Scenario 1
        - Success
            - The user account has been successfully disabled and the user can no longer access the account.
        - Fail
            - The user account has not been successfully disabled and the user can still access the account.

Modify User Account

Update User Account Type

- An admin can change a user's access to either:
    - Admin
    - Regular User
    - Scenario 1
        - Success
            - User's role is successfully changed.
            - Users have access to everything they should have access to for their role.
        - Fail
            - User's role is not successfully changed.
            - User's role is changed but they do not have access to what they should have access to for their role.

Update username

- Scenario 1
    - Success
        - Successful if the user's username is successfully and accurately changed after attempt.
    - Fail
        - Not successful if the user's username is not successfully or accurately changed after an attempt.

Update password

- Scenario 1
    - Success

                - Successful if the user's password is successfully and accurately changed after an attempt.
            - Fail
                - Not successful if the user's password is not successfully or accurately changed after an attempt.
    - Update email
        - Scenario 1
            - Success
                - Successful if the user's email is successfully and accurately changed after attempt.
            - Fail
                - Not successful if the user's email is not successfully or accurately changed after attempt.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - System must respond to any user account change within 5 seconds.
            - If successful, the user account's change will take place.
        - Failure
            - If the system takes longer than 5 seconds to respond, an admin is notified of the system taking too long.
            - If the system takes longer than 30 seconds to respond, the system will time out, display an error message, and notify an admin.

User Analysis Dashboard

Functional Requirements

- Registration Analytics
    - The admin can view a display number that indicates the total number of registered accounts.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the total number of accounts registered.
            - Failure

                - The admin cannot successfully view a display number accurately indicating the total number of accounts registered.
    - The admin can view a display number that indicates the number of registered accounts on a given day.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the number of accounts registered on a given day.
            - Failure
                - The admin cannot successfully view a display number accurately indicating the number of accounts registered on a given day.
    - The admin can view a graph with a trendline that reflects the change in the total number of registered accounts over the past 12 months.
        - Scenario 1
            - Success
                - The admin can successfully view a graph with a trendline accurately indicating the change in the total number of accounts registered over the last 12 months.
            - Failure
                - The admin cannot successfully view a graph with a trendline accurately indicating the change in the total number of accounts registered over the last 12 months.
    - The admin can view a graph with a trendline that reflects the change in the daily number of registered accounts over the last 12 months.
        - Scenario 1
            - Success
                - The admin can successfully view a graph with a trendline accurately indicating the change in the number of daily accounts registered over the last 12 months.
            - Failure
                - The admin cannot successfully view a graph with a trendline accurately indicating the change in the number of daily accounts registered over the last 12 months.
- Login Analytics
    - Display a number that reflects how many users have logged in for the past day.
        - Scenario 1
            - Success
                - The displayed number accurately reflects how many users have logged in in the last day.

        - Failure
            - The displayed number does not accurately reflect how many users have logged in in the last day.
    - Display a number that reflects how many users have logged in for the past month.
        - Scenario 1
            - Success
                - The displayed number accurately reflects how many users have logged in in the last month.
            - Failure
                - The displayed number does not accurately reflect how many users have logged in in the last month.
    - Display a number that reflects how many users have logged in for the past year.
        - Scenario 1
            - Success
                - The displayed number accurately reflects how many users have logged in in the last year.
            - Failure
                - The displayed number does not accurately reflect how many users have logged in in the last year.
    - Display a chart that reflects the change in the number of daily user logins for the past year.
        - Scenario 1
            - Success
                - The displayed chart accurately reflects the change of the number of daily user logins for the past year.
            - Failure
                - The displayed chart accurately reflects the change of the number of daily user logins for the past year.
- Component Usage Analytics
    - Display the component that is most often used.
        - Scenario 1
            - Success
                - The displayed number accurately reflects the component that is the most used.
            - Failure
                - The displayed number does not accurately reflect the component that is the most used.
    - Display a chart that ranks the components in order of usage.
        - Scenario 1
            - Success

                - The displayed chart accurately reflects the ranking of component usage.
            - Failure
                - The displayed chart does not accurately reflect the ranking of component usage.
    - The displayed chart should be able to show the change in the components ranking for the last 12 months.
        - Scenario 1
            - Success
                - The displayed chart accurately reflects the change in the component ranking for the last 12 months.
            - Failure
                - The displayed chart does not accurately reflect the change in the component ranking for the last 12 months.
- Page Visit Analytics
    - Display which page is the most visited.
        - Scenario 1
            - Success
                - The displayed number accurately reflects the page that is the most visited.
            - Failure
                - The displayed number does not accurately reflect the page that is the most visited.
    - Display a chart that ranks the pages in order of number of visits.
        - Scenario 1
            - Success
                - The displayed chart accurately reflects the ranking of page visits.
            - Failure
                - The displayed chart accurately reflects the ranking of page visits.
    - The displayed chart should be able to show the change in daily page visits for the last 12 months.
        - Scenario 1
            - Success
                - The displayed chart accurately reflects the change in daily page visits for the last 12 months.
            - Failure
                - The displayed chart does not accurately reflect the change in daily page visits for the last 12 months.

- User Session Analytics
  - Display a number that reflects the average length of a user session.
    - Scenario 1
      - Success
        - The displayed number accurately reflects the average length of a user session.
      - Failure
        - The displayed number does not accurately reflect the average length of a user session.
  - Display a graph that reflects the change in the average length of a user session or the past year.
    - Scenario 1
      - Success
        - The displayed graph accurately reflects the change of the average length of a user session for the past year.
      - Failure
        - The displayed graph does not accurately reflect the change of the average length of a user session for the past year.

Application-Specific Functional Requirements

- General Search Analytics
  - Display a chart reflecting the most popular match categories being searched for, ranked in terms of popularity.
    - Scenario 1
      - Success
        - The displayed chart accurately reflects the ranking of most popular match categories being searched for.
      - Failure
        - The displayed chart does not accurately reflect the ranking of most popular match categories being searched for.
  - The displayed chart should be able to show a trendline reflecting the change in popularity of the top search categories over the last 12 months.
    - Scenario 1
      - Success
        - The displayed chart has a trendline that accurately reflects the change in popularity of the top search categories over the last 12 months.
      - Failure

            - The displayed chart does not have a trendline that accurately reflects the change in popularity of the top search categories over the last 12 months.
            - The displayed chart does have a trendline but it does not accurately reflect the change in popularity of the top search categories over the last 12 months.
    - The admin will be able to see a chart reflecting the ranking of each subtype within a given matching category in terms of popularity within a search.
        - Scenario 1
            - Success
                - There is a chart reflecting the ranking of each subtype within a given matching category in terms of popularity within a search.
            - Failure
                - There is no chart reflecting the ranking of each subtype within a given matching category in terms of popularity within a search.
                - There is a chart reflecting the ranking of each subtype within a given match category but it is not accurate.
    - The admin will be able to see a trendline reflecting the change in popularity of the top subtypes of a given matching category for the past 12 months.
        - Scenario 1
            - Success
                - There is a trendline reflecting the change in popularity of the top subtypes of a given matching category for the past 12 months.
                - The trendline is accurate.
            - Failure
                - There is no trendline reflecting the change in popularity of the top subtypes of a given matching category for the past 12 months.
                - There is a trendline but it is not accurate.
- Intelligent Search Engine Analytics
    - The admin will be able to view a display number indicating the number of searches made using the intelligent searching engine in a given day.
        - Scenario 1
            - Success
                - There is a display number that accurately indicates the number of searches made using the intelligent search engine on a given day.
            - Failure
                - There is no display number that accurately indicates the number of searches made using the intelligent search engine on a given day.

- The admin will be able to view a display number indicating the number of searches made using the intelligent searching engine in a given month.
    - Scenario 1
        - Success
            - There is a display number that accurately indicates the number of searches made using the intelligent search engine in a given month.
        - Failure
            - There is no display number that accurately indicates the number of searches made using the intelligent search engine in a given month.
- The admin will be able to view a display number indicating the number of searches made using the intelligent searching engine in a given year.
    - Scenario 1
        - Success
            - There is a display number that accurately indicates the number of searches made using the intelligent search engine in a given year.
        - Failure
            - There is no display number that accurately indicates the number of searches made using the intelligent search engine in a given year.
- The admin will be able to view a graph with a trendline indication the change in intelligent search engine searches per day over the past 12 months.
    - Scenario 1
        - Success
            - There is a graph with a trendline accurately illustrating the change in the number of daily intelligent search engine searches over the past 12 months.
        - Failure
            - There is no graph with a trendline accurately illustrating the change in the number of daily intelligent search engine searches over the past 12 months.

Traditional Listing Analytics

- A chart displaying the match categories being posted in a traditional listing, which will be ranked in terms of popularity.
    - Scenario 1
        - Success
            - The displayed chart accurately reflects match categories being posted in a traditional listing, which are ranked in terms of popularity.
        - Failure

            - The displayed chart does not accurately reflect match categories being posted in a traditional listing, which are ranked in terms of popularity.
- The displayed chart should be able to show a trendline reflecting the change in popularity of the top posting categories over the last 12 months.
    - Scenario 1
        - Success
            - The displayed chart has a trendline that accurately reflects the change in popularity of the top listing categories over the last 12 months.
        - Failure
            - The displayed chart does not have a trendline that accurately reflects the change in popularity of the top listing categories over the last 12 months.

    - The admin will be able to see a chart reflecting the rankings of each subtype within a given matching category in terms of popularity within listings.
        - Scenario 1
            - Success
                - There is a chart reflecting the ranking of each subtype within a given matching category in terms of popularity within the listings.
            - Failure
                - There is no chart accurately reflecting the ranking of each subtype within a given matching category in terms of popularity within listings.
    - The admin will be able to see a trendline reflecting the change in popularity of the top subtypes of a given matching category within listings for the past 12 months.
        - Scenario 1
            - Success
                - There is a trendline accurately reflecting the change in popularity of the top subtypes of a given matching category within listings for the past 12 months.
            - Failure
                - There is no trendline accurately reflecting the change in popularity of the top subtypes of a given matching category within listings for the past 12 months.
    - The admin will be able to view a display number indicating the number of traditional listings posted on a given day.
        - Scenario 1

            - Success
                - There is a display number that accurately indicates the number of traditional listings posted on a given day.
            - Failure
                - There is no display number that accurately indicates the number of traditional listings posted on a given day.
    - The admin will be able to view a display number indicating the number of traditional listings posted in a given month.
        - Scenario 1
            - Success
                - There is a display number that accurately indicates the number of traditional listings posted in a given month.
            - Failure
                - There is no display number that accurately indicates the number of traditional listings posted in a given month.
    - The admin will be able to view a display number indicating the number of traditional listings posted in a given year.
        - Scenario 1
            - Success
                - There is a display number that accurately indicates the number of traditional listings posted in a given year.
            - Failure
                - There is no display number that accurately indicates the number of traditional listings posted in a given year.
    - The admin will be able to view a graph with a trendline indicating the change in the number of daily traditional listings posted over the past 12 months.
        - Scenario 1
            - Success
                - There is a graph with a trendline accurately illustrating the change in the number of daily traditional listings posted in the past 12 months.
            - Failure
                - There is no graph with a trendline accurately illustrating the change in the number of daily traditional listings posted in the past 12 months.
- Traditional Posting Search Analytics
    - The admin will be able to view a display number indicating the number of searches made using the traditional posting search engine in a given day.
        - Scenario 1

- Success
    - There is a display number that accurately indicates the number of searches made using the traditional posting search engine on a given day.
- Failure
    - There is no display number that accurately indicates the number of searches made using the traditional posting search engine on a given day.

- The admin will be able to view a display number indicating the number of searches made using the traditional posting search engine in a given month.
    - Scenario 1
        - Success
            - There is a display number that accurately indicates the number of searches made using the intelligent search engine in a given month.
        - Failure
            - There is no display number that accurately indicates the number of searches made using the intelligent search engine in a given month.
- The admin will be able to view a display number indicating the number of searches made using the traditional posting search engine in a given year.
    - Scenario 1
        - Success
            - There is a display number that accurately indicates the number of searches made using the traditional posting search engine in a given year.
        - Failure
            - There is no display number that accurately indicates the number of searches made using the traditional posting search engine in a given year.
- The admin will be able to view a graph with a trendline indicating the change in traditional posting search engine searches per day over the past 12 months.
    - Scenario 1
        - Success
            - There is a graph with a trendline accurately illustrating the change in the number of daily traditional posting search engine searches over the past 12 months.
        - Failure
            - There is a no graph with a trendline accurately illustrating the change in the number of daily traditional posting search engine searches over the past 12 months.

- Friends List Analytics
    - The admin can view a display number indicating the average number of friends that a user has.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the average number of friends that a user has.
            - Failure
                - The admin cannot successfully view a display number accurately indicating the average number of friends that a user has.
    - The admin can view a display number indicating the number of friend requests on a given day.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the number of friend requests on a given day.
            - Failure
                - The admin cannot successfully view a display number accurately indicating the number of friend requests on a given day.
    - The admin can view a graph with a trendline that reflects the change in the number of daily friend requests over the last 12 months.
        - Scenario 1
            - Success
                - The admin can successfully view a graph with a trendline accurately reflecting the change in the number of daily friend requests over the last 12 months.
            - Failure
                - The admin cannot successfully view a graph with a trendline accurately reflecting the change in the number of daily friend requests over the last 12 months.

- Private Messaging Analytics
    - The admin can view a display number indicating the average number of private messages sent per day by the average user.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the average number of private messages sent per day by the average user.

- Failure
    - The admin cannot successfully view a display number accurately indicating the average number of private messages sent per day by the average user.
- The admin can view a graph showing a trendline that reflects the change in the average number of private messages sent per day by the average user.
    - Scenario 1
        - Success
            - The admin can successfully view a graph showing a trendline that accurately reflects the change in the average number of private messages sent per day by the average user.
        - Failure
            - The admin cannot successfully view a graph showing a trendline that accurately reflects the change in the average number of private messages sent per day by the average user.
- The admin can view a display number indicating the total number of private messages sent on the site per day.
    - Scenario 1
        - Success
            - The admin can successfully view a display number accurately indicating the total number of private messages sent per day.
        - Failure
            - The admin cannot successfully view a display number accurately indicating the total number of private messages sent per day.
- The admin can view a graph that reflects the change in the total number of daily private messages sent on the site.
    - Scenario 1
        - Success
            - The admin can successfully view a graph that shows a trendline that accurately reflects the change in the total number of daily private messages sent on the site.
        - Failure
            - The admin cannot successfully view a graph that shows a trendline that accurately reflects the change in the total number of daily private messages sent on the site.

- Moderator Action Analytics
    - The admin can view a number indicating the total number of suspended users.
        - Scenario 1
            - Success

                - The admin can successfully view a number indicating the total number of suspended users.
            - Failure
                - The admin cannot successfully view a number accurately indicating the total number of suspended users.
    - The admin can view a display number indicating the total number of banned users.
        - Scenario 1
            - Success
                - The admin can successfully view a number indicating the total number of banned users.
            - Failure
                - The admin cannot successfully view a number accurately indicating the total number of banned users.
    - The admin can view a display number indicating the total number of shadow-banned users.
        - Scenario 1
            - Success
                - The admin can successfully view a number indicating the total number of shadow-banned users.
            - Failure
                - The admin cannot successfully view a number accurately indicating the total number of shadow-banned users.
    - The admin can view a display number indicating the number of users suspended on a given day.
        - Scenario 1
            - Success
                - The admin can successfully view a number indicating the number of suspended users on a given day.
            - Failure
                - The admin cannot successfully view a number indicating the number of suspended users on a given day.
    - The admin can view a display number indicating the number of users banned on a given day.
        - Scenario 1
            - Success
                - The admin can successfully view a number indicating the number of banned users on a given day.
            - Failure
                - The admin cannot successfully view a number indicating the number of banned users on a given day.

- The admin can view a display number indicating the number of users shadow-banned on a given day.
    - Scenario 1
        - Success
            - The admin can successfully view a number indicating the number of shadow-banned users on a given day.
        - Failure
            - The admin cannot successfully view a number indicating the number of shadow-banned users on a given day.
- The admin can view a graph with a trendline indicating the change in the number of total suspended users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the total number of suspended users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the total number of suspended users.
- The admin can view a graph with a trendline indicating the change in the number of total banned users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the total number of banned users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the total number of banned users.
- The admin can view a graph with a trendline indicating the change in the number of total shadow-banned users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the total number of shadow-banned users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the total number of shadow-banned users.

- The admin can view a graph with a trendline indicating the change in the number of daily suspended users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the number of daily suspended users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the number of daily suspended users.
- The admin can view a graph with a trendline indicating the change in the number of daily banned users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the number of daily banned users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the number of daily banned users.
- The admin can view a graph with a trendline indicating the change in the number of daily shadow-bnanned users.
    - Scenario 1
        - Success
            - The admin can successfully view a graph with a trendline accurately indicating the change in the number of daily shadow-banned users.
        - Failure
            - The admin cannot successfully view a graph with a trendline accurately indicating the change in the number of daily shadow-banned users.
- The admin can view a display number indicating the total number of users who have had their account access restored after previous disciplinary action.
    - Scenario 1
        - Success
            - The admin can successfully view a display number accurately indicating the total number of users who have had their account access restored after previous disciplinary action.
        - Failure

                - The admin cannot successfully view a display number accurately indicating the total number of users who have had their account access restored after previous disciplinary action.
    - The admin can view a graph with a trendline indicating the change in the total number of users who have had their account access restored after previous disciplinary action.
        - Scenario 1
            - Success
                - The admin can successfully view a graph with a trendline accurately indicating the change in the total number of users who have had their account access restored after previous disciplinary action.
            - Failure
                - The admin cannot successfully view a graph with a trendline accurately indicating the change in the total number of users who have had their account access restored after previous disciplinary action.
    - The admin can view a display number indicating the number of users who have had their account access restored after previous disciplinary action on a given day.
        - Scenario 1
            - Success
                - The admin can successfully view a display number accurately indicating the number of users who have had their account access restored after previous disciplinary action on a given day.
            - Failure
                - The admin cannot successfully view a display number accurately indicating the number of users who have had their account access restored after previous disciplinary action on a given day.
    - The admin can view a graph with a trendline indicating the change in the number of daily users who have had their account access restored after previous disciplinary action over the past 12 months.
        - Scenario 1
            - Success
                - The admin can successfully view a graph with a trendline accurately indicating the change in the number of daily users who have had their account access restored after previous disciplinary action.
            - Failure
                - The admin cannot successfully view a graph with a trendline accurately indicating the change in the number of daily users who have had their account access restored after previous disciplinary action.

Non-Functional Requirements

- Access
    - The admin should be able to access the user analytic dashboard.
        - Scenario 1
            - Success
                - The admin can access the user analysis dashboard.
                - No other user type can access the user analysis dashboard.
            - Failure
                - The admin cannot access the user analysis dashboard.
                - At least one other user type can access the user analysis dashboard.
- Reliability
    - The User Analysis Dashboard should be available at all times of the day, except during maintenance. Moderators and admin should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The User Analysis Dashboard is available at all times of the day, except during maintenance.
            - Failure
                - The User Analysis Dashboard had a down time that did not occur during scheduled maintenance.
- Compatibility
    - The User Analysis Dashboard should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The User Analysis Dashboard works on any device on all compatible web browsers.
            - Failure
                - The User Analysis Dashboard l fails to work on a given device that is running a compatible web browser.
    - The User Analysis Dashboard should properly scale on mobile devices so that the graphs and charts are easily viewable and not cut off. Should be properly scaled so no horizontal scrolling is required.
        - Success
            - The User Analysis Dashboard properly scales on mobile devices so that graphs and charts are easily viewable, not cut off, and no horizontal scrolling is required.
        - Failure
            - Horizontal scrolling is required on mobile devices.
            - One or more graphs and/or charts are cut off on mobile devices.

