GameRecap

Ahmet Furkan Ün: 28315 , Deniz Can Gezgin: 27992 , Efe Tüzün: 28992 , Ege Demirci: 28287 , Taner Giray Sönmez: 27744

Sabanci University, Fall 2022-2023, Database Systems

1. Introduction

GameRecap is a web-based game archive application designed to provide users with a way to keep track of their video game experiences. With GameRecap, users can create profiles, add games to their playlists, discover new games through other users' playlists, share their thoughts and opinions on games with the community, and view the insights and opinions of others. During its development phase, the application has implemented the features outlined in the first section, as well as an admin panel. GameRecap utilizes the PERN (PostgreSQL, Express.js, React, and Node.js) tech stack and PostgreSQL as its database management system. The following sections will provide further detail on the features implemented in the application.

2 FEATURES 2

2. Features

The features section describes the various components and functionality of the app. It provides a detailed explanation of how the app operates and the capabilities it offers to users. This section will include descriptions of the features as well as figures to show the functionalities they offer.

2.1. Register

The sign-up page allows users to sign up for Game Recap and access its content. Users have to specify a unique username, unique email address and a password of at least 8 characters that they will use while logging in. If they want to register using the username or email of a previously registered user, a warning appears. If the entered password is shorter than 8 characters, a warning appears. If they fix these errors, users will be successfully registered. The sign-up component with all the detailed information can be seen below.

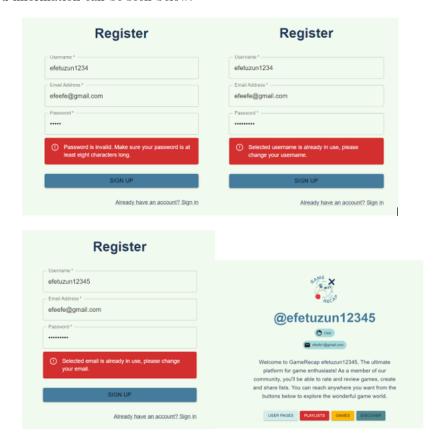


Figure 1. Register: It has registration constraints and when the registration is successful; the user is navigated to their profile.

2.2. Login

The login page allows users to login to GameRecap and access its content. Users shall use the email password combination they used when registering to log into their accounts. If the entered email does not belong to a previously registered user, a warning will appear. If the password is incorrect, a warning will appear about it. The login component with all the detailed information can be seen in the following figures.

2.3 User Profile 3

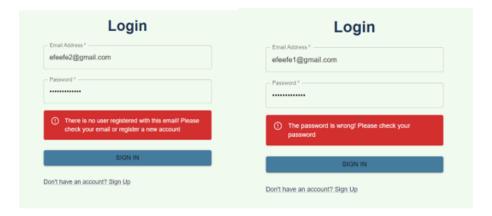


Figure 2. Login: It has constraints, when login is successful, the user is navigated to their profile page.

2.3. User Profile

Upon logging in or registering with the app, users are presented with their user profile page. This page displays the user's username, role, and email. From this page, users can access their playlists by clicking the playlists button, view the GameRecap archive by clicking the games button, or discover other playlists by clicking the discover button. The user profile page also provides an overview of the overall layout of the app, including the presence of an app-bar on each page from which users can log out. Overall, the user profile serves as a central hub for accessing and navigating various features within the app. An example user profile page can be seen in figure.



Figure 3. User profile: Landing page of the users.

2.4. Playlists

By clicking the "Playlists" button located on the profile page, the user can navigate to the playlist page. Upon accessing the playlist page, a new user will initially see an empty table of playlists. To create a new playlist, the user can click the "create new playlist" button, which will redirect them to another page.

2.4 Playlists 4



Figure 4. Playlists page: There is no playlist yet.

The playlist creation screen allows the user to name the playlist and select games from a drop-down list. Multiple games can be selected using this drop-down menu. Once the user has finished selecting games, user can click the "Create Playlist" button to finalize the playlist. Upon clicking the "Create Playlist" button, the user see an alert dialog and will be redirected to their profile page. If user navigates to the playlists screen again, user will see the modified version of the playlist, including the newly added games.