- System Response Time
  - Should take no longer than 5 seconds to load any graph or chart.
    - Scenario 1
      - Success
        - System response is no longer than 5 seconds to load information.
      - Failure
        - System response is longer than 5 seconds to load information.
        - If longer than 30 seconds, the load is timed out and an error message appears to the admin.
- User Friendliness
  - The User Analysis Dashboard should make use of graphs and charts that display information in a clean and user-friendly manner.
    - Scenario 1
      - Success
        - The User Analysis Dashboard makes use of graphs and charts that display information in a clean and user-friendly manner.
      - Failure
        - The User Analysis Dashboard does not make use of graphs and charts that display information in a clean and user-friendly manner.
  - Charts and graphs should be completely and properly designed, ensuring that the following are included:
    - Axis Labels
    - Units of Measurement
    - Proper Graph Type Selection

    - Scenario 1
      - Success
        - The charts and graphs all are designed completely and properly, including all proper components in a graph or chart, including the above listed components.
      - Failure
        - One or more graphs or charts are not designed completely and/or properly.
  - Colors should be used in the graph in such a way that the separation of information is apparent.
    - Scenario 1
      - Success
        - Colors in the graph are used in such a way that the separation of information is apparent.

        - Failure
            - Colors in the graph are used in such a way that the separation of information is not apparent.

Logging

Functional Requirements

General Logging Requirements

- Logs every transaction done by the user and the system. Each log happens synchronously along with the activity.
    - Success
        - If successful, the system will log the data after the activity has been placed.
    - Failure
        - If not successful, the attempt to log will be aborted.
- All logs should include the following components:
    - Date/Timestamp
        - Date
        - Time
    - Log Level
        - Trace
        - Debug
        - Information
        - Warning
        - Error
        - Critical
    - Who is calling the log
    - Message
        - Success
            - If successful, the log saved will have all of the given components.
        - Failure
            - If not successful, the log saved will have only the components the system could save, or none at all.

Registration Logging

- **Log Info**
    - Event Name
    - Ip Address

    - User ID
    - Account Type
- Logs whenever a successful user registration is made.
    - Log Info
        - User id is assigned.
    - Success
        - A log is successfully produced when the user registers for an account.
    - Fail
        - A log is not created when the user successfully registers an account.
- Logs whenever a failed user registration is made.
    - Success
        - A log is successfully produced when the user fails or commits an error during registration.
    - Fail
        - A log is not produced when the user fails or commits an error during registration.
- A log is produced if the user enters information with illegal characters.
    - Success
        - A log is successfully produced each time the user enters information with illegal characters.
    - Failure
        - A log is not successfully produced each time the user enters incorrectly formatted input into either or both text fields.
- A log is produced if the user enters an email that is not in the correct email format.
    - Scenario 1
        - Success
            - A log is successfully produced each time the user enters an email that is not in the correct email format.
        - Fail
            - A log is not successfully produced each time the user enters an email that is not in the correct email format.
- A log is produced if the user enters information that exceeds or fails to meet minimum and maximum string length.
    - Success
        - A log is successfully produced if the user enters information that exceeds or fails to meet minimum and maximum string length.
    - Failure

        - A log is not successfully produced if the user enters information that exceeds or fails to meet minimum and maximum string length.
- A log is produced if the user attempts to register with information that belongs to an already existing account.
    - Success
        - A log is successfully produced if the user attempts to register with information that belongs to an already existing account.
    - Failure
        - A log is not successfully produced if the user attempts to register with information that belongs to an already existing account.
- A log is produced if the user requests another email to be sent.
    - Success
        - A log is successfully produced when the user asks for another email to be sent.
    - Failure
        - A log is not successfully produced when the user asks for another email to be sent.
- A log is produced when an email is sent to the user.
    - Success
        - A log is successfully produced when an email is sent to the user.
    - Failure
        - A log is not produced when an email is sent to the user.
- A log is produced when a user verifies their email address from the email sent.
    - Success
        - A log is successfully produced when a user verifies their email address from the email sent to them.
    - Failure
        - A log will not be produced when a user verifies their email address from the email sent to them.
- A log is produced when an email verification expires.
    - Success
        - A log is successfully produced when a user verifies their email.
    - Failure
        - A log will not be created when an email verification expires because the user does not verify their email.

Login Logging

- A log is produced whenever a user logs in.
    - Log info
        - Event Name
        - Ip Address
        - User ID
        - Account Type
    - Scenario 1
        - Success
            - A log is successfully produced when the user logs in.
        - Failure
            - Log is not successfully produced when the user logs in.
- A log is produced upon each failed attempt to login.
    - Log info
        - IP Address
        - Time
    - Scenario 1
        - Success
            - A log is successfully produced each time the user fails to log in.
        - Failure
            - A log is not successfully produced for each time the user fails to log in.
- A log is produced if the user selects the “forgot username” option.
    - Scenario 1
        - Success
            - A log is successfully produced each time the user selects “forgot username”.
        - Failure
            - A log is not successfully produced each time the user selects “forgot username”.
- A log is produced if the user selects the “forgot password” option.
    - Scenario 1
        - Success
            - A log is successfully produced each time the user selects “forgot password”.
        - Failure

- A log is not successfully produced each time the user selects “forgot password”.

- A log is produced if the user enters an incorrect username.
  - Scenario 1
    - Success
      - A log is successfully produced each time the user enters incorrectly formatted input into either or both text fields.
    - Failure
      - A log is not successfully produced each time the user enters incorrectly formatted input into either or both text fields.
- A log is produced if the user enters an incorrect password.
  - Scenario 1
    - Success
      - A log is successfully produced each time the user enters an incorrect password.
    - Failure
      - A log is not successfully produced each time the user enters an incorrect password.
- A log is produced if the user enters information for an account that does not exist.
  - Scenario 1
    - Success
      - A log is successfully produced each time the user enters information for an account that does not exist.
    - Failure
      - A log is not successfully produced each time the user enters information for an account that does not exist.
- A log is produced if the user attempts to log into a disabled or locked account.
  - Scenario 1
    - Success
      - A log is successfully produced each time the user attempts to log into a disabled or locked account.
    - Failure
      - A log is not successfully produced each time the user attempts to log into a disabled or locked account.

User Management Logging

- Log Info
  - Event Name
  - Ip Address
  - User ID
  - Account Type
- A log is produced if a user registers and their information is successfully validated and entered into the datastore.
  - Scenario 1
    - Success
      - A log is successfully produced each time a user registers for an account successfully.
    - Failure
      - A log is not successfully produced each time a user registers for an account successfully.
- A log is produced if a user deletes their account.
  - Scenario 1
    - Success
      - A log is successfully produced each time a user successfully deletes an account.
    - Failure
      - A log is not successfully produced each time a user successfully deletes an account.
- A log is produced if an admin deletes a user account.
  - Scenario 1
    - Success
      - A log is successfully produced each time an admin deletes a user account.
    - Failure
      - A log is not successfully produced each time an admin deletes a user account.
- A log is produced if an admin disables a user account.
  - Success
    - A log is successfully produced each time an admin disables a user account.
  - Failure
    - A log is not successfully produced each time an admin disables a user account.
- A log is produced if an admin enables a user account.
  - Success
    - A log is successfully produced each time an admin enables a user account.
  - Failure

- A log is not successfully produced each time an admin enables a user account.

Security Logging

- Log info
  - IP addresses
  - Event Name
  - User ID
- A log is produced if the DDoS prevention system detects an attempted DDoS attack onto our servers.
  - Scenario 1
    - Success
      - A log is successfully produced when the system detects a DDos attack.
    - Failure
      - A log is not successfully produced when the system detects a DDos attack.
- A log will be produced when a login attempt fails 5 or more times.
  - Log info
    - User ID
    - Operating System
  - Scenario 1
    - Success
      - A successful log is produced each time a user fails to login 5 or more times.
    - Failure
      - A successful log is not produced each time a user fails to login 5 or more times.
- A log is produced if there is a login attempt on a temporarily locked account.
  - Scenario 1
    - Success
      - A Log is successfully produced when login attempts on a locked account are detected.
    - Failure
      - A Log is not successfully produced when login attempts on a locked account are detected.
- A log is produced if a network connection to the system is not secured by an https encryption.
  - Log info
    - Website address
    - Client operating system
  - Scenario 1
    - Success
      - A log is successfully produced when the system logs network connections that are not encrypted by HTTPS.
    - Failure

            - A log is not successfully produced when the system logs network connections that are not encrypted by HTTPS.
- A log is produced if a dangerous connection is detected going past the firewall.
    - Log info
        - Connection type
        - IP address
        - Time
    - Scenario 1
        - Success
            - When a rouge connection is detected on the firewall block it and log the event
            - If successful, the firewall will log when a rogue connection event is detected at the firewall.
        - Failure
            - Failure occurs when a rogue connection is detected at the firewall but the event is not logged.

Network Logging

- Log info
    - Event Name
    - User ID
    - Ip Address
    - Page Request
    - Url Referral
    - User Agent
- A log is produced when a new user or non user/ new ip address visits the website.
    - Scenario1
        - Success
            - A log is created when someone new visits the website for the first time.
        - Fail
            - A log is not created when a new visitor visits our website.
- A log is produced when someone clicks on a webpage link.
    - Scenario1
        - Success
            - A log is successfully created whenever a webpage link is clicked on.
        - Fail
            - A log is not created whenever a webpage link is clicked.

Error Handling Logging

- Log info
    - Error type

        - Error messages
        - Context
        - Time
- A log is produced if the system handles an error
    - Scenario 1
        - Success
            - A log is successfully produced anytime there is an error.
        - Fail
            - A log is not successfully produced anytime there is an error.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - System must successfully log error data within 5 seconds after every time a log needs to be produced.
            - If successfully logged, the error log and its data is saved accurately.
        - Fail
            - System attempts to log longer than 5 seconds.
            - If not successful, abort the attempt of the error log.
- Resilience
    - Scenario 1
        - During the event of an error the logging system needs to be able to create the log before the entire application closes or crashes.
        - Success
            - Success occurs when the application is failing but before the application is closed the necessary logs are created.
        - Failure
            - Failure occurs when the application errors, forcing it to close but the logger is unable to create the necessary log.

- Log Accuracy
    - Scenario 1
        - Success

            - All logs contain accurate log information in accordance with the specified log info for that log type.
        - Fail
            - Some or all of the information in any given log is not accurate with the log info specified for that log type.
- Scalable
    - The logging system must be expandable and open to the adding of new log types.
        - Scenario 1
            - Success
                - If successful,the development team will be able to add new log types without error.
            - Failure
                - Failure occurs when the development team is unable to add new logging types in.
- Accessible
    - The logging system must be accessible from every part of the underlying code base.
        - Scenario 1
            - Success
                - If successful, the logging system will be callable from every part of the system.
            - Failure
                - Failure occurs if there is an attempt to call the logging system and it is not accessible.
        - Scenario 2
            - Success
                - The stored logs must be accessible at any time.
                - If successful, the system admins will be able to access the logs whenever they need to.
            - Failure
                - Failure occurs when the logs become inaccessible.
- Recoverability
    - All logs will be backed up on the system so if there is data loss it will still be possible to recover the logs.
        - Scenario 1
            - Success
                - If successful on the occurrence of the loss of the main log files there will be a backed up copy of the logs stored.
            - Failure
                - Failure occurs when the logs are not backed up.

            - Failure occurs when both the original logs and the backup logs are lost because the backup logs were not properly stored.
- Complianent
    - All data collected by the logging system will be compliant with all data collection laws.
        - Scenario 1
            - Success
                - If successful, then there will be no issue of compliance when our website collects data.
            - Failure
                - Failure occurs when our logging system fails to be compliant with regulations when collecting log data.
- Flexible
    - If the login system is altered or changed in the future the logging system must be able to adapt to the new revision to the login system.
        - Scenario 1
            - Success
                - Success occurs when the login user interface is changed, the login logging system is not affected, and if it is the system can be changed to accommodate the new changes.
            - Failure
                - Failure occurs when the login system is altered and the login logging system cannot work as expected and cannot be fixed.
- Availability
    - The login system has to be available every time the user tries to login.
        - Scenario 1
            - Success
                - Success occurs when the login logging system is available every time a user attempts to login.
            - Failure
                - Failure occurs when the login logging system is unavailable for every user logging in.
- Privacy
    - All logs collected during the registration phase will not collect user data and must be compliant with privacy laws.
        - Scenario 1
            - Success
                - Success occurs when all log data collected during the registration phase is compliant with all privacy laws.
            - Failure

                - Failure occurs when the logging system does not follow privacy laws and collect confidential user data.
- Data integrity
    - All network logs must be non corrupted when entered.
        - Scenario 1
            - Success
                - Success occurs when the registration data is not corrupted.
            - Failure
                - Failure occurs when the registration log data is corrupted and cannot be read or accessed.
- Reporting
    - The user management logging system is responsible for reporting all changes to user profiles to the system admins
        - Scenario 1
            - Success
                - Success occurs when the user management logging system reports all user information to the system admins
            - Failure
                - Failure occurs when the user management logging system does not report all information to the system admins.
- Stability
    - Since the network logs are dependent on network connections it is necessary that these network connections remain stable.
    - Scenario 1
        - Success
            - Success occurs when the network connections are stable.
        - Failure
            - Failure occurs when the network logging systems are unable to gather information because the network connections are unstable.

Archiving

Functional Requirements

General Archiving Requirements

- All of the data that has been logged and saved within the previous month will be archived as back-up. This ensures that the data does not get overwritten by the new data coming in. Archiving is done manually through an admin's request or automatically after every month.
- The archived data should only be accessed by admins and devs. These users can view or delete the archived data as they please.
    - Scenario 1
        - Success
            - If successful, the regular users should not be able to view or delete archived data except for the devs and admins.
        - Failure
            - If not successful, any user, including regular users, will be able to access control of any archived data.
    - Scenario 2
        - Success
            - If successful, the admins and devs should be able to access the archived data to view or delete them.
        - Failure
            - If not successful, no user could be able to access the archived data without having to directly access the database.
- An admin may archive any data that has been produced at any time.
    - Scenario 1
        - Success
            - If successful, the data will be archived to the back-up database.
        - Failure
            - If not successful, the data to be archived will not be archived.
    - Scenario 2
        - Success
            - Database that the data is being archived to must have sufficient space in its memory.
            - If successful, the data will completely be archived.
        - Failure
            - Database that the data is being archived to does not have the space in its memory that it needs.

                - If not successful, only part of the data that can take up the space will be archived, while the rest of the data will not be archived.
- The system must handle archiving automatically.
    - Scenario 1
        - Success
            - Every 30 days, the system must automatically attempt to archive all data older than a month, starting with the oldest data.
            - If successful, the data will automatically be archived to the database.
        - Failure
            - The database does not have enough memory for the data to be archived.
            - If not successful, the attempt to archive certain data becomes aborted. The earlier data that could be archived is archived.
    - Scenario 2
        - Success
            - When the database the data is archived to only has enough space for one more archive, the oldest data archived in the database will automatically deleted. This session should free at least 3 months worth of archived data.
            - If successful, the archived data will be deleted and the database will have more space for more archived data.
        - Failure
            - If not successful, the attempt to delete archived data will be aborted.
- When the database only has enough space for one more archive session, the oldest set of data must be deleted from the database. This can be done automatically through the system or manually upon admin's request.
    - Scenario 1
        - Success
            - If successful, the data in the database will be deleted and more space for more data can be stored.
        - Failure
            - If not successful, the data will not be deleted from the database.
- The data to be archived includes all of the logs generated by the system.
    - Scenario 1
        - Success
            - The data to be archived must be a log generated by the system.
            - If successful, the data will be archived.
        - Failure
            - The data to be archived is not a log generated by the system.
            - If not successful, the data will not be archived.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - The system must successfully archive the data within 5 seconds.
            - If successful, the data will be archived into the database.
        - Failure
            - The system attempts to archive the data for longer than 5 seconds.
            - If not successful, the system will abort the attempt to archive the data.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The archived data should be accessed within the desktop version of the website from any device, as long as the user is an admin.
            - If successful, the admin should be able to access the archived data through their own device.
        - Failure
            - If not successful, the admin won't be able to access the archived data through their devices and will have to directly access the database.

Registration

Functional Requirements

- Going to the Registration Page
    - Users will be able to register by clicking on the register button in the login page.
        - Scenario 1
            - Success
                - If successful, users will be taken to the registration page.
            - Fail
                - If not successful, users will be given an error message and will be sent back to the login page.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success

                - The system must take the user from the login page to the registration page within 5 seconds or less.
                - If successful, the user will be taken to the registration page.
            - Failure
                - The system attempts to go from the login page to the registration page for longer than 5 seconds.
                - If not successful, the user will see an error message and go back to the login page.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to enter the registration page from any user device the site is compatible with, which is any device the desktop version of the site is compatible with.
            - If successful, the user will be taken to the registration page.
        - Failure
            - If not successful, the user will see an error message and go back to the login page.
- Maintainability
    - Scenario 1
        - Success
            - The user should not be able to register during maintenance periods.
            - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of the registration page.
        - Failure
            - If not successful, the user will be taken to the registration page and still be able to register like normal.

Filling out the Registration Page

Functional Requirements

- Users will be able to fill out the necessary information shown in the registration page.
    - Scenario 1
        - Success
            - All information must be filled out appropriately.
            - If successful, the account will be added with an inactive status, all the information entered will be stored in the database, where the password being stored will be encrypted, and the registration process will continue with an email being sent to verify the email.
            - The user will also be taken to another page saying an email has been sent with a button to resend the email.

        - Failure
            - Some information is not filled in or some of the information is filled in wrong from the other scenarios.
            - If not successful, the user will receive an error message and will be taken back to the registration page.
- An email containing the link to verify the email will be sent to the email given after the account is added to the database.
    - Scenario 1
        - Success
            - If successful, the user will receive the email to the email they have entered.
        - Failure
            - If not successful, the attempt to send the email will be aborted.
- The user will be able to resend the email through a button from a page after registration that notifies them an email has been sent.
    - Scenario 1
        - Success
            - If successful, the user will receive another email to the email they entered before.
        - Failure
            - If not successful, the attempt to resend the email will be aborted.
- The information includes:
    - First Name
        - Only letters are allowed when inputting this.
        - Scenario 1
            - Success
                - If successful, the registration process will continue.
            - Failure
                - First name has a non-letter character in the input.
                - If not successful, the user will be prompted to enter a first name with letters only and will be returned to the registration page.
    - Last Name
        - Only letters are allowed when inputting this.
        - Scenario 1
            - Success
                - If successful, the registration process will continue.
            - Failure
                - Last name has a non-letter character in the input.
                - If not successful, the user will be prompted to enter a last name with letters only and will be returned to the registration page.

- User Name
  - The system will check if the user name exists within the database after the user attempts to register.
  - Scenario 1
    - Success
      - User name must be unique and not exist within the database.
      - If successful, the registration process will continue.
    - Failure
      - User name entered already exists in the database.
      - If not successful, the user will be prompted to enter another username and return to the registration page where the process starts over.
  - Scenario 2
    - Success
      - User name must not contain any profanity or obscene language.
      - If successful, the registration process will continue.
    - Failure
      - User name contains profanity or obscene language detected by the system.
      - If not successful, the user will be prompted to enter another username and return to the registration page where the process starts over.
- Password
  - Will be encrypted when being stored into the database.
  - Password Complexities must be fulfilled.
    - Passwords have at least one number.
    - Passwords have at least one capital letter.
    - Passwords have at least one lowercase letter.
    - Passwords are at least 8 characters long.
  - Scenario 1
    - Success
      - Passwords must fulfill all complexity requirements.
      - If successful, the registration process will continue.
    - Failure
      - Password fails to meet at least one of the complexity requirements.
      - Users will be prompted to enter another password and return to the registration page where the process starts over.
- Date of Birth
  - Must type in the format MM/DD/YYYY

        - Scenario 1
            - Success
                - If successful, the registration process will continue.
            - Failure
                - Date of Birth is not entered in MM/DD/YYYY format.
                - If not successful, the user will be prompted to enter the date of birth with the proper format and will be returned to the registration page.
    - E-mail
        - The system will check if the email exists in the database after the user attempts to register.
        - Scenario 1
            - Success
                - Email must be unique and not exist within the database.
                - If successful, the registration process will continue.
            - Failure
                - Email entered already exists in the database.
                - Users will be prompted to enter another email and return to the registration page where the process starts over.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - System must respond and complete the registration process within 5 seconds or less.
            - If successful, the account will be created with an inactive status, the information will be stored to the database, with the password being encrypted when being stored and being included in password history, which is also encrypted, for the user, and the user will receive an email verification.
        - Failure
            - System attempts to complete the registration process for longer than 5 seconds.
            - If not successful, the user will be notified with an error message and will be taken back to the registration page where the process starts over. Anything in the database that has been added, but not fully filled out will also be deleted.
- Scalability
    - Scenario 1
        - Success

                - The system must have enough memory in the user database to handle another user being registered.
                - If successful, the account will be created with an inactive status, the information will be stored to the database, with the password being encrypted when being stored and being included in password history, which is also encrypted, for the user, and the user will receive an email verification.
            - Failure
                - The system attempts to create another account when there's no more space in the user database for another account.
                - If not successful, the user will receive an error message, the registration process will be aborted, and the user will be taken back to the login page.
    - If the user database is at least 95% full, the admins will be notified as an alert about the situation to take action.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to perform the registration process from any user device the site is compatible with, which is any device the desktop version of the site is compatible with.
            - The user devices include any device that can use a modern web browser.
            - If successful, the registration process will proceed. The account will be created with an inactive status, the information will be stored to the database, with the password being encrypted when being stored and being included in password history, which is also encrypted, for the user, and the user will receive an email verification.
        - Failure
            - If not successful, the user will receive an error message, the registration process will be aborted, and the user will be taken back to the login page.
- Maintainability
    - Scenario 1
        - Success
            - The user should not be able to register during maintenance periods.
            - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of being able to finish registration.
        - Failure
            - If not successful, the user will still be able to finish the registration process. The account will be created with an inactive status, the information will be stored to the database, with the password being encrypted when being stored

and being included in password history, which is also encrypted, for the user, and the user will receive an email verification.

Email Verification

Functional Requirements

- Once the user has registered, the user will receive an email to verify their email with a button that goes to the page that confirms if the email is the user's.
    - Scenario 1
        - Going to the confirmation page
            - Success
                - If successful, the user will be taken to the confirmation page.
            - Failure
                - If not successful, the user will receive an error message and will have to refresh the page.
    - Scenario 2
        - Confirming their email in the confirmation page.
            - Success
                - If successful, the user will be taken to the home page and the user's account will be considered active.
            - Failure
                - If not successful, the user will receive an error message and return to the confirmation page.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Going to the confirmation page.
            - Success
                - The system must take the user to the confirmation page within 5 seconds or less.
                - If successful, the system will take the user to the confirmation page.
            - Failure
                - The system attempts to take the user to the confirmation page for longer than 5 seconds.
                - If not successful, the user will be notified with an error message and will have to refresh.

    - Scenario 2
        - Confirming their email
            - Success
                - The system must respond to the user's choice to confirm their email within 5 seconds or less.
                - If successful, the user will be taken to the home page logged in and the user's account will be considered active.
            - Failure
                - The system attempts to respond to the user's input for longer than 5 seconds.
                - If not successful, the user will receive an error message and return to the confirmation page.
- Availability
    - The confirmation email link is active for 24 hours only. Each link will have a timer that's active for this 24 hours.
        - Scenario 1
            - Success
                - If 24 hours have passed since the email was sent.
                - If successful, the link that came with the e-mail will not work and all information passed in during the registration will be deleted from the database.
            - Failure
                - If not successful, the link will remain active and the information passed in during registration will remain in the database.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to verify their email from any user device the site is compatible with, which is any device the desktop version of the site is compatible with. The user device must also be able to view emails.
            - If successful, the user will be able to confirm their email in the confirmation page, which will then send the user to the home page logged in with their account under the active status.
        - Failure
            - If not successful, the user will be rejected access to the confirmation page to confirm their email.

Login

Logging In

Functional Requirements

- Users are able to log into the website using their registered username and password.
    - Scenario 1
        - Success
            - Username must exist in the database and the password, which is encrypted when stored into the database, must match with the given username.
            - If successful, the user will be taken to the user home page under the logged in account. The counter that keeps track of login attempts will also reset to zero for the IP address.
        - Fail
            - User enters a username that does not exist.
            - User enters a password that does not match with the user name entered.
            - User does not enter a user name or password.
            - If not successful, the user will be taken back to the login page with a message with the problem of logging in. The counter that keeps track of login attempts will also increment for the IP address.
- User accounts must be active under the active status to log in.
    - Scenario 1
        - Success
            - If successful, the user will continue to the home page.
        - Failure
            - The user is trying to login with an inactive account.
            - The user will be informed that their email has not been verified and will be given an option to resend the email verification link. The login counter will be incremented by 1.
- The user must have proper access permissions in order to login. Specifically, their account must not be banned, suspended, disabled, or deleted.
    - Scenario 1
        - Success
            - If successful, the user will continue to the home page.
        - Failure

                - The user is trying to login with an account that does not have proper access permissions.
                - The user will receive an error message informing them of their lack of proper permissions as well as a contact email for support. The login attempts counter will increment by 1.
- System allows the user in the same IP address five tries to log into the website in case of human error with inputs.
    - Scenario 1
        - Success
            - The counter that keeps track of login attempts for an IP address is below least 5 attempts.
            - If successful, the user will be able to continue to attempt to login with the same IP address.
        - Fail
            - If not successful, the counter will not be taken into account and the user will still be able to login.
    - Scenario 2
        - Success
            - The counter that keeps track of login attempts for an IP address reaches at least 5 attempts.
            - If successful, the user of the IP address will not be able to attempt to login for an hour, which will reset the counter to zero, and the user will be taken to a locked screen.
        - Fail
            - If not successful, the counter will be disregarded and the user will still be able to login.

Non-Functional Requirements

- System Response Time
    - The system must respond to an attempt to login within 5 seconds or less.
        - Scenario 1
            - Success
                - If successful, the system will login the user, send the user to the user home page, and reset the login counter to zero.
            - Failure
                - The system attempts to respond to an attempt to login for longer than 5 seconds.

            - If not successful, the user will receive an error message and be taken back to the login page. The counter for login attempts will not increment in this case.
- Accessibility
    - Normal users should not have access to admin rights.
    - The user trying to login must have the admin status.
        - Scenario 1
            - Success
                - If successful, the user will see the options only admins should have available.
            - Failure
                - If not successful, the user will not see the admin options.
            - The user should not be able to log in during maintenance periods.
        - Scenario 2
            - Success
                - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of the login page.
            - Failure
                - If not successful, the user will be taken to the login page and still be able to log in like normal.
- Scalability
    - The user should be able to log in no matter how many users are already logged in.
        - Scenario 1
            - Success
                - If successful, the user will login and be taken to the home page.
            - Failure
                - If not successful, the user will receive an error message, the login attempt will be aborted, and the user will be taken back to the login page.
- Portability and Compatibility
    - The user should be able to log in with any device that is supported by the desktop version of the site.
        - Scenario 1
            - Success
                - If successful, the user will login with their account on the device they use as long as the site supports the device.
            - Failure

            - If not successful, the user will be rejected the chance to login, receive an error message, and be taken back to the login page.
        - The user should not be able to log in with an account that is still logged into another device.
    - Scenario 2
        - Success
            - If successful, the user will receive a message about the logged in account and go back to the login page.
        - Failure
            - If not successful, the user will log in with the account they logged in with, even though that account is still logged into another device.

- Forgot Username
    - Going to the Forgot Username Page

      Functional Requirements

        - The user will be able to click on a link that takes the user to the forgot username page.
            - Scenario 1
                - Success
                    - If successful, the user will be taken to the forgot username page.
                - Failure
                    - If not successful, the user will receive an error message and will be taken back to the login page.

      Non-Functional Requirements

        - System Response Time
            - Scenario 1
                - Success
                    - The system must take the user from the login page to the forgot username page within 5 seconds or less.
                    - If successful, the user will be taken to the forgot username page.
                - Failure

            - The system attempts to go to the forgot username page for longer than 5 seconds.
            - If not successful, the user will receive an error message and will be taken back to the login page.
    - Portability and Compatibility
        - Scenario 1
            - Success
                - The user should be able to go to the forgot username page with any device that is supported by the desktop version of the site.
                - If successful, the user will be taken to the forgot username page on the device they use as long as the site supports the device.
            - Failure
                - If not successful, the user will be rejected the chance to go to the forgot username page, receive an error message, and be taken back to the login page.
    - Accessibility
        - Scenario 1
            - Success
                - The user should not be able to access the forgot username page during maintenance periods.
                - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of the forgot username page.
            - Failure
                - If not successful, the user will be taken to the forgot username page and still be able to perform the forgot username process.

- Forgot Username Process

  Functional Requirements

    - Users must enter their email and date of birth.
        - Scenario 1
            - Success
                - E-mail must be in the database and the date of birth must match with the given e-mail.

            - If successful, the user will be given their username, that was stored in the database, in the next page, then will be taken to the login page.
        - Failure
            - E-mail filled in does not exist.
            - Date of birth does not match with the email entered.
            - No email or date of birth is filled in when submitting.
            - If not successful, the user will receive an error message and will be taken back to the forgot username page.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - System must respond to taking in input and sending the user to the next page within 5 seconds or less.
            - If successful, the user will continue to the next page.
        - Failure
            - System attempts to take in inputs and send the user to the next page for longer than 5 seconds.
            - If not successful, the user will receive an error message and will be taken back to the previous page.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to perform the forgot username process with any device that is supported by the desktop version of the site.
            - If successful, the user will finish the forgot username process on a device of their choice if it's supported.
        - Failure
            - If not successful, the user will be rejected the chance to finish the forgot username process, receive an error message, and be taken back to the login page.
- Accessibility
    - Scenario 1
        - Success
            - The user should not be able to perform the forgot username process during maintenance periods.

            - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of finishing the forgot username process.
        - Failure
            - If not successful, the user will be able to finish the forgot username process.

- Forgot Password
    - Going to the" Forgot Password" Page

Functional Requirements

- The user will be able to click on a link that takes the user to the forgot password page.
    - Scenario 1
        - Success
            - If successful, the user will be taken to the forgot password page.
        - Failure
            - If not successful, the user will receive an error message and will be taken back to the login page.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - The system must take the user from the login page to the forgot password page within 5 seconds or less.
            - If successful, the user will be taken to the forgot password page.
        - Failure
            - The system attempts to go to the forgot password page for longer than 5 seconds.
            - If not successful, the user will receive an error message and will be taken back to the login page.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to go to the forgot password page with any device that is supported by the desktop version of the site.

            - If successful, the user will be taken to the forgot password page on the device they use as long as the device is supported by the site.
        - Failure
            - If not successful, the user will be rejected the chance to go to the forgot password page, receive an error message, and be taken back to the login page.
    - Accessibility
        - Scenario 1
            - Success
                - The user should not be able to access the forgot password page during maintenance periods.
                - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of the forgot password page.
            - Failure
                - If not successful, the user will be taken to the forgot password page and still be able to perform the forgot password process.

Forgot Password Process

Functional Requirements

- Users must enter their username, email, and date of birth.
    - Scenario 1
        - Success
            - Username and email must be in the database and match. The date of birth must also match with the given username and e-mail.
            - If successful, the user will receive an email with a code and be taken to a page to enter that code..
        - Failure
            - Username filled in does not exist.
            - E-mail filled in does not exist.
            - E-mail does not match with the user name.
            - Date of birth does not match with the user name or e-mail entered.
            - No username, e-mail or date of birth is filled in when submitting.

                - If not successful, the user will receive an error message and will be taken back to the forgot password page.
    - User must enter the correct code while it's still active
        - Scenario 1
            - Success
                - If successful, the user will be taken to a page where they can enter their new password. The code will also become inactive.
            - Failure
                - The code the user entered is incorrect.
                - The code the user entered is not active anymore.
                - The user has not put any code in the user input field.
                - If not successful, the user will receive an error message and will be taken back to the code entry page.
    - Users must enter their new password.
        - Password Complexities must be fulfilled.
            - Passwords have at least one number.
            - Passwords have at least one capital letter.
            - Passwords have at least one lowercase letter.
            - Passwords are at least 8 characters long.
            - Passwords must not be the same as one of the passwords in the user's password history.
        - Scenario 1
            - Success
                - Passwords must be filled in with all complexity requirements fulfilled.
                - If successful, the user will return to the login page and the new password will overwrite the old one in the database. The password being stored will be encrypted and added to the user's password history, which is also encrypted.
            - Failure
                - No password is entered in the field.
                - Passwords filled in do not fulfill at least one of the complexity requirements.
                - If not successful, the user will receive an error message and go back to the enter new password page.

Non-Functional Requirements

- System Response Time

        - Scenario 1
            - Success
                - System must respond to taking in input and sending the user to the next page within 5 seconds or less.
                - If successful, the user will continue to the next page.
            - Failure
                - System attempts to take in inputs and send the user to the next page for longer than 5 seconds.
                - If not successful, the user will receive an error message and will be taken back to the previous page.
- Availability
    - The code sent from the e-mail after authenticating username, email, and date of birth is active for only 1 hour.
    - Scenario 1
        - Success
            - 1 hour has passed since the email with the code was sent.
            - If successful, the code in the email will be inactive and the user will have to start the reset password process all over.
        - Failure
            - If not successful, the code in the email will remain active.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The user should be able to perform the forgot password process with any device that is supported by the desktop version of the site.
            - The user devices include any device that can use a modern web browser.
            - If successful, the user will finish the forgot password process on a device of their choice if it's supported.
        - Failure
            - If not successful, the user will be rejected the chance to finish the forgot password process, receive an error message, and be taken back to the login page.
- Maintainability
    - Scenario 1
        - Success
            - The user should not be able to perform the forgot password process during maintenance periods.

            - If successful, the user will be taken to a page that notifies them that the site is under maintenance instead of finishing the forgot password process.
        - Failure
            - If not successful, the user will be able to finish the forgot password process.

Logout

- Manual Log Out

  ## Functional Requirements

    - Users will be able to log out manually in their account page.
        - Scenario 1
            - Success
                - If successful, the user will log out from their account and will be taken back to the login page.
            - Failure
                - If not successful, the user will receive an error message and return to the account page while still logged in.
    - Users will be given the choice to confirm or deny the choice to log out in a pop-up window.
        - Scenario 1
            - The user confirms to log out.
            - Success
                - If successful, the user will log out from their account and will be taken back to the login page.
            - Failure
                - If not successful, the user will receive an error message and return to the account page while still logged in.
        - Scenario 2
            - The user declines to log out.
            - Success
                - If successful, the user will close the pop-up window and return to the account page still logged in.
            - Failure

            - If not successful, the user will receive an error message and return to the account page still logged in with the pop-up window closed.
        - Scenario 3
            - The user declines to log out.
            - Success
                - If successful, the user will close the pop-up window and return to the account page still logged in.
            - Failure
                - If not successful, the user will log out and return to the login page despite wanting to decline the choice to log out.

Non-Functional Requirement

- System Response Time
    - Scenario 1
        - Success
            - The system must respond to the user's request to log out within one second.
            - If successful, the user will log out from their account and the user will be taken to the login page.
            - The one second time limit is necessary to pass testing.
        - Failure
            - The system attempts to respond to the user's request to log out for longer than one second.
            - If not successful, the system will continue to attempt to log out the user.
    - Scenario 2
        - Success
            - The system must respond to the user's request to log out within 5 seconds or less.
            - If successful, the user will log out from their account and the user will be taken to the login page.
        - Failure
            - The system attempts to respond to the user's request to log out for longer than 5 seconds.
            - If not successful, the user will receive an error message that something went wrong and will return to the account page while still logged in.
- Usability

        - The log out button is visible in the account page and all the user has to do is click on the button to log out.
        - Scenario 1
            - Success
                - If successful, a pop-up window to confirm or deny the logout choice will appear.
            - Failure
                - If not successful, the user will receive an error message and return to the account page with no pop-up window and still logged in.
    - Portability and Compatibility
        - Scenario 1
            - Success
                - The user should be able to log out from any device that the user has logged in with. This device must be supported by the desktop version of the site and must be capable of using a modern web browser.
                - If successful, the user will log out from the device they have logged in with.
            - Failure
                - If not successful, the user will be rejected the chance to log out, receive an error message, and return to their account page.

- Auto Logout

  Functional Requirements

    - The user will automatically log out if their account is no longer under the active status.
        - Scenario 1
            - Success
                - If successful, the user will be logged out from their account with a message of what happened and will be taken to the login page.
            - Failure
                - If not successful, the user will remain logged in until the system detects the user is not active.
    - Each user online will have a timer that accounts for 3 hours of inactivity that resets whenever some sort of activity occurs.

        - Scenario 1
            - Success
                - The user has not moved from one page to another for at least 3 hours.
                - If successful, the user will be logged out from their account with a message of what happened and will be taken back to the login page.
            - Failure
                - If not successful, the user will remain logged in and the timer will reset.

Non-Functional Requirements

- System Response Time
    - Scenario 1
        - Success
            - The system must respond to the process of logging out the account automatically within 5 seconds or less.
            - If successful, the user will be logged out from their account with a message of what happened and will be taken back to the login page.
        - Failure
            - The system attempts to respond to the process of logging out the account automatically for longer than 5 seconds.
            - If not successful, the attempt to log the account out will be aborted and the user will remain logged in.
- Portability and Compatibility
    - Scenario 1
        - Success
            - The system should be able to log out an account that has been logged in with any device that the desktop version of the site supports.
            - If successful, the system will log out the account from the device the account was logged in with.
        - Failure
            - If not successful, the attempt to log out the account will be aborted.
- Maintainability
    - Scenario 1
        - Success

                - The user should be automatically logged out during maintenance periods if they're logged in.
                - If successful, the user will be taken to a page that notifies them that the site is under maintenance and will be logged out from the site.
            - Failure
                - If not successful, the user will remain logged in.

UI/UX

Functional Requirements

- UI Settings
    - The user should have the ability to adjust the font style.
        - Scenario 1
            - Success
                - The user can choose among a variety of font styles to change the current font style.
            - Failure
                - The user does not have the option to choose among a variety of font styles to change the current font style.
                - Attempting to change the font style does not yield any actual change.
                - The user attempts to adjust the font style but it changes to the wrong font style.
    - The user should have the ability to adjust the text size.
        - Scenario 1
            - Success
                - The user can adjust the text size.
            - Failure
                - The does not have the option to adjust the text size.
                - The user attempts to adjust the text size but it does not change.
                - The user attempts to adjust the text size but it changes to the wrong text size.
    - The user will have the ability to adjust the color scheme of the user interface.

        - Scenario 1
            - Success
                - The user can choose from a variety of color themes and successfully change the color theme.
            - Failure
                - The user does not have the option to change the color theme.
                - The user attempts to change the color theme but it does not change.
                - The user attempts to change the color theme but it changes to the wrong color theme.

- UI Layout
    - The user interface should have a navigation bar used to navigate to major pages of the website.
        - Scenario 1
            - Success
                - The user interface contains a navigation bar with buttons that link to major pages of the website.
            - Failure
                - The user interface does not contain a navigation bar.
                - The user interface contains a navigation bar but one or more buttons does not function at all.
                - The user interface contains a navigation bar but one or more buttons redirects to the wrong page.
    - The user interface should have a collapsible friends list shortcut window that is a shared layout, meaning it is available from any window.
        - Scenario 1
            - Success
                - The user interface has a collapsible friends list that is available from any page in the website.
            - Failure
                - The user interface does not contain a collapsible friends list shortcut window.
                - The user interface contains a collapsible friends list shortcut window but it fails to display on one or more pages in the website.
    - The intelligent search engine should be a shared layout, meaning it is available from any page in the website.
        - Scenario 1
            - Success
                - The intelligent search engine is displayed in any given page in the website.
            - Failure

            - The intelligent search engine fails to display on one or more pages in the website.
    - The user interface should have a collapsible private messaging shortcut window that is a shared layout, meaning it is available from any window.
        - Scenario 1
            - Success
                - The user interface contains a collapsible private messaging shortcut window that is available in any given page.
            - Failure
                - The user interface does not contain a collapsible private messaging shortcut window.
                - The user interface contains a collapsible private messaging shortcut window but it is not available on one or more pages in the website.

Non-Functional Requirements

- UI Settings
    - There will be a selection of font types that are not in the cursive format or any type that is hard to read and limited to no more than 10, so that it is not confusing or overwhelming.
        - Scenario 1
            - Success
                - The selection of font sizes numbers 10 or less.
                - There are no font sizes that are cursive or hard to read.
            - Failure
                - There are more than 10 font sizes.
                - There are one or more font sizes that are cursive or hard to read.
    - The range of text sizes will be limited to sizes that do not change the layout of elements on the screen by more than one layout column.
        - Scenario 1
            - Success
                - There are no text sizes that change the layout of elements on the screen by more than one layout column.
            - Failure
                - There are one or more text sizes that change the layout of elements on the screen by more than one layout column.
    - The default font style must have a basic appearance so as to not be distracting.
        - Scenario 1
            - Success
                - The default font size has a font style that is not distracting.
            - Failure

        - The default font size has a font style that is distracting.
- UI Layout
    - UI elements should be laid out in a simple and intuitive manner that is easy to follow with the eyes.
        - Scenario 1
            - Success
                - The UI elements are laid out in a simple and intuitive manner that is easy to follow with the eyes.
            - Failure
                - The UI elements are not laid out in a simple and intuitive manner that is easy to follow with the eyes.
    - The UI should be laid out in an intentional and directed manner that helps to guide the reader along the proper path or sequence events so as to contribute to an intuitive design.
        - Scenario 1
            - Success
                - The UI is laid out in an intentional and directed way that guides the user along the proper path or sequence of events.
            - Failure
                - The UI is laid out in a way that is confusing, random, or unintentional.
    - Minimal text should be used to allow for minimal reading.
        - Scenario 1
            - Success
                - Any given window only has the minimal text necessary so as to keep the reading to a minimum.
            - Failure
                - A given window has more text than is necessary.
    - Choice of colors should harmonize by either being analogous colors or complementary colors.
        - Scenario 1
            - Success
                - The choice of colors harmonize by either being colors that are besides each other on the color wheel or opposite each other on the color wheel, not both though.
            - Failure
                - The choice of colors do not harmonize because they contain a mixture of analogous and complementary colors.
                - The choice of colors do not harmonize because they contain neither analogous or complementary colors.

    - Choice of colors should have proper contrast so as to not clash and to allow the primary color to stand out.
        - Scenario 1
            - Success
                - The choice of colors have proper contrast in such a way that the primary color stands out.
            - Failure
                - The choice of colors have improper contrast, causing the colors to clash and making it so there is no one color that stands out.
    - Any backgrounds that are chosen should be sophisticated enough to not look plain but simple enough to avoid being distracting or taking attention away from foreground elements.
        - Scenario 1
            - Success
                - Background elements have a balance of sophistication and simplicity that provide depth but are not distracting.
            - Failure
                - The background elements have too much going on and/or clash with the foreground elements, resulting in a distracting aethstetic.
- UI Compatibility
    - The UI should be designed in such a way that it will reorder itself and still be laid out in an intuitive, simple, and directed manner regardless of screen size.
        - Scenario 1
            - Success
                - The UI is designed in such a way that it is laid out in an intuitive, simple, and directed manner at any screen size.
            - Failure
                - The UI becomes laid out in a way that is unintuitive, muddled, or unintentional looking at one or more screen size.

Intelligent Search Engine

Functional Requirements

- The user can use normal English language phrases to search for a specific type of match and will receive results that best match what they are looking for.
    - Scenario 1
        - Success
            - The search engine returns results based upon English language phrases inputted into the search bar by the user.

- Failure
    - The search engine does not return results based upon English language phrased inputted into the search bar by the user.
- Failure

- Matches are not only based on matching the phrase with phrases from the listings or other searches, but it will also be able to determine which criteria a specific keyword belongs in and match accordingly
    - For example, if the search said “Looking for a 23 year old female to go on a date in Orange County who likes volleyball and snorkeling”, it would be intelligent enough to assign the following keywords to their corresponding criteria:
        - 23 year old -> age
        - Female -> gender
        - Date -> Match Type-> Dating -> Date Type
        - Orange County -> Location
        - Volleyball -> Interest
        - Snorkeling -> Interest
    - Scenario 1
        - Success
            - The algorithm successfully matches keywords from the search phrase with their corresponding criteria to pinpoint the exact match type being looked for and the exact criteria being filled out.
        - Failure
            - The algorithm does not successfully match keywords from the search phrase with their corresponding criteria to pinpoint the exact match type being looked for and the exact criteria being filled out.

- Search results should reflect both traditional listings and other search results that are still active.
    - Scenario 1
        - Success
            - A traditional listing that perfectly matches what the user looks for is reflected in the search results.
            - An active search that perfectly matches what the user looks for is also reflected in the search results.
        - Failure
            - One or both of two perfect matches from traditional listing and active search are not reflected in the search results.
- Upon the completion of a search, the search will remain active and searchable by other users by default.
    - Scenario 1
        - Success

            - A search result that is made and not marked as inactive is found in the search database.
        - Failure
            - A search result that is made and not marked as inactive is not found in the search database.
- The search engine should recognize any phrase typed in any of the following English dialects:
    - American English
    - British english
    - Canadian English
    - African American Vernacular English
    - Australian English
    - New Zealand English
    - South African English
    - Irish English
    - Indian English

    - Scenario 1
        - Success
            - The intelligent search engine should function at no less than 90% of the accuracy of American English with any of the above listed English dialects.
        - Failure
            - The intelligent search engine has an accuracy reduction of 10% or more with any of the above English dialects.

- The intelligent search engine should be able to interpret search queries regardless if slang is used, as long as it matches one of the compatible English dialects.
    - Scenario 1
        - Success
            - The intelligent search engine should function at no less than 90% of the accuracy of no slang when slang is included in the search phrase.
        - Failure
            - The intelligent search engine has an accuracy reduction of 10% or more with slang included in the search phrase.

- The user will be able to filter their search results with “Advanced Search” mode. Advanced search mode will allow the user to filter based on the following criteria:
    - Matching Category
        - Matching Subcategory
    - Number of people you are looking for.

        - Match with traditional listings, searches, or both.
            - Scenario 1
                - Success
                    - Each checked filter category is included in the subset of search results displayed to the user, if applicable, and any unchecked filter categories are excluded from the subset of search results displayed to the user.
                - Failure
                    - One or more search results pertaining to a checked filter category is excluded from the subset of search results that are displayed to the user.
                    - One or more search results pertaining to a not checked filter category is included in the subset of search results displayed to the user.
    - The search engine will auto-suggest results as the user is typing.
        - Scenario 1
            - Success
                - The search engine successfully auto-suggests results as the user types and recalculates with each letter inputted.
            - Failure
                - The search engine does not successfully auto-suggest results as the user types and recalculates with each letter inputted.
    - The intelligent search engine will suggest alternate spelling if it detects the user may have misspelled a word.
        - Scenario 1
            - Success
                - The intelligent search engine suggests alternate spelling if it detects the user may have misspelled a word.
            - Failure
                - The intelligent search engine does not suggest alternate spelling if it detects the user may have misspelled a word.

Non-Functional Requirements

- Search Response Time
    - Scenario 1
        - Success
            - Search results should take no longer than 1 second to appear.
        - Failure
            - A search takes longer than 1 second to appear.

        - A search result does not appear after 5 seconds.
            - Display message that says “Still searching”.
        - Search does not appear after 30 seconds.
            - Timeout and ask the user to search again.
- A criteria will be developed to rate the relevance of search results. The criteria uses the word accuracy which can be defined as follows: If one listing is chosen to be an intended result, a result with 100% accuracy will share 100% of the filter fields with the given result that is returned. The criteria developed applies this accuracy to one given result to describe what level of quality that match is. The criteria is as follows:
    - Perfect Match
        - A perfect match is defined as having an accuracy that is greater than or equal to 95% when comparing a given search result to one of the intended results.
    - Close Match
        - A close match is defined as having an accuracy that is greater than or equal to 75% but less than 95% when comparing a given search result to one of the intended results.
    - Acceptable Match
        - An acceptable match is defined as having an accuracy that is greater than or equal to 50% but less than 75% when comparing a given search result to one of the intended results.
    - Relevant Match
        - A relevant match is defined as having an accuracy that is greater than or equal to 25% but less than 50% when comparing a given search result to one of the intended results.
    - Minimally Relevant Match
        - A minimally relevant match is defined as having an accuracy that is less than 25% when comparing a given search result to one of the intended results.
- A given search result must meet the following criteria in terms of the accuracy of all the results that are returned, to be considered acceptable for production.
    - At least one Perfect Match.
    - At least 25% of results are Close Matches or higher.
    - At least 50% of results are Acceptable Matches or higher.
    - At least 75% of results are Relevant Matches or higher.

    - Scenario 1
        - Success
            - Under the assumption that there exists at least one listing that matches what the user is looking for:
                - At least one Perfect Match.
                - At least 25% of results are Close Matches or higher.
                - At least 50% of results are Acceptable Matches or higher.

            - At least 75% of results are Relevant Matches or higher.
        - Failure
            - Under the assumption that there exists at least one posting that matches what the user is looking for:
                - There is no Perfect Match.
                - Less than 25% of results are Close Matches or higher.
                - Less than 50% of results are Acceptable Matches or higher.
                - Less than 75% of results are Relevant Matches or higher.
    - Scenario 2
        - Success
            - Under the assumption that no relevant or higher matches exist but at least one minimally relevant match exists:
                - The search engine notifies the user that no relevant matches exist.
                - The search engine displays all minimally relevant matches in order of match closeness, in accordance with the user's "results per page" settings.
        - Failure
            - The search engine mistakes a relevant match for one that is at least relevant.
            - The search engine does not display all minimally relevant matches in accordance with the user's "results per page" settings.

Traditional Listings

Functional Requirements

- Users are able to post listings in a centralized location that advertise what it is the are looking to match on in the following categories:
    - Video Game Teams
    - Personal Help
    - Hobbies[1]
    - Dating
    - Goals
    - Ideas
    - Projects
    - Friends
        - Success:
            - A given listing is successfully posted.
        - Failure

[1] https://www.statista.com/forecasts/997050/hobbies-and-interests-in-the-us

                - A given listing is unsuccessfully posted.
- Users can add a title to the listing.
    - Scenario 1
        - Success
            - The title is successfully and accurately included when the listing is posted.
        - Failure
            - The title is not included when the listing is posted.
            - The title is inaccurate when the listing is posted.
- Users can add a custom-written description to the listing.
    - Scenario 1
        - Success
            - The description is successfully and accurately included when the listing is posted.
        - Failure
            - The description is not included when the listing is posted.
            - The description is inaccurate when the listing is posted.
- Listings work by using filter fields, which are input fields intended for a specific type or category of input, so as to help make searching these listings easier. The filter fields use a tree structure, so that the top most level is the categories of matching, followed by the subcategories, and then with each descending level, there are more precise filter fields available to further refine exactly what it is the user is looking for.
    - Scenario 1
        - Success
            - The filter fields are laid out in a tree structure such that the top level is the matching category and each lower level refines the above level.
        - Failure
            - The filter fields are not laid out in a tree structure such that the top level is the matching category and each lower level refines the above level.
- Users can choose from and fill out a variety of preset filter fields to help classify their listing and provide further information that will assist both the traditional listing search and the intelligent search engine in matching accurately.
    - The presets and their sub-presets are as follows (these are the current presets but the moderators will have the ability to add and remove presets as they desire):
        - General
            - Location
                - City
                - State
        - Project Type
            - Video Game Team
                - Game name
                - Game genre[2] (Choose all that apply)
                    - Action

[2] https://straitsresearch.com/blog/top-10-most-popular-gaming-genres-in-2020/

            - Sports
            - Adventure
            - Battle Royale
            - Role-Playing
            - Racing
            - Fighting
            - Real-Time Strategy
            - Simulation
            - First-Person Shooter
            - Third-Person Shooter
            - Puzzle
            - Party
            - Retro/Arcade
        - Single player vs multiplayer
        - Competitive or Co-op
        - Console
            - PC
            - PS4/PS5
            - XBox One/XBox Series X
            - Nintendo Switch
            - Google Stadia?
            - Mobile
            - Switch
        - Number of desired team members
- Personal Help
    - Help type
        - Counselor/Therapist (Choose all that apply)
        - Mental Health
        - Mental Illness
        - Family Issues
        - Emotional Support
        - Work Stress
        - Marriage issue
        - Finance issue
        - Mentor
        - Business
        - Media
        - Personal Growth
        - Coach

            - Sports
            - Games
            - Finance
            - Relationship
            - Life
            - Money
            - Relationship
            - School
        - Seeking or offering help
        - Qualifications, if offering help
        - One on one help or group help
            - How many in group
- Hobbies[3]
    - Hobby Type (Choose all that apply)
        - Music
        - Food
        - Reading/Writing
        - Travel/Sightseeing
        - Pets
        - Video Games
        - Health and Fitness/Exercise
        - Watching Sports/TV/Videos
        - Arts and Crafts
        - Technology/Computers
        - Socializing
        - Real Estate
        - Investing
        - Politics
        - History
        - Gardening
        - Photography
        - Playing Sports
        - Sports Teams
        - DIYing
        - Dancing
        - Cooking
        - Coffee enthusiast
        - Plant lover

[3] https://www.statista.com/forecasts/997050/hobbies-and-interests-in-the-us

        - Movie
        - Book
        - Hiking
        - Yoga
- Dating
    - Looking for
        - Relationship
        - Committed Monogamous
        - Committed Polyamourous
            - Number of partners
        - Open
        - Casual Dating
        - Hookup
    - Gender Preference (choose all that apply)
        - Male
        - Female
        - Transgender Male
        - Transgender Female
        - Gender fluid
        - Gender nonconforming
    - Sexual Orientation Preference (choose all that apply)
        - Straight
        - Gay
        - Lesbian
        - Bi-sexual
    - Ethnicity
        - French
        - Italian
        - Spanish
        - English
        - Japanese
        - Russian
        - African
        - Indian
        - Chinese
    - Age
    - Height
        - Converted to ft or cm depending on location of the user.
    - Location

        - City
        - State
    - Interests (list of interests, user can add as many to list as they want).
- Goals
    - Short-term
        - Specific Duration
    - Long-term
        - Specific Duration
    - Goal Type (Choose all that apply)
        - Get in Shape
        - Eat Healthier
        - Lose Weight
        - Save Money
        - Earn More money
        - Get Better Sleep
        - Learn a new Skill
        - Learn to be Happier
        - Quit a Bad Habit
        - End an Addiction
        - Learn a New Language
        - Pursue a Dream
- Ideas
    - Idea Type (Choose all that apply)
        - Startup
        - Non-profit Business
        - Philosophy
        - Politics
        - Media
        - Literature
        - Technology
        - Science
- Projects
    - Project Type
        - Programming
        - Game
        - Film
        - Music
        - Literature
        - Art

        - Construction
        - Design
        - Research
        - Fundraisers
        - Charity/Outreach Programs
    - Number of Participants
    - Associated School (if Applicable)
    - Duration
- Friends
    - Number of friends
    - Friend activity type
        - Casual chat
        - Emotional support
        - Buddy (Choose all that apply)
        - Workout Buddy
        - Food Trips/ Discovering food places
        - Movie Going
        - Hike/Running buddy
        - Concerts/Music Festivals
        - Game Buddy
        - Study Buddy
        - Pick up sports games

        - Scenario 1 (Ensuring the filters are correct)
            - Success
                - All the above specified preset field filters are present and have the correct tree structure.
            - Failure
                - One or more of the above preset field filters are missing.
                - The tree structure is not correct.
        - Scenario 2 (Ensuring the filters the user have chosen and filled out are correct)
            - Success

                - The selected and filled out preset field filters are present and accurate.
            - Failure
                - One or more selected and filled out preset field filters are missing.
                - One or more selected and filled out preset field filters are inaccurate.
- Custom Filter Fields
    - The user can create and fill out custom filter fields that will allow them to further refine and customize their listing. The custom fields make their listing more easily searchable in the intelligent search engine, as it can help the search engine to pinpoint their exact match more precisely.
        - Scenario 1
            - Success
                - The user can successfully create and fill out custom fields.
            - Failure
                - The user cannot successfully create and fill out custom fields.
    - The user can create a custom field at any level of the field tree structure.
        - Scenario 1
            - Success
                - The user successfully creates a custom field at the intended level.
            - Failure
                - The user does not successfully create a custom field.
                - The custom field is created but at the wrong level.
    - The user can add another child level in the field tree structure.
        - Scenario 1
            - Success
                - A lower child level is successfully created, allowing the user to create custom fields at this lower level.
            - Failure
                - A lower child level is not successfully created.
    - The user can select from a variety of input fields, including:
        - A title field
        - A quantity field
        - A measurement field
        - A dropdown menu
            - Scenario 1
                - Success
                    - The user is given access to the desired input field.
                - Failure
                    - The user is not given access to an input field.
                    - The user is given access to the wrong input field.
- If the same or similar custom field is created by many users above a certain, to be determined threshold, the moderator will receive a notification and can choose to add it as a preset filter field.

        - Scenario 1
            - Success
                - The moderator receives a message upon the crossing of the set custom field popularity threshold.
            - Failure
                - The moderator does not receive a message upon the crossing of the set custom field popularity threshold.
                - A message is not sent upon the crossing of the set custom field popularity threshold.
- Users can select to view more information about the user that posted the listing they're currently viewing. This takes the user to the lister user profile page.
    - Success:
        - Users are able to click on a button that takes them to the target user profile page.
    - Fail:
        - Users are unable to view further information about the user that listed the listing.
- Users can edit the listing they have posted after being posted.
    - Success:
        - The user can successfully edit any desired information on their previously posted listing.
    - Fail
        - The user is unable to successfully edit any given desired information on their previously posted listing.
- Users can delete the listing they have posted after being posted.
    - Scenario 1
        - Success
            - The user's listing has been successfully deleted.
        - Failure
            - The user's listing has not been successfully deleted.

Non-Functional Requirements

- System Response Time
    - The system should execute the user actions within a second of the user inputs. These user inputs include all of the actions described above that are available to the users. These actions include the posting of a listing,editing a listing, viewing more information about listings that's already posted, and sorting of the listings.
        - Scenario 1
            - Success:
                - System responds and executes the user commands as described above within 1 second.
            - Fail:
                - The system takes more than 1 second to execute the user command as stated above.
                - If the system goes past 1 second and 5 seconds have elapsed since the user command has been done, then the system

sends a notification that some delay has happened and urges the user to wait a little longer for the system to respond.
    - If the system takes longer than 30 seconds, the user is timed out and the page is refreshed. A message to the user about the problem is sent and the system urges the user to try their command once again.

Traditional Listing Search

Functional Requirements

- Users can use the same preset filter fields that are used to create a traditional listing in order to search for their desired match. They do this by choosing which filters they wish to be included in the match they would like to search for. The preset field filters are as follows:
    - move presets as they desire):
        - General
            - Location
                - City
                - State
        - Project Type
            - Video Game Team
                - Game name
                - Game genre[4] (Choose all that apply)
                    - Action
                    - Sports
                    - Adventure
                    - Battle Royale
                    - Role-Playing
                    - Racing
                    - Fighting
                    - Real-Time Strategy
                    - Simulation
                    - First-Person Shooter
                    - Third-Person Shooter
                    - Puzzle
                    - Party
                    - Retro/Arcade
                - Single player vs multiplayer
                - Competitive or Co-op

[4] https://straitsresearch.com/blog/top-10-most-popular-gaming-genres-in-2020/

        - Console
            - PC
            - PS4/PS5
            - XBox One/XBox Series X
            - Nintendo Switch
            - Google Stadia?
            - Mobile
        - Number of desired team members
- Personal Help
    - Help type
        - Counselor/Therapist (Choose all that apply)
        - Mental Health
        - Mental Illness
        - Family Issues
        - Emotional Support
        - Work Stress
        - Marriage issue
        - Finance issue
        - Mentor
        - Business
        - Media
        - Personal Growth
        - Coach
        - Sports
        - Games
        - Finance
        - Relationship
        - Life
        - Relationship
        - School
    - Seeking or offering help
    - Qualifications, if offering help
    - One on one help or group help
        - How many in group
- Hobbies[5]
    - Hobby Type (Choose all that apply)
        - Music
        - Food

[5] https://www.statista.com/forecasts/997050/hobbies-and-interests-in-the-us

            - Reading/Writing
            - Travel/Sightseeing
            - Pets
            - Video Games
            - Health and Fitness/Exercise
            - Watching Sports/TV/Videos
            - Arts and Crafts
            - Technology/Computers
            - Socializing
            - Real Estate
            - Investing
            - Politics
            - History
            - Gardening
            - Photography
            - Playing Sports
            - Sports Teams
            - DIYing
            - Dancing
            - Cooking
            - Coffee enthusiast
            - Plant lover
            - Movie
            - Book
            - Hiking
            - Yoga
- Dating
    - Looking for
        - Relationship
        - Committed Monogamous
        - Committed Polyamourous
            - Number of partners
        - Open
        - Casual Dating
        - Hookup
    - Gender Preference (choose all that apply)
        - Male
        - Female
        - Transgender Male

        - Transgender Female
        - Gender fluid
        - Gender nonconforming
    - Sexual Orientation Preference (choose all that apply)
        - Straight
        - Gay
        - Lesbian
        - Bi-sexual
    - Ethnicity
        - French
        - Italian
        - Spanish
        - English
        - Japanese
        - Russian
        - African
        -
        - Indian
        - Chinese
    - Age
    - Height
        - Converted to ft or cm depending on location of the user.
    - Location
        - City
        - State
    - Interests (list of interests, user can add as many to list as they want).
- Goals
    - Short-term
        - Specific Duration
    - Long-term
        - Specific Duration
    - Goal Type (Choose all that apply)
        - Get in Shape
        - Eat Healthier
        - Lose Weight
        - Save Money
        - Earn More money
        - Get Better Sleep
        - Learn a new Skill

            - Learn to be Happier
            - Quit a Bad Habit
            - End an Addiction
            - Learn a New Language
            - Pursue a Dream
- Ideas
    - Idea Type (Choose all that apply)
        - Startup
        - Non-profit Business
        - Philosophy
        - Politics
        - Media
        - Literature
        - Technology
        - Science
- Projects
    - Project Type
        - Programming
        - Game
        - Film
        - Music
        - Literature
        - Art
        - Construction
        - Design
        - Research
        - Fundraisers
        - Charity/Outreach Programs
    - Number of Participants
    - Associated School (if Applicable)
    - Duration
- Friends
    - Number of friends
    - Friend activity type
        - Casual chat
        - Emotional support
        - Buddy (Choose all that apply)
        - Workout Buddy
        - Food Trips/ Discovering food places

                - Movie Going
                - Hike/Running buddy
                - Concerts/Music Festivals
                - Game Buddy
                - Study Buddy
                - Pick up sports games
        - Scenario 1
            - Success:
                - Users are able to search for matches by selecting the desired preset filter fields they wish to have in them.
            - Fail:
                - One or more desired preset filter fields do not get applied.
                - One or more search results do not contain one or more filters that were selected.
- The user will be returned a list of all listings that contain the filters they selected.
    - Scenario 1
        - Success:
            - All listings that match the filters that the user selected are displayed.
        - Fail:
            - One or more listings that match the filters that the user selected are not displayed.
    - Scenario 2:
        - Success:
            - Users are able to access all of the available listings that's been listed.
        - Fail:
            - One or more listings are not visible to the user.
- If a certain filter surpasses a certain threshold in terms of popularity in the custom filter category, then moderators will be notified to review if the filter should be added as a preset filter.
    - Scenario 1
        - Success
            - Moderators are successfully notified that a filter has surpassed a certain threshold.
        - Failure
            - Moderators are not successfully notified that a filter has surpassed a certain threshold.

Non-Functional Requirements

- System Response Time
    - The system should execute the user action of searching through the listings within a second of the user confirming their filter selection. . Execution of the action means that the user searches should display in a second or under to the user.
        - Scenario 1
            - Success:

        - Listings that have matched the filters of the user should be displayed to them within 1 second of the user confirming their selections.
    - Fail:
        - The system should notify that there is a delay if it takes more than 5 seconds to display the listings.
        - The system sends a message to the user to wait a little longer if the problem persists.
        - If the system takes longer than 30 seconds, the user is timed out and the page is refreshed. A message to the user that something has gone wrong with their search and are urged to try again.
- Accuracy
    - Due to the systematic and methodological nature of the traditional listing search, the accuracy of match should be much higher, but will inherently be less granular. The search will only return results that contain at least all of the preset filter fields that were specified by the user, no less. The criteria is as follows:
        - Perfect Match
            - All listings that contain at least the superset of the preset filter fields specified by the user are returned.
        - Failed Match
            - One or more listings that contain at least the superset of the preset filter fields specified by the user fail to be returned.

      Due to the all or nothing nature of this type of search, the only acceptable outcome is that the search returns 100% perfect matches, unless there are no listings that match the presets selected, in which case it returns nothing.

        - Scenario 1
            - Success
                - There is one or more listings that match the preset filter fields specified by the user and the system returns the superset of these matches and nothing else.
            - Failure
                - There are one or more listings that match the preset filter fields specified by the user and the system returns a strict subset of those matches.
                - The are one or more listings that match the preset filter fields specified by the user but the system doesn't return any of them.
        - Scenario 2
            - Success
                - There are no listings that match the preset filter fields specified by the user and the system does not return any matches.
            - Failure
                - There are no listings that match the preset filter fields specified by the user but the system returns one or more matches.
- Reliability

    - The traditional listing search should be available at all times of the day, except during maintenance. Users should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The traditional listing search is available at all times of the day, except during maintenance.
            - Failure
                - The traditional listing search had down time that did not occur during scheduled maintenance.
- Portability
    - The traditional listing search should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The traditional listing search works on any device on all compatible web browsers.
            - Failure
                - The traditional listing search fails to work on a given device that is running a compatible web browser.
- User-Friendly
    - The traditional listing search should layout filter categories in a logical and intuitive manner that allows the user to easily navigate through the layers of filters.
        - Scenario 1
            - Success
                - The traditional listing search layout is intuitive and logical, allowing for easy navigation of filters.
            - Failure
                - The traditional listing search layout is not intuitive and logical, making it confusing to navigate through the layers of filters.
    - The UI filters should be laid out in such a way that a user can pinpoint the exact type of match they are looking for without having to use a search functionality.
        - Scenario 1
            - Success
                - The UI filters are laid out in such a way that the user can pinpoint the exact type of match they are looking for without having to use a search functionality.
            - Failure
                - The UI filters are not laid out in such a way that the user can pinpoint the exact type of match they are looking for without having to use a search functionality.

User-Interactions

Functional Requirements

- Report
    - A user can choose among a variety of options under a variety of categories when reporting. The current available options are as follows:
        - It violates the site age rules
            - User is under the age of 13
            - User is a minor using a dating website
        - The user is acting in an abusive manner
            - Bullying/Harassing
            - Vulgar Language
            - Hate Speech
        - The user may be a danger to himself or others
            - Threats or talk of violence
            - Threats or talk of suicide
            - Threats or talk of self-injury
        - The user is posting graphic content
            - Pornography
            - Nudity
            - Excessively violent content
            - Illegal content involving minors
        - The user is promoting something illegal
            - Promoting illegal activity
            - Promoting illegal goods
        - The user is posting a solicitation of paid services/products
            - Posting a paid job ad
            - Posting a paid gig ad
            - Advertising a paid service
            - Selling a product
            - Looking to purchase a product
        - The user may not be who they say they are
            - False information
            - Fake account
            - Suspected bot
        - The user may be posting false or misleading content
            - Misleading/inaccurate listings
            - Scam

            - Fraudulent listings
        - The user is violating local, state, or federal law

    - Scenario 1
        - Success
            - The user can successfully choose among the above listed options upon clicking the report button.
        - Fail
            - The user cannot successfully choose among the above listed options upon clicking the report button.
- The reporting user can type in a description explaining what they are reporting in more detail.
    - Scenario 1
        - Success
            - The user is given the option to type in a description to explain the issue in more detail.
        - Failure
            - The user is not given the option to type in a description to explain the issue in more detail.
- Upon submission, the report is sent to the appropriate moderator panel where it can be viewed and acted upon by a moderator. Reports are sent to different moderators based upon whether it is reported on a listing, private message, group chat message, or an intelligent search.
    - Scenario 1
        - Success
            - The report is sent to the appropriate moderator based on its source.
        - Failure
            - The report is sent to the incorrect moderator.
            - The report is not sent to a moderator at all.

- Block
    - Users can block other users. When a user does block another user, the user is not able to receive a friend request, the group page inviting, and private messaging.
        - Scenario 1
            - Success
                - Users successfully block other users.
                - Blocked users are not able to reach out for the users who block them with any functionality that the service offers.
                - Blocked users are able to see the basic part of the user profile of the users who block.
            - Fail

            - Users get private messages, requesting friends, and invitation to the group pages from the blocked users .
            - Users fail to block someone.
    - Users can unblock the blocked users.
        - Scenario 1
            - Success
                - Users can undo the block.
                - After undoing the block, the users can receive a friend request, the group page inviting and private message.
            - Fail
                - Users are not able to undo the block for the blocked users.
                - After undoing the block, the users are still not able to receive a friend request, the group page inviting and private message.
- Add Friend
    - Users can add other users as a friend
        - Scenario 1
            - Success
                - Users can add other users as a friend after proper request.
                - After successfully adding a friend, it adds to a friend list for both of users.
            - Fail
                - Users are not able to add friends after the other user accepts the friend request.
                - Friend lists are not updated after proper adding friends.

    - Users receive notification of a friend request once they receive a friend request. Upon notification, the users can choose the options to accept or to deny the request.
        - Scenario 1
            - Success
                - Users receive a friend request notification.
                - Users accept the request and add a friend successfully.
                - Users deny the request, and the request is no more valid.
            - Fail
                - Users do not receive notification of a friend request.
                - Adding a friend fails after the user accepts the request on the notification.
                - Adding a friend succeeds after the user declines the request on the notification.
- Unfriend

- Users can unfriend users from their friend list
    - Scenario 1
        - Success
            - Users unfriend with any user.
            - After users unfriend someone, the friend list is updated.
        - Fail
            - Users attempt to unfriend, but the friend is not actually unfriended
            - Friend list is not updated after the action of unfriend.

Non-Functional Requirements

- System response time
    - All user interactions must be completed within 5 seconds.
        - Scenario 1
            - Success
                - The user interaction option fully performs as intended.
            - Failure
                - The user interaction attempts to execute for longer than 5 seconds.
                - The user interaction attempt is aborted and the user receives an error message.
- User Friendly
    - Users will be able to see all user interaction options that are self-explanatory and only have to choose the option to perform it.
        - Scenario 1
            - Success
                - Users should be able to view the user interaction easily.
            - Failure
                - User is not able to make out what the user interaction is.
- Portability/Compatibility
    - Users should be able to utilize user interactions from any user device that supports a modern browser that the site supports.
        - Scenario 1
            - Success:
                - The user will be able to use all user interactions from a device of their choice.
            - Failure
                - The user will be rejected from being able to use user interactions.

Friend List

Functional Requirements

- Users can access a friends list that displays all of that users' friends.
    - Scenario 1
        - Success:
            - Users are able to access their friends list.
        - Fail:
            - Users have an empty friend list even though they have added friends.
    - Scenario 2
        - Success:
            - Sorting and searching through the friend list gives the intended results. The intended results are described by the correct sorting of the friend list in regards to whichever the user chooses between names,date,and friend ranks.
        - Fail:
            - Sorting or searching of friends in the friend list is not giving the correct intended results. The intended results are described by the correct sorting of the friend list in regards to whichever the user chooses between names,date,and friend ranks.
- Users can sort their friend lists by:
    - Name
    - date they added the user as friends
    - Friend ranks
        - Scenario 1
            - Success
                - The user can successfully sort their friends list by name.
                - The user can successfully sort their friends list by date added.
                - The user can successfully sort their friends list by friend rank.
            - Failure
                - The user cannot successfully sort their friends list by name.
                - The user cannot successfully sort their friends list by date added.
                - The user cannot successfully sort their friends list by friend rank.
- Users can use a traditional search bar to search for a specific friend within the friends list.
    - Scenario 1:
        - Success:
            - Users are able to search through their friend list for a specific friend that they have added.
        - Fail:
            - Users are not able to search through their friend list.
- Users are able to unfriend users from the friend list
    - Scenario 1:
        - Success:
            - The target user is unfriended successfully.

                - The target user is removed successfully.
            - Failure:
                - The target user remains as a friend even after the user has selected to unfriend them.
                - The target user has been unfriended successfully but has not been removed from the list.
- Users can block other users from their friends list.
    - Scenario 1
        - Success:
            - The target user is blocked successfully.
            - The target user is removed successfully.
        - Failure:
            - The target user remains as a friend even after the user has selected to block them.
            - The target user has been blocked successfully but has not been removed from the list.
- Users can send private messages to friends on their friends list.
    - Scenario 1
        - Success
            - The user is able to successfully send a private message to a given friend on their friend list.
        - Failure
            - The user is not able to successfully send a private message to a given friend on their friend list.
- Users can access the user profile of any friend on their friend list.
    - Scenario 1
        - Success
            - The user is able to successfully access the user profile of a given friend on their friend list.
        - Failure
            - The user is not able to successfully access the user profile of a given friend on their friend list.
- System will assign different friend ranks based on number of times they've collaborated, number of similar interests, or level of confidence in regards to working together. Level of confidence refers to user closeness, meaning that a friend that a user has worked with multiple times and is more comfortable to work with will be ranked higher than a friend that the user may only have just started working with. These ranks includes:
    - Friend
    - Best Friend
    - Collaborator
        - Scenario 1
            - Success:
                - System is successful in assigning different friend ranks throughout their friends.
            - Fail:

            - System does not assign different ranks to their friends.
        - Scenario 2
            - Success:
                - Friends are accurately listed with their corresponding rank as appointed by the user.
            - Fail:
                - Friends are listed under the wrong friend ranking.
- Users are able to see the last time a given friend was online from that friends tab on the friends list view.
    - Scenario 1
        - Success
            - A given user is able to see the last time a given friend was online from that friend's tab on the friends list view.
        - Failure
            - A given user is not able to see the last time a given friend was online from that friend's tab on the friends list view.
- In addition to the full friends list on the friends list page, the user can also access a collapsible shortcut bar on any screen containing the following information:
    - Friend Name
    - Online Status
    - Time Since Online
    - Link to Message Them
        - Scenario 1
            - Success
                - A shortcut bar containing the above information for each friend is available on any page.
            - Failure
                - A shortcut bar containing the above information for each friend is not available on a given page.
- The friends list shortcut bar only shows as many friends as can fit on the screen based upon friends that are interacted with the most.
    - Scenario 1
        - Success
            - The friends list shortcut bar shows just enough friends to take up the full height of the screen.
            - The friends list shortcut bar includes the friends that the user interacts with the most.
        - Failure
            - The friends list shortcut bar does not fill up the full height of the screen with available friends.
            - The friends list shortcut bar includes one or more friends that are less interacted with than one or more friends not in the shortcut bar.

Non-Functional Requirements

- System Response Time

        - The system should execute the user actions within 5 seconds of the user inputs.
            - Scenario 1
                - Success:
                    - Users are added within the time limit of 5 seconds
                - Fail:
                    - The users are not added within 5 seconds.
                    - The system notifies the user that some delay is happening and asks them to wait a little longer
                    - If the system takes longer than 30 seconds, the user is timed out and the page is refreshed. A message to the user about the problem is sent.
- Reliability
    - The friends list should be available at all times of the day, except during maintenance. Users should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The friends list is available at all times of the day, except during maintenance.
            - Failure
                - The friends list had down time that did not occur during scheduled maintenance.
- Portability
    - The friends list should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The friends list works on any device on all compatible web browsers.
            - Failure
                - The friends list fails to work on a given device that is running a compatible web browser.
- User-Friendly
    - The friends list UI should have a sleek, simple interface.
        - Scenario 1
            - Success
                - The friends list UI is designed in such a way to be sleek and have a simple interface.
            - Failure
                - The friends list UI has a clunky design.
                - The friends list UI has an interface that is complicated to use.
    - The friends list shortcut bar should be positioned within the UI in such a way that it is viewable from any window and is easy to spot.
        - Scenario 1
            - Success
                - The friends list shortcut bar is positioned in such a way that it is viewable from any window and is easy to spot.

- Failure
    - The friends list shortcut bar is not positioned in such a way that it is viewable from any window and is easy to spot.

Messaging

Functional Requirements

- Users will be able to create a messaging channel where they can invite and message users which they add to the channel. There can be one or more users in this messaging channel
    - Scenario 1
        - Success:
            - Users will be able to create messaging channels
        - Failure
            - Users will be unable to create messaging channels
- Users with proper permissions can add collaborators or friends to join the messaging channel they are a part of.
    - Scenario 1
        - Success
            - Users can add a user to the messaging channel
        - Fail
            - Users are not able to send invitations to other users.
- Users can join a messaging channel though invitation sent by members with proper permission.
    - Scenario 1
        - Success
            - Users can join the messaging channel via invitations sent by the owner of designated pages.
            - Users are not able to access the messaging channel without proper access.
        - Fail
            - Users fail to join the messaging channel after they accept invitations.
            - Users join the messaging channel without invitations
- Messaging channels will have a group chat functionality where users who are members of that messaging channels page can post messages to communicate in real time with each other.
    - Scenario 1
        - Success
            - Messages sent by a given user with the group chat appear for all members of that messaging channel.
        - Failure
            - Messages sent by a given user with the group chat fail to appear for one or more members of that messaging channel.
- Users are able to delete any messages that's already been sent. There will be an option button next to any message that contains a delete button
    - Scenario 1
        - Success

                - Users are able to delete messages that's already been sent.
            - Fail
                - Users are unable to delete messages that has been sent
    - Scenario 2
        - Success
            - Messages are deleted for both parties.
        - Fail
            - Messages are only deleted for 1 party and remain visible for the other party.
- Users are able to click on a button that directs them to the user profile page of the user they are currently messaging.
    - Scenario 1
        - Success
            - The button directs the user to the profile page of the user they're messaging.
        - Fail
            - The button does nothing and the users are not directed to the profile page of the user that they're messaging.
    - Scenario 2
        - Success
            - The button directs users to the correct user profile page..
- The channel owner has the authority to kick out group members.
    - Scenario 1
        - Success
            - The manager level members kick out group members.
        - Fail
            - Members are still on the messaging channel after getting kicked out by manager level members.
- The owner of the messaging channel can ban the group member for the messaging channel permanently.
    - Scenario 1
        - Success
            - The banned member will not be able to join the messaging channel.
        - Fail
            - The banned member joins the messaging channel.
            - Getting an invitation from the messaging channel that they get banned.
- Emojis can be sent within the channel chat.
    - Scenario 1
        - Success
            - A given user has access to a selection of emojis.
            - The posted emoji can be seen by other members of that messaging channel.
        - Failure
            - A given user does not have access to a selection of emojis.
            - The emoji cannot be seen by at least one member of that messaging channel.
- Gifs can be sent with the channel chat.
    - Scenario 1
        - Success

                - A given user has access to a selection of gifs that can be used in the group chat.
                - Upon the user sending a gif, it can be seen by all other members of that messaging channel.
            - Failure
                - A given user does not have access to a selection of gifs.
                - The posted gif cannot be seen by at least one member of that messaging channel.
- Users can see a list of people who're in a messaging channel by having a user status indicator. User indicator shows little circles next to the username. Colors of the circle show a user status. Status indicator has following colors:
    - Green - Online
    - Red - Inactive
    - Grey - Offline
        - Scenario 1
            - Success
                - Status indicator shows who is online or offline.
                - Status indicator changes the designated color of the circle when user status changes.
            - Fail
                - Status indicator does not show user status.
                - Status indicator does not show the designated color of the circle when user status changes.
- The messaging chat shows who joins and leaves with letters in grey color.
    - Scenario 1
        - Success
            - Users can see the message that shows join/leave of users.
        - Fail
            - Message does not appear when a new user joins or leaves.
            - Messages show different users after someone joins or leaves.

Non-Functional Requirements

- Chat Typing Delay
    - Symbols that the user types must appear on the chat box seamlessly and without lag, meaning that a letter must show up as soon as the key for that letter is pressed.
        - Scenario 1
            - Success:
                - Users are able to type seamlessly without any lag or delay.
            - Fail:
                - User experiences lags when typing. A delay between hitting the keys and when the keys show up on screen is highly noticeable.
- System Response Time
    - A message should take no longer than 5 seconds to send.
        - Scenario 1

                - Success
                    - A message takes no longer than 5 seconds to send.
                - Failure
                    - A message takes longer than 5 seconds to send.
                        - If the message has not been successfully sent after 30 seconds, an error message will notify the user that the message could not be sent and prompt them to try again.
- Reliability
    - The messaging channel functionality should be available at all times of the day, except during maintenance. Users should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The messaging channel functionality is available at all times of the day, except during maintenance.
            - Failure
                - The messaging channel functionality had down time that did not occur during scheduled maintenance.
- Portability
    - The messaging channel functionality should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The messaging channel functionality works on any device on all compatible web browsers.
            - Failure
                - The messaging channel functionality fails to work on a given device that is running a compatible web browser.
- User-Friendly
    - The messaging channel UI should have a sleek, simple interface.
        - Scenario 1
            - Success
                - The messaging UI is designed in such a way to be sleek and have a simple interface.
            - Failure
                - The messaging UI has a clunky design.
                - The messaging UI has an interface that is complicated to use.
    - All features within the messaging channel component should be easy to find and access.
        - Scenario 1
            - Success
                - Any given feature within the messaging channel component is easy to find and access.
            - Failure
                - A given feature within the messaging component is hard to find.
                - A given feature within the messaging component is hard to access.
- Security

    - Messages sent with the messaging channel component should be accessible only to users participating in the chat.
        - Scenario 1
            - Success
                - Messages sent with the messaging component cannot be accessed by any user other than those participating in the chat.
            - Failure
                - A user not participating in the chat is able to access the messaging channel component.
    - Messages sent with the messaging channel component should be secure by using end-to-end encryption.
        - Scenario 1
            - Success
                - The messaging channel component is using end-to-end encryption.
                - Penetration tests fail to intercept and decipher messages sent with the messaging channel component.
            - Failure
                - The messaging channel component is not using end-to-end encryption.
                - Penetration tests succeed in intercepting and deciphering messages sent with the messaging channel component.
- Site Rule Compliance
    - Messages sent will be scanned by the auto-moderator to ensure compliance with site rules forbidding illegal content/activity and forbidding minors from using the dating functionality.
        - Scenario 1
            - Success
                - Each message sent with messaging channel functionality is scanned by the auto-moderator.
                - The auto-moderator successfully detects when forbidden content is sent in a given message.
            - Failure
                - A given message is not scanned by the auto-moderator when sent.
                - The auto-moderator fails to detect forbidden content in a given scanned message.

reCAPTCHA

Functional Requirements

- All users registering will have to pass a reCaptcha test to verify that they are not a bot using the optimized adaptive settings for reCaptcha to keep our site secure but also keep it user friendly.

    - Scenario 1
        - Success
            - Before allowing a user to register for an account ,they must pass a reCaptcha test to verify that they are indeed a real person and not a bot.
            - If successful a failed reCaptcha test will not allow the user to register for an account.
        - Failure
            - Failure occurs when a reCAPTHCTA is not shown to the user.
            - Failure occurs when a user fails the reCaptcha test but they still are allowed to register for an account.
- All users when logging in must pass a reCaptcha test to verify that they are not a bot using the optimized adaptive settings for reCaptcha to keep our site secure but also keep it user friendly.
    - Scenario 1
        - Success
            - Before allowing a user to login to their account they must pass a reCaptcha test to verify that they are indeed a real person and not a bot.
            - If successful a failed reCaptcha test will not allow the user to login to their account.
        - Failure
            - Failure occurs when a reCaptcha is not shown to the user.
            - Failure occurs when a user fails the reCaptcha test but they still are allowed to login to their account.
- All users when creating a post must pass a reCaptcha test to verify that they are not a bot using the optimized adaptive settings for reCaptcha to keep our site secure but also keep it user friendly.
    - Scenario 1
        - Success
            - Before allowing a user to create a post they must pass a reCaptcha test to verify that they are indeed a real person and not a bot.
            - If successful a failed reCaptcha test will not allow the user to create a post.
        - Failure
            - Failure occurs when a reCaptcha is not shown to the user.
            - Failure occurs when a user fails the reCaptcha test but they still are allowed to create a post.

Non-Functional Requirements

- System response time
    - Scenario 1
        - Success
            - For the reCaptcha the response times for the system must be 400ms.

            - If successful, the reCaptcha response time for the system will be 400ms.
        - Failure
            - Failure occurs when the reCaptcha takes more than 5 seconds to function.
    - Scenario 2
        - Success
            - If the response time for the reCaptcha takes more than 30 seconds,the system will timeout.

        - Failure
            - Failure occurs when the reCaptcha takes more than 30 seconds to respond and the system does not time out after that time.
- Device Compatibility
    - Scenario 1
        - The reCaptcha plugin is only compatible on modern day browsers, if the reCaptcha is unavailable on a legacy browser access to the website will be blocked.
            - Success
                - Success occurs when a non compatible browser is used to access this block.
            - Failure
                - Failure occurs when a user attempts to access the site from an incompatible browser and the user is not blocked.
- User Friendly
    - Scenario 1
        - The reCaptcha system must not deter the user from utilizing the application by overwhelming the user with reCaptcha by using the built in machine learning adaptation capabilities offered.
            - Success
                - Success occurs if the reCaptcha is not overly present and is only used when necessary so the user does not feel overwhelmed with reCaptcha prompts.
            - Failure
                - Failure occurs when the user is inconvenienced by multiple reCaptchas which do not help with security but drive users away.
- Security
    - Scenario 1
        - The reCaptcha system must be implemented as simply as possible to avoid security flaws.
            - Success
                - Success occurs when the reCaptcha implementation is created as simply as possible and there are no security flaws.
            - Failure
                - Failure occurs when the code implementing the reCaptcha is over complicated and it might lead to security flaws.

User Profile

Functional Requirements

- User Rating
    - Rating Display - Each user profile contains a rating display that reflects how confident the system is that the given user will provide quality interactions. That is, it helps users to determine if they should match with a given user or whether their experiences interacting with that user may not be more trouble than it is worth.
        - Scenario 1
            - Success
                - The rating display is visible to a given user when looking at their user profile page.
            - Fail
                - The rating display is not visible to a given user when looking at their user profile page.
    - Rating Style - The rating display will feature 5 stars with half-star increments.
        - Scenario 1
            - Success
                - The rating display has 5 stars which accurately display the current rating.
            - Failure
                - The rating display has 5 stars which inaccurately display the current rating.
                - The rating display does not have the right amount of stars.
    - Rating Determination- The rating of a user is an aggregate based on the following factors:
        - Ratings by other users
        - Frequency of user activity
        - The age of the user's account
        - The quantity of reports received by that user
        - The severity of reports received by that user
        - The number of disciplinary actions taken against that user (suspension, shadow ban)
        - The type of disciplinary actions taken against that user

        - Scenario 1
            - Success

            - The rating system accurately formulates the user's rating based on the above criteria.
        - Failure
            - The rating system inaccurately formulates the user's rating based on the above criteria.
- Breakdown Visibility - A breakdown of the score will not be visible to any user. Instead, all they can see is the aggregate.
    - Scenario 1
        - Success
            - A given user's rating reflects only the aggregate score.
        - Failure
            - A given user's rating reflects a specific sub-rating.
- User Rating Visibility - The user rating is public by default and cannot be changed.
    - Scenario 1
        - Success
            - A given user's rating can be viewed by any given user who is on that user's profile page.
            - The user does not have any option to change the rating visibility.
        - Failure
            - At least one given user cannot view the rating of the user whose user profile page they are on.
- Not Enough Information - If the system determines that a given user does not have enough information to make a reliable determination, it will simply display that it does not have enough information to make a reliable determination.
    - Scenario 1
        - Success
            - Under the condition that the system has determined there is not enough information about the user to make a reliable determination, a message is displayed on the user's profile indicating that there is not enough information.
        - Failure
            - Under the condition that the system has determined there is not enough information about the user to make a reliable determination, the rating display is still shown.
            - Under the condition that the system has determined there is not enough information about the user to make a reliable determination, no message is shown.
- User Ratings - A user can rate another user with the rating system by giving them between 1 to 5 stars.

        - Scenario 1
            - Success
                - A given user can successfully rate another user using the rating tool.
                - When a given user rates another user, the aggregate rating changes accurately.
            - Fail
                - A given user does not have the option to rate another user.
                - When a given user rates another user, the aggregate rating changes inaccurately.
- User Snippet
    - Profile Picture - The user can choose a profile picture to upload
        - Scenario 1
            - Success
                - The selected picture is successfully uploaded and displayed in the profile picture window.
            - Failure
                - The selected picture fails to upload.
                - The selected picture uploads but fails to display.
    - Short Description - The user can write a short description that appears in the same vicinity of the profile picture.
        - Scenario 1
            - Success
                - Upon entering in the description and pressing save, the description is posted to the user profile page.
                - The posted description can be seen by any given user.
            - Failure
                - Upon entering in the description and pressing save, the description fails to post to the user profile page.
                - A posted description cannot be seen by one or more users.
    - Highlighted Info Fields - The user can designate certain info fields from the About Me section that they wish to be viewable in the user snippet.
        - Scenario 1
            - Success
                - The designated fields are viewable in the user snippet.
            - Failure
                - The designated fields are not viewable in the user snippet.
    - User Snippet Visibility - The user snippet is public by default and cannot be changed.
        - Scenario 1
            - Success

            - The user snippet can be seen by any given user.
        - Failure
            - The user snippet cannot be seen by at least one given user.
- User Information
    - About Me - an About Me section that displays the following information. All information on the About Me section is optional.
        - Short description
        - Interests
        - Hobbies
        - Job
        - Goals
        - Demographic info
            - Age
            - Gender
            - Ethnicity
            - Sexual Orientation
            - Height

        - Scenario 1
            - Success
                - All information fields are visible.
            - Failure
                - One or more information fields are not visible.
    - Edit About Me - All fields in the about me section can be edited by the user of that given user profile.
        - Scenario 1
            - Success
                - Any given field in the about me section of a given user can be edited.
                - The edited information is displayed in the about me section accurately.
            - Failure
                - One or more given fields in the about me section cannot be edited.
                - One or more given fields in the about me section that have been edited display inaccurate information.
    - About Me Visibility - All information in the about me section is set to Friends and Collaborators Only by default.
        - Scenario 1
            - Success

                - Any given friend or collaborator can view the given user profile About Me section.
                - Any given user who is not a friend or collaborator cannot view the given user profile About Me section.
            - Fail
                - One or more friends or collaborators cannot view the given user profile About Me section.
                - One or more users who are not a friend or collaborator can view the given user profile About Me section.
    - Change About Me Visibility - The user can change the visibility of their About Me section on their user profile to one of the following:
        - Public
        - Friends Only
        - Collaborators Only
        - Friends and Collaborators Only
        - Private

        - Scenario 1
            - Success
                - The About Me visibility accurately changes according to the user's selection.
            - Failure
                - The About Me visibility inaccurately changes according to the user's selection.
                - The About Me visibility does not change upon a user's selection.
- Account Information
    - Account Age - There will be a display that indicates how long the user has had their account for.
        - Scenario 1
            - Success
                - The account age display accurately indicates how long the given user has had their account for.
            - Failure
                - The account age display inaccurately indicates how long the given user has had their account for.
    - Account information Visibility - The account information is set to public by default and cannot be changed.
        - Scenario 1
            - Success

            - Any given user can view the given user profile account information section.
        - Fail
            - On or more users cannot view the given user profile account information section.

- Friends
    - Mutual Friends - A user can see the mutual friends they share with the user of a given user profile.
        - Scenario 1
            - Success
                - If a person views someone else's profile the user will be able to see what mutual friends they have with each other.
            - Failure
                - The user is unable to see mutual friends.
                - The user is shown mutual friends even if the user does not have mutual friends with that user.
    - Mutual Friend Link - Upon clicking a mutual friend from the mutual friends list, the user will be taken to that user's profile page.
        - Scenario 1
            - Success
                - The user is successfully taken to the correct user profile page of the selected mutual friend.
            - Failure
                - The user is taken to the wrong user profile page.
                - The user is taken to the wrong page altogether.
                - The link is broken.
    - Mutual Friends Visibility - Mutual friends are public to other users that have matched with them.
        - Scenario 1
            - Success
                - The mutual friends page is visible to any given user that has matched with the user whose profile page they are on.
            - Failure
                - The mutual friends page is invisible to any given user that has matched with the user whose profile page they are on.
                - The mutual friends page is visible to a user who they have not matched with.
    - Change Mutual Friend Visibility - The user can change the visibility of the mutual friends list on their user profile to one of the following:

- Public
- Matches Only
- Friends Only
- Collaborators Only
- Friends and Collaborators
- Private

- Scenario 1
    - The mutual friend section visibility accurately changes according to the user's selection.
  - Failure
    - The mutual friend section visibility inaccurately changes according to the user's selection.
    - The mutual friend section visibility does not change upon a user's selection.

- Listings
  - Active Listings - A list of all current, active listings that the user has posted that links to the respective listing page.
    - Scenario 1
      - Success
        - A given user can see a list of all current and active listings that a user has.
        - Any given link takes the user to the correct listing page.
      - Failure
        - A given user cannot see a list of all current and active listings that a user has.
        - One or more given links takes the user to the incorrect listing page.
        - One or more given links take the user to the wrong page altogether.
        - One or more given links are broken.
  - Listing History - A list of all the past listings a user has posted.
    - Scenario 1
      - Success
        - A given user can see a list of all past listings that the user whose profile page they are on has made.
        - Any given link takes the user to the correct listing page.
      - Failure
        - A given user cannot see a list of all past listings that the user whose profile page they are on has made.
        - One or more given links takes the user to the incorrect listing page.

            - One or more given links takes the user to a different page altogether.
            - One or more given links are broken.
    - Listing Visibility - All listings posted are public by default.
        - Scenario 1
            - Success
                - The list of listings are visible to any given user.
            - Failure
                - The list of listings are invisible to one or more users.
    - Change Listing Visibility - A user can change the visibility of their listing by selecting one of the following:
        - Public
        - Friends Only
        - Collaborators Only
        - Friends and Collaborators
        - Private

        - Scenario 1
            - Success
                - The listing section visibility accurately changes according to the user's selection.
            - Failure
                - The listing section visibility inaccurately changes according to the user's selection.
                - The listing section visibility does not change upon a user's selection.
- Interactions
    - Message - On the user profile there is a message icon, which when clicked, creates a message group with both users with and opens up the messaging page so the user can communicate
        - Scenario 1
            - Success
                - The user profile has a message icon and when clicked creates a message group dialog so the user viewing the profile can send a private message to the viewed account.
            - Fail
                - There is no message icon on the user profile.
                - There is a message icon on the user profile but it does not create a private message group.
    - Add Friend - On the user profile, there is an "Add Friend' Icon, which when clicked, will send a friend request to the user whose user profile page it is on.
        - Scenario 1

        - Success
            - The user profile has an “Add Friend” icon that when clicked sends a friend request to the associated user.
            - The associated user successfully receives the friend request.
        - Failure
            - The user profile does not have an “Add Friend” icon.
            - The user profile does have an “Add Friend” icon, but when clicked, it does not send a friend request to the associated user.
            - The “Add Friend” button does send a friend request to the associated user, but that user does not receive it.
- Unfriend - On the user profile of somebody who is currently a “friend”, there is an unfriend button that when pressed, will unfriend that given user.
    - Scenario 1
        - Success
            - The user profile has an “Unfriend” icon that when clicked unfriends the intended user.
            - The intended user is successfully unfriended.
        - Failure
            - The user profile does not have an “UnFriend” icon.
            - The user profile does have an “UnFriend” icon, but when clicked, it does not unfriend the user.
- Block - On the user profile, there is a block button that can be accessed from a “More Actions” dropdown menu that when pressed, will block that given user.
    - Scenario 1
        - Success
            - The user profile does have a block button that can be accessed from a “More Actions” dropdown menu.
            - When clicked, the intended user is successfully blocked.
            - When blocked, the intended user can no longer see any activity by the blocking user.
        - Failure
            - The user profile does not have a block button that can be accessed from a “More Actions” dropdown menu.
            - The user profile does have a block button, but when clicked, it does not block the intended user.
            - The intended user is blocked, but can still see one or more pieces of activity by the blocking user.
- Report - On the user profile, there is a report button that can be accessed from a “More Actions” dropdown menu that when pressed, will report that given user.

- Scenario 1
    - Success
        - The user profile page contains a report button that can be accessed from the “More Actions” dropdown menu.
        - Upon clicking the report button, the user is presented with a list of options.
        - Upon choosing an option, the report is sent to the moderator.
    - Failure
        - The user profile page does not contain a report button.
        - Upon clicking the report button, the user is not presented with a list of options.
        - Upon choosing an option, the report is not sento the moderator.

Non-Functional Requirements

- System response time
    - All updates involving the user must be updated within 5 seconds.
        - Scenario 1
            - Success
                - The user profile is updated with the action that was updated.
            - Failure
                - The user profile attempts to update for longer than 5 seconds.
                - The attempt to update the user profile is aborted and the user who performed the update receives an error message.
- User-Friendly
    - The layout of the profile is well-detailed and is easy for the user to make out where all information is.
        - Scenario 1
            - Success
                - The layout of the profile is well-organized for the user to know which is which easily.
            - Failure
                - The layout of the profile ends up scattered and the user can’t tell which function is which.
- Portability/Compatibility
    - The user can access the user profile through any user device that supports a modern browser that this site supports.
        - Scenario 1
            - Success

        - The user will be able to access the user profile through any user device supported.
    - Failure
        - The user will be rejected from accessing the user profile and return to the last page with an error message.
- Documentation
    - The functions built into the user profitably must be documented in a way that the user will be able to see exactly how all of the functions work.
    - Scenario 1
        - Success
            - If successful the user will be able to view documentation on all of the functions in the user profile so they are not consumed on how they operate.
        - Failure
            - Failure occurs when the functions of the user profile are not properly documented and the user has difficulty operating the user profile .
- Availability
    - The user profile and all of its functions must be available constantly except during pre defined maintenance periods.
    - Scenario 1
        - Success
            - If successful the user profile will be constantly available except during pre defined maintenance periods.
        - Failure
            - Failure occurs if the user profile or any of its functions become unavailable.
    - Scenario 2
        - Success
            - If successful users will be informed before the user profile and/or one or more if its function will be going down for maintenance.
        - Failure
            - Failure occurs when the user profile and/or one or more of its functions goes down for maintenance but the users are not informed.

Notifications

Functional Requirements

- Notify User
    - The user will receive a notification in their UI from any component that requests to send notifications.

        - Scenario 1
            - Success
                - The desired notification has been successfully received.
                - The desired notification has been successfully shown on the UI.
            - Fail
                - The desired notification has not been received.
                - The desired notification has not shown up on the UI.
- Notifications will be viewable in a list which can be expanded when clicking on the notification button.
    - Scenario 1
        - Success
            - Upon expanding the notifications list, under the assumption that notifications do exist on the user's account, there are notifications populating the list.
        - Fail
            - Upon expanding the notifications list, under the assumption that notifications do exist on the user's account, there is at least one notification that should be populating the list that is not on the list.
    - Scenario 1
        - Success
            - There is a number on the notification button that accurately indicates the number of notifications that are currently unread.
            - There is no number when there are no unread notifications.
        - Fail
            - There is not a number on the notification button that accurately indicates the number of notifications that are currently unread.
            - There is a number when there are no unread notifications.
- When there are unread notifications, the notification button will be surrounded by a different color, catching the users attention.
    - Scenario 1
        - Success
            - Under the assumption that there are unread notifications, a different color surrounds the notifications button.
        - Fail
            - Under the assumption that there are unread notifications, a different color does not surround the notifications button.
- Individual notifications within the notification list will be highlighted as long as they remain unread.
    - Scenario 1

- Success
    - All notifications that are currently unread are highlighted in the notifications list.
- Fail
    - At least one notification that is unread is not highlighted in the notifications list.

Non-Functional Requirements

- System response time
    - Notifications must take no more than 5 seconds to arrive, after being sent.
        - Scenario 1
            - Success
                - The sent notification arrives in no more than 5 seconds.
            - Failure
                - The sent notification arrives after 5 seconds.
                    - After 30 seconds, an error is logged.
- User-Friendly
    - The notification button is placed in a taskbar at the top in an easy to see location.
        - Scenario 1
            - Success
                - The notification button is placed in a taskbar at the top in an easy to see location.
            - Failure
                - The notification button is not placed in a taskbar at the top in an easy to see location.
- Portability/Compatibility
    - The user can access the notification button through any user device that supports a modern browser that this site supports.
        - Scenario 1
            - Success
                - The user will be able to access the notification button through any user device supported.
            - Failure
                - The user will be rejected from accessing the notification button and return to the last page with an error message.
    - Availability
        - The notification system must function properly during all times except during maintenance periods where the user is warned at least one week ahead of time.
            - Scenario 1

            - Success
                - The notification system functions properly during all times except for the maintenance periods.
            - Failure
                - The notification system does not function during a time which is not a maintenance period.

- Content
    - Notifications should be received by the following (subject to change):
        - Friend requests
        - New rating on profile
        - New private message
        - New group chat message
        - New group chat announcement
        - New match request
        - Mod announcements
        - Admin announcements

        - Scenario 1
            - Success
                - All of the above listed scenarios for when a notification can be sent are sent successfully.
            - Failure
                - One or more of the above listed scenarios for when a notification can be sent are not sent successfully.

Content Moderation

Functional Requirements

- ### Moderator Selection
    - The admin can designate a given user to become a moderator through an admin-only tool on the moderator panel.
        - Scenario 1
            - Success
                - The designated user successfully becomes a moderator and has access to moderator functionality and the moderator panel.
            - Failure
                - The designated user does not successfully become a moderator.

- The designated user successfully becomes a moderator but does not have access to the moderator panel.
- The designated user successfully becomes a moderator but does not have access to moderator functionality.

- Moderators can be given access to only moderate specific components.
  - Scenario 1
    - Success
      - The moderator has access to moderate the intended component.
    - Failure
      - The moderator does not have access to moderate the intended component.
      - The moderator has access to moderate other components that they were not intended to have access to.

- Moderator Panel
  - User reports can be viewed on the Moderator Panel.
    - Scenario 1
      - Success
        - Under the assumption that a user sends in a report:
          - The report will be accessible in the Moderator Component.
      - Failure
        - Under the assumption that a user sends in a report:
          - The report is not accessible in the Moderator Component.
  - User reports are filtered based on the following filter criteria:
    - Bug reports.
    - Technical reports.
    - User misconduct reports
      - Scenario 1
        - Success
          - The user reports are successfully filtered based on {bug reports, technical reports, user misconduct reports}.
        - Failure
          - The user reports are successfully filtered based on {bug reports, technical reports, user reports}.
  - Suspend user
    - The moderator can suspend a user.
      - Scenario 1
        - Success
          - The user can no longer access their account.
        - Failure

            - The user can still access their account.
    - An automatic email will be sent to the user notifying them of their suspension.
        - Scenario 1
            - Success
                - The user receives an email notifying them of their suspension.
            - Failure
                - The user does not receive an email message notifying them of their suspension.
    - The moderator can specify the duration of suspension.
        - Scenario 1
            - Success
                - The account remains suspended for the duration specified.
                - The user receives an email notifying them of their suspension and the duration of their suspension.
            - Failure
                - The account is automatically reinstated before the specified duration is up.
                - The user fails to receive an email notifying them of their suspension.
- Ban user
    - The moderator can permanently ban the user.
        - Scenario 1
            - Success
                - The user can no longer access their account.
            - Failure
                - The user can still access their account.
    - An automatic email will be sent to the user notifying them of their ban and the appeal process.
        - Scenario 1
            - Success
                - The user receives an email notifying them of their ban and the appeal process.
            - Failure
                - The user does not receive an email notifying them of their ban and the appeal process.
    - The banned account will be initially marked as “pending appeal”.
        - Scenario 1
            - Success

                - The user account is marked as “pending appeal”.
            - Failure
                - The user account is not marked as “pending appeal”.
    - If the user does not successfully appeal the ban within 14 days, then their account is marked as “banned” and it becomes subject to deletion if more space is needed in the future.
        - Scenario 1
            - Success
                - The user fails to successfully appeal within 14 days and the account is marked as “banned”.
            - Failure
                - The user fails to successfully appeal within 14 days but the account fails to be marked as “banned”.
- Shadowban user
    - The user’s account will be marked as “shadow banned”.
        - Scenario 1
            - Success
                - The user account is marked as “shadow banned”.
            - Failure
                - The user account is not marked as “shadow banned”.
    - The user can still use their account normally but no other users will see their listings, intelligent searches, messages, or any other interactive content.
        - Scenario 1
            - Success
                - The user can still use their account normally, but no other users can see their listings, intelligent searches, messages, or any other interactive content.
            - Failure
                - The user can still use their account normally and other users can still see their listings, intelligent searches, messages, or any other interactive content.
- Restore Account Access
    - The moderator can select an option in the Moderator Component that restores the account access of a user that has lost their access due to suspension or banning.
        - Scenario 1
            - Success
                - The user who previously had lost access to their account, for whatever reason, can successfully log into their account again.

        - Failure
            - The user who previously had lost access to their account, for whatever reason, still cannot log in to their account.
- Message user
    - The moderator can send a message to user by specifying:
        - The username
        - The body of the text
            - Success
                - A message is successfully sent to the user matching the specified username.
                - The message received by the specified user contains the content specified by the moderator.
            - Failure
                - The specified user does not receive a message.
                - The content received by the specified user is incorrect.
- Remove traditional listing
    - The moderator will have the option to remove a traditional listing posted by a given user.
        - Scenario 1
            - Success
                - The specified traditional listing is removed from the website.
            - Failure
                - The specified traditional listing is not removed from the website.

- Remove intelligent search
    - The moderator will have the option to remove an intelligent search made by a given user.
        - Scenario 1
            - Success
                - The specified intelligent search is removed from the website.
            - Failure
                - The specified intelligent search is not removed from the website.
- Remove group page
    - The moderator will have the option to remove a group page posted by a given user.
        - Scenario 1
            - Success

        - The specified group page is removed from the website.
    - Failure
        - The specified group page is not removed from the website.

- Automatic moderator
    - The moderator can define keywords that would trigger a deletion if found in a listing, private message, group chat message, group chat announcement, or intelligent search.
        - Scenario 1
            - Success
                - A listing, private message, group chat message, group chat announcement, or intelligent search with specific keywords are deleted after posting.
            - Failure
                - A listing, private message, group chat message, group chat announcement, or intelligent search with specific keywords are not deleted after posting.
    - The moderator can define certain keywords that must be included in a listing or intelligent search to avoid being deleted.
        - Scenario 1
            - Success
                - A listing or intelligent search is successfully deleted after posting if it does not contain the specified keywords.
            - Failure
                - A listing or intelligent search is not successfully deleted after posting if it does not contain the specified keywords.

Non-Functional Requirements

- System Response Time
    - Any given moderator action should take no longer than 5 seconds to execute.
        - Scenario 1
            - Success
                - Any given action taken by the moderator takes no longer than 5 seconds to execute.
            - Failure
                - A given action taken by the moderator takes longer than 5 seconds to execute.
                    - After 5 seconds the system notifies the moderator that the action is still executing.

        - After 30 seconds, the action times out and the moderator is notified via an error message that the action could not be executed and to try again.
- The moderator panel can only be accessed by admin and designated moderators.
    - Scenario 1
        - Success
            - The moderator panel is only accessible by admin and designated moderators.
        - Failure
            - The moderator panels accessible by other users besides admin and designated moderators.
    - Scenario 2
        - Success
            - The moderator panel can be accessed by admin and designated moderators.
        - Failure
            - The moderate panel cannot be accessed by the admin.
            - The moderator panel cannot be accessed by any given moderator.
- Reliability
    - The moderator panel should be available at all times of the day, except during maintenance. Moderators should be notified of maintenance times a week in advance.
        - Scenario 1
            - Success
                - The moderator panel is available at all times of the day, except during maintenance.
            - Failure
                - The moderator panel had down time that did not occur during scheduled maintenance.
- Portability
    - The moderator panel should function on any device that is running a compatible web browser. Compatible web browsers are all modern, up to date web browsers.
        - Scenario 1
            - Success
                - The moderator panel works on any device on all compatible web browsers.
            - Failure
                - The moderator panel fails to work on a given device that is running a compatible web browser.
- User-Friendly
    - The Moderator panel UI should have a sleek and simple interface.
        - Scenario 1
            - Success

                - The moderator panel UI is designed in such a way to be sleek and have a simple interface.
            - Failure
                - The moderator panel UI has a clunky interface.
                - The moderator panel UI has an interface that is complicated to use.
    - All moderator actions within the moderator panel should be easy to locate on the screen by the moderator.
        - Scenario 1
            - Success
                - Any given moderator action within the moderator panel component is easy to locate.
            - Failure
                - A given moderator action within the moderator panel component is hard to locate.

Security

Functional Requirements

- Network transmissions will be encrypted using forced HTTPS SSL encryptions to ensure the privacy of the data sent.
        - Scenario 1
            - Success
                - All of the network transmissions will be encrypted using forced HTTPS SSL encryptions to ensure the privacy of the data sent.
                - Success occurs when all data sent over the network is encrypted in force HTTPS SSL.
            - Failure
                - Failure occurs when there is data sent over the network that does not use forced HTTPS SSL.
    - Confidential and critical data stored in our datastore will be encrypted with md6 encryption to ensure that all of this data is secure.
        - Scenario 1
            - Success
                - All of the critical data stored in the datastores will be encrypted with an md6 encryption.
                - Success occurs when all of the critical data in our datastores is encrypted with a md6 encryption.
            - Failure
                - Failure occurs when the data in our datastores is not encrypted with md5.
    - Passwords will be salted with a defined salt value before entry into the dm6 encryption function and database upload.

        - Scenario 1
            - Success
                - The user enters a new password, that password is appended with our hash value, then the appended string is encrypted using md5 and entered into the database.
                - Success occurs when the user entered password is salted before it is encrypted.
            - Failure
                - Failure occurs when the password is encrypted before the slating occurs.
- If an attempted DDoS attack is detected via the cloudflare ddos detection tool the DDoS prevention system will activate and force all connections to the site to wait 5 seconds before connecting and blocking out ip addresses.
    - Scenario 1
        - Success
            - If a DDoS attack is detected, block out the suspected ip address and force all other IP's to a delay of 5 seconds before connection.
            - If successful, when a DDoS attack is detected, block out the suspected ip address and force all other IP's to a delay of 5 seconds before connection.
        - Failure
            - Failure occurs when the system does not block out all suspected DDoS IP addresses.
            - Failure occurs when the system does not delay all connections by 5 seconds before connecting.
- If a suspicious connection is detected by the cloudflare security system the firewall will be instructed to block those connections.
    - Scenario 1
        - Success
            - When a suspicious ip address attempts to connect to the webserver the firewall will block the connection.
            - If successful, when a suspicious connection is detected the connection will be blocked by the firewall.
        - Failure
            - Failure occurs when a suspicious connection is allowed without the firewall blocking the connection
- The system admin will scan the code repository for know vulnerabilities in the api and frameworks being used
    - Scenario 1
        - Success
            - The system administrator will scan the repository for imported code library that are known to have a vulnerability in it the system

            - If successful ,the system admin will be able to find and prevent known vulnerabilities in imported libraries.
        - Failure
            - Failure occurs when there is a known exploit in one of our external apis or frameworks and the scanner does not find it .
- Inside of the application there will be webpages which will be accessible to only approved users. The security system must verify that only allowed users can access these pages.
    - Scenario 1
        - Success
            - When an authorized user attempts to access a restricted page they are allowed to access the page, but if an unauthorized user attempts to access the restricted page they will be shown an error.
            - If successful all pages which are confidential will only be accessible by people with access to those pages.
        - Failure
            - Failure occurs when unauthorized users are able to access restricted pages in the web application.
- Since users will be entering confidential information into the application it is important that all this information is securely stored and not accessible from anyone.
    - Scenario 1
        - Succes
            - When confidential information is entered into the site, this information will not be extractable by searching through the site cookies.
            - If successful no confidential information will be stored inside of the cookies of the site.
        - Failure
            - Failure occurs when confidential data is stored within the cookies of the website.
- The website has to be coded to prevent SQL injection, but you can never be 100% certain that such an attack can occur. The sql server must be verifying that there are no suspicious queries being created and if a suspicious query is created the SQL server must block it.
    - Scenario 1
        - Success
            - When a query is created to the SQL server that is suspected to be an SQL injection, block the query.If it was indeed a proper query the system admin will have to white list it in the SQL server setting
            - If successful any suspicious query will be blocked to help prevent SQL injection attacks.
        - Failure

            - Failure occurs when a suspicious SQL injection query is allowed to run inside of the SQL server.
- The web and backend server will be running a security scan that will try and identify any commonly misconfigured systems within the server's configuration.
    - Scenario 1
        - Success
            - The configuration scanner will run automatically at a set time and scan for commonly misconfigured configurations.
            - If successful the configuration scanner will scan the systems to verify that all systems are configured properly.
        - Failure
            - Failure occurs when the system does not run automatically at a set time.
    - Scenario 2
        - Success
            - The configuration scanner will identify configuration issues then notify the system admin of these issues.
            - If successful the configuration scanner will notify the system admin when a misconfigured system is found.
        - Failure
            - Failure occurs when the system finds a misconfigured system and fails to notify the system admin.
            - Failure occurs when the system scans a misconfigured configuration and does not notice that the configuration is incorrectly implemented.
- To prevent deserialization attacks we must only sterilize mediums that use a primitive data type or use integrity checks to verify that all objects have correct signature and isolate all code that could have the possibility of a deserialization attack.
    - Scenario 1
        - Success
            - If possible the sterilization of data will only sterilize a primate data type.
            - If successful the system will only sterilize primitive data types .
        - Failure
            - Failure occurs when the system must sterilize non primitive data types and the system then becomes vulnerable to deserialization attacks.
    - Scenario 2
        - Success
            - If the system must deserialize non primitive data types the system must be isolated from every other system so remote code injection threats are limited.
            - If successful the system will have all sterilization systems isolated from the rest of the application.

- Failure
    - Failure occurs when the system needing sterilization is not isolated from the rest of the system, which results in remote code execution vulnerabilities .

Non Functional Requirements

- System response time
    - Scenario 1
        - For all security features the response times for the system must be 400ms.
            - Success
                - If successful the response time for the system will be 400ms.
            - Failure
                - Failure occurs when the system takes more than 5 seconds to function.
    - Scenario 2
        - If the response time for the system takes more than 30 seconds the system will timeout.
            - Success
                - If the system takes more than 30 seconds to respond the system will time out.
            - Failure
                - Failure occurs when the system takes more than 30 seconds to respond and the system does not time out after that time.
- Availability
    - The security systems firewall must be available at all times.
        - Scenario 1
            - Success
                - If successful the systems firewalls will be continuously filtering and blocking malicious traffic from entering our system.
            - Failure
                - Failure occurs when the firewall system becomes unavailable at unexpected moments which hinder the security of the application.
    - Scenario 2
        - The security systems ddos prevention system must be available at all times.
            - Success
                - If successful, the system's ddos prevention system will be continuously filtering and blocking malicious traffic from entering our system.
            - Failure
                - Failure occurs when the ddos prevention system becomes unavailable at unexpected moments which hinder the security of the application.
- Scalability
    - The system must be able to use new encryption techniques if the old ones become compromised.
        - Scenario 1

        - Success
            - If successful the system will be scalable to utilize new encryption techniques.
        - Failure
            - Failure occurs when the encryption technique currently in use becomes compromised by the system and is unable to change to the new encryption technique.
- Reliability
    - Scenario 1
        - The firewall must be always active, and the only times it is to become inactive is during a scheduled maintenance.
            - Success
                - If successful the firewall will only become inactive during a scheduled maintenance.
            - Failure
                - Failure occurs when the firewall becomes inactive any time other than during a scheduled maintenance.
    - Scenario 2
        - The ddos prevention system must be always active, and the only times it is to become inactive is during a scheduled maintenance.
            - Success
                - If successful the ddos prevention system will only become inactive during a scheduled maintenance.
            - Failure
                - Failure occurs when the ddos prevention system becomes inactive any time other than during a scheduled maintenance.
    - Scenario 3
        - The SQL injection prevention in place must be tested to verify that it is indeed capable at preventing sql injections.
            - Success
                - If successful the sql injection prevention system will be able to reliably prevent sql injection attacks.
            - Failure
                - Failure occurs when the sql injection system is implemented but it is unable to reliably prevent sql injection attacks.
    - Scenario 4
        - The configuration scanner will be able to reliably scan the system configurations for exploitable configuration flaws.
            - Success
                - If successful the configuration scanner will be able to scan the system and catch most configurations issues.
            - Failure
                - Failure occurs when the configuration scanner cannot reliably scan the system configurations for misconfigured systems.
- Complianent

        - All the security systems will be compliant with OWASP to maximize our abilities to stop attacks before they happen.
            - Scenario 1
                - Success
                    - If successful all of the systems will be compliant with all OWASP standards.
                - Failure
                    - Failure occurs when our systems are not compliant with the OWASP standards.

Networking

Functional Requirements

- The systems network must be able to transfer data over a tcp connection since the database system utilizes this communication platform.
    - Scenario 1
        - Success
            - The systems network must be able to send and receive tcp packets with minimal to zero packet loss.
            - If successful the system will be able to send and receive tcp packets.
        - Failure
            - Failure occurs when the system is unable to send and receive tcp packets.
- The systems network must be able to host a web server that is accessible to external connections using an https connection.
    - Scenario 1
        - Success
            - External individuals must be able to connect to the hosted web server using a https connection.
            - If successful, the https web server will be accessible from the outside internet.
        - Failure
            - Failure occurs if the system cannot host a webserver using a https connection.
            - Failure occurs if a client cannot connect to the server using a https connection from an external network.
            - Failure occurs if the system cannot properly encrypt the http connection using https.

Non-Functional Requirements

- System response time

    - Scenario 1
        - For all networking features the response times for the system must be 400ms.
            - Success
                - If successful the response time for the system will be 400ms.
            - Failure
                - Failure occurs when the system takes more than 5 seconds to function.
    - Scenario 2
        - Success
            - If the response time for the system takes more than 30 seconds the system will timeout.
        - Failure
            - Failure occurs when the system takes more than 30 seconds to respond and the system does not time out after that time.
- Stability
    - Scenario 1
        - All network connections to the server have to be consistently active and cannot be intermittent.
        - Success
            - Success occurs when the internet connection on the servers is active constantly and does not have outages.
        - Failure
            - Failure occurs when the network connections to the servers are intermittent.
- Accessibility
    - Scenario 1
        - All network based resources must be accessible by their contingent resources and cannot be blocked by firewalls.
            - Success
                - Success occurs when all network connected devices are accessible by their counterparts.
            - Failure
                - Failure occurs when a firewall or other setting is blocking network connected devices from connecting to each other .
- Security
    - All transmissions over the network need to be secure at all times and unreadable to outside parties.
    - Scenario1
        - Success
            - If successful all network transmissions will be secure.
        - Failure
            - Failure occurs when network transmissions are not secure.
- Expandable
    - The development team will need to be able to add new ip's onto the current network infrastructures.
    - Scenario 1

        - Success
            - If successful the network will be expandable to new network devices.
        - Failure
            - Failure occurs when it is not possible to add new devices onto the currently existing network.
- Reachable
    - The network has to be reachable from the outside so the development team can access it's resources.
    - Scenario 1
        - Success
            - If successful it will be possible to access the LAN of the network from the WAN.
        - Failure
            - Failure
                - Failure occurs when it is not possible to access the networks LAN from the WAN.
- Minimal Downtime
    - Other than scheduled network downtime required for maintenance the network has to be stable.
    - Scenario 1
        - Success
            - If successful the network will always be reachable except during scheduled downtime.
        - Failure
            - Failure occurs when the network becomes unreachable at unexpected moments which will impact the functions of the web application.

Datastore

Functional requirements

- Storage
    - There will be a user data store that only contains user account information.
        - Scenario 1
            - Success
                - The user data store contains only user account information.
            - Failure
                - The user data store contains other information besides user account data.
    - There will be a data store that only contains archived information.
        - Success
            - The archiving data store contains only archived data.
        - Failure
            - The archiving data store contains other data besides archived data.
    - There will be a data store that contains all other information.
        - Success

                - This data store contains all other information besides user data and archived data.
            - Failure
                - This data store contains user data.
                - This data store contains archived data.
- Read
    - System must be able to read data from the datastore.
        - Scenario 1
            - Success
                - System successfully reads the intended data from the data store.
            - Failure
                - System fails to read the intended data from the data store.
- Update
    - System must be able to update data on the datastore.
        - Scenario 1
            - Success
                - System successfully updates the intended data on the data store.
            - Failure
                - System fails to update the intended data on the data store.
- Write
    - System must be able to write data to the datastore.
        - Scenario 1
            - Success
                - System successfully writes the intended data to the data store.
            - Failure
                - System fails to write the intended data to the data store.
- Delete
    - System must be able to delete data from the datastore.
        - Scenario 1
            - Success
                - System successfully deletes the intended data from the data store.
            - Failure
                - System fails to delete the intended data from the data store.

Non-Functional requirements

- Memory space
    - Scenario 1
        - Success
            - Database must have enough space to handle all the data.
            - Databases receive incoming data to be stored.
        - Fail
            - Database is out of space.
            - Database aborts the attempt to store data and admins are notified to free some space.

- System Time out
    - Scenario 1
        - Success
            - Systems must be able to send and retrieve the data from the server within 400ms.
            - Communication between servers has to be within 400ms.
            - System will be able to send and receive data from the server without interruptions.
        - Failure
            - System attempts to communicate with the servers for longer than 400ms.
            - System will experience delays when receiving data.
            - If it's longer than 5 seconds, the communication between the system and the servers will interrupt and try to reconnect afterward.
- Accessibility
    - Scenario 1
        - Success
            - Only admins and developers should be able to access the datastores.
            - The normal users will not be able to access the datastores.
        - Failure
            - Any user can access the datastores.
- Maintainability
    - Scenario 1
        - Success
            - Datastores should go through maintenance every month during archive sessions.
        - Failure
            - Datastore does not go through maintenance and the archive session is aborted.

Site Rules

The rules

- No one under the age of 13 is allowed to sign up to use the site.
    - Scenario1
        - Success
            - If a person who is under the age of 13 attempts to register for the site using their real birthdate they will be denied an account
            - If successful, users under the age of 13 will not be allowed to register for the site if they provide us with their actual birthdate.
        - Failure
            - Failure occurs if people under the age of 13 can sign up for the site.

- Users may not use any speech that conveys threats of violence, whether explicit or implicit.
    - Scenario 1
        - Success
            - If a person is inciting violence on our site and our auto moderation system detects it the post will be removed from the site. Users will be able to appeal if they believe that the post was non-rule breaking.
            - Success occurs when the automodieration system is able to catch posts inciting violence.
        - Failure
            - Failure occurs when the automoderation system fails to find posts which are inciting violance.
    - Scenario 2
        - Succes
            - If a post is created that incites violence, users will be able to report the post and the moderation team will be able to go and remove the post if they feel the post is rule breaking.
            - Success occurs when the users are able to report rule breaking posts and the moderation team can review them.
        - Failure
            - Failure occurs when the users are unable to report rule breaking pots.
            - Failure occurs when users report rule breaking posts but the moderation team does not get these reports.
- No users will be allowed to promote illegal activity or illegal items of any kind.
    - Scenario 1
        - Success
            - If a person is promoting illegal activity or illegal items on our site and our auto moderation system detects it the post will be removed from the site. Users will be able to appeal if they believe that the post was non-rule breaking.
            - Success occurs when the automodieration system is able to catch posts promoting illegal activity or illegal items.
        - Failure
            - Failure occurs when the automoderation system fails to find posts which are promoting illegal activity or illegal items .
    - Scenario 2
        - Succes
            - If a post is created which promotes illegal activity or illegal items, users will be able to report the post and the moderation team will be able to go and remove the post if they feel the post is rule breaking.

                - Success occurs when the users are able to report rule breaking posts and the moderation team can review them.
            - Failure
                - Failure occurs when the users are unable to report rule breaking pots
                - Failure occurs when users report rule breaking posts but the moderation team does not get these reports.
- Users will not be allowed to harass each other or cyberbully their fellow users.
    - Scenario 1
        - Success
            - If a person is harassing users on our site and our auto moderation system detects it the post will be removed from the site. Users will be able to appeal if they believe that the post was non-rule breaking
            - Success occurs when the automodieration system is able to catch posts harassing users
        - Failure
            - Failure occurs when the automoderation system fails to find posts which are harassing users.
    - Scenario 2
        - Succes
            - If a post is created which is harassing users, users will be able to report the post and the moderation team will be able to go and remove the post if they feel the post is rule breaking.
            - Success occurs when the users are able to report rule breaking posts and the moderation team can review them
        - Failure
            - Failure occurs when the users are unable to report rule breaking pots
            - Failure occurs when users report rule breaking posts but the moderation team does not get these reports.
- No minor(under the age of 18) will be allowed to access the dating portion of the website.
    - Scenario 1
        - Success
            - If a person is under the age of 18 they will be not allowed to access the dating portion of the site.
            - If successful, the system will not allow anyone under the age of 18 to access the dating platform.
        - Failure
            - Failure occurs when users under the age of 18 are allowed to access the dating portion of the site.
    - Scenario 2

        - Success
            - If a person under the age of 18 creates an account using a falsified birthday, users will be able to report the user for lying about their age and the moderation team will review the profile and decide to ban their account if there is sufficient evidence of falsifying their age.
            - If successful users will be able to report users who falsify birthdays to the moderation team.
        - Failure
            - Failure occurs when a user is reported to the moderation team but the moderation team does not get the reported profile.
    - Scenario 3
        - Success
            - An automoderator bot will be used to scan profiles which have keywords that indicate a user is under the age of 18, those accounts will be flagged. If a user wants to contest the automoderation report they can submit a case to have a manual review of their profile.
            - If successful the automod will find and ban all accounts which have the keywords signifying the account is owned by a minor.
        - Failure
            - Failure occurs when the automod flags an account that does not have any of the keywords signifying they are a minor.
            - Failure occurs when the automod does not flag a profile with the keywords signifying they might be a minor.
- Before signing up for the dating app portion of the site users will be asked if they are a registered sex offender, if they are they will not be allowed onto that portion of the site
    - Success
        - Users will be asked if they are a registered sex offender, if they check that they are not ,they will be allowed to sign up for the dating portion of the site, if they mark that they are then they will be not allowed to join.
        - If successful users which mark that they are a sex offender will not be allowed to join the dating portion of the site.
    - Failure
        - Failure occurs if people who have marked that they are registered sex offenders are allowed to join the dating portion of the site.
- Users will not be able to post solicitations which ask for paid services, offer paid services, or attempt to sell something for monetary gain.
    - Scenario 1
        - Success

                - Users will not be able to post solicitations to the site, an automoderator bot will analyse all posts to search for keywords which might indicate a solicitation.
                - If successful users will not be allowed to submit any offering for monetary gain or giving money for services or goods, because our automoderator bot will catch it.
            - Failure
                - Failure occurs when a solicitation is posted and it is not stopped by automoteration.
        - Scenario 2
            - Success
                - If the automoderator bot does not notice a solicitation users will be able to report suspected solicitations to the sites moderation team and the moderation team will be able to decide if a post is a solicitation or not.
                - If successful the users reported posts will be sent to the auto moderation team and they will review the post to decide if it should be removed or kept.
            - Failure
                - Failure occurs when the post is reported but the moderation team is not notified of the suspicious post.
- No user is allowed to have a bot to automated any aspect of our site
    - Scenario 1
        - Success
            - The site will be able to identify and block bots from using the site.
            - If successful no bots will be able to use the website.
        - Failure
            - Failure occurs if the website can be utilized by bots.
- No user will be allowed to engage in any activity on our website that violates their local, state, or federal laws.
    - Scenario 1
        - Success
            - If a person is engaging in any activity that violates their local, state, or federal laws on our site and our auto moderation system detects it the post will be removed from the site. Users will be able to appeal if they believe that the post was non-rule breaking.
            - Success occurs when the automodieration system is able to catch posts engaging in any activity that violates their local, state, or federal laws
        - Failure
            - Failure occurs when the automoderation system fails to find posts which are engaging in any activity that violates their local, state, or federal laws.

    - Scenario 2
        - Succes
            - If a post is created which promotes engaging in any activity that violates their local, state, or federal laws users will be able to report the post and the moderation team will be able to go and remove the post if they feel the post is rule breaking.
            - Success occurs when the users are able to report rule breaking posts and the moderation team can review them.
        - Failure
            - Failure occurs when the users are unable to report posts engaging in any activity that violates their local, state, or federal laws.
            - Failure occurs when users report posts engaging in any activity that violates their local, state, or federal law but the moderation team does not get these reports.
- The site will not allow Not Safe For Work content.
    - Linking multimedia content, discussing topics and collaborating on projects which involve or depict intense sexuality, profanity, slurs, violence, gore, nudity and disturbing content is not allowed on the site.
        - Scenario 1
            - Success
                - Success occurs when the site users are able to report not safe for work posts and the moderation team will be able to remove the post if indeed they are rule breaks.
            - Failure
                - Failure occurs when the user is unable to report a rule breaking post to the moderation team.
                - Failure occurs when the user is able to remote the post but the moderation team does not receive the report.

Non-Functional Requirements

- System response time
    - Scenario 1
        - Success
            - For the automoderator bot the response time for the system must be 400ms for when it attempts to find the comments.
            - If successful the response time for the automoderator will be 400ms.
        - Failure
            - Failure occurs when the automoderator takes more than 5 seconds to function.
    - Scenario 2

        - Success
            - If the response time for the automoderator system takes more than 30 seconds the system will timeout.
            - If the automoderator system takes more than 30 seconds to respond the system will timeout.
        - Failure
            - Failure occurs when the automoderator system takes more than 30 seconds to respond and the system does not time out after that time.

User Account Settings

Functional Requirements

- User Interface
    - Users will be able to change the appearance of their user interface by altering the color theme, font styles and text size.
        - Scenario 1
            - Success
                - Success occurs when users are able to change the font appearance of their interface.
            - Failure
                - Failure occurs when the user is unable to change the font appearance of their interface.
        - Scenario 2
            - Success
                - Success occurs when the user is able to change the color theme of their user interface.
            - Failure
                - Failure occurs when the user is unable to change the color theme of their user interface.
        - Scenario 3
            - Success
                - Success occurs when the user is able to change the text size of their user interface.
            - Failure
                - Failure occurs when the user is unable to change the text size of their user interface.
- Password Change

- Users will be able to go to the user setting panel and change their password by entering their old password, entering the new password and confirming the new password they have entered.
    - Scenario 1
        - Success
            - Success occurs when the user enters their old password, enters the new password and confirms the new password and the user's password is changed.
        - Failure
            - Failure occurs when the user does not confirm the password and the password is changed.
            - Failure occurs when the user confirms the password but the confirmation password is wrong and the password is still changed.
            - Failure occurs when the user enters the wrong current password but the system still changes the password.
            - Failure occurs when the user enters all the correct information but the password does not change successfully.
- Email Change
    - Users will be able to change their email inside the user account setting panel by entering their password and entering a new email.
        - Scenario 1
            - Success
                - Success occurs when the user enters their password and new email and their accounts email address is changed.
            - Failure
                - Failure occurs when the user enters their password and new email but the accounts email does not change.
                - Failure occurs when the user enters the incorrect password but the email is still changed.
                - Failure occurs when the user enters a string that is not an email and the email is changed.
- Users will be able to delete their accounts
    - Users will be able to delete their accounts inside the user account setting panel by clicking the delete your account button and entering their password to confirm their action.
        - Scenario 1
            - Success
                - Success occurs when the user clicks on the delete your account button, is prompted to enter their password then the account is deleted on a proper password enter.
            - Failure

            - Failure occurs when the user presses the delete your account button, enters the correct password but the account is not deleted.
            - Failure occurs when the user enters an incorrect password but the account is still deleted.
- Personal Identifiable Information Request
    - Users will be able to press a button to request their Personal Identifiable Information(PII), the information will then be gathered by the system and sent to the users email.
        - Scenario 1
            - Success
                - Success occurs when the user presses the PII request button and the system receives the request and sends the PII to the user's email.
            - Failure
                - Failure occurs when the user presses the PII request button but the system does not receive the request.
                - Failure occurs when the user presses the PII request button and the system processes the request but the information is never sent to the user.
- Personal Identifiable Information Delete Request
    - Users will be able to press a button to request their Personal Identifiable Information(PII) be deleted, the information will then be identified by the system and deleted.
        - Scenario 1
            - Success
                - Success occurs when the user presses the PII request button and the system identifies the PII and then deletes it.
            - Failure
                - Failure occurs when the user presses the PII request button but the system does not receive the request.
                - Failure occurs when the user presses the PII request button and the system processes the request but the information is never sent to the user.

Non-functional Requirements

- System Response Time
    - System must successfully log registration data within 5 seconds after every time a log needs to be produced.
        - Scenario 1
            - Success
                - If successfully logged, the registration log and its data is saved accurately.

        - Fail
            - System attempts to log longer than 5 seconds.
            - If not successful, abort the attempt of the registration log.
    - Scenario 2
        - Success
            - System must successfully log the instance the e-mail has been sent or verified within 5 seconds.
            - If successfully logged, the log about the e-mail will be saved accurately.
        - Failure
            - System attempts to log longer than 5 seconds.
            - If not successful, abort the attempt of the log involving the e-mail.
- Scalability
    - In the future if there is a need to add new features to the User Setting the system will be capable of adding these features without any effect to the existing system.
        - Scenario 1
            - Success
                - Success occurs when the existing system is not affected when new features are added.
            - Failure
                - Failure occurs when there are new components added to the user setting system which cause the old components to stop working.
- Reliability
    - Since the personal identifiable information(PPI) is highly regulated it is important that the system that collects and deletes the PPI information is reliable at all times.
        - Scenario 1
            - Success
                - Success occurs when the system that deletes the PPI information is constantly functioning at the highest level and is always available for retrieving and sending the data.
            - Failure
                - Failure occurs when the PPI request system cannot consistently send the PPI data to the user .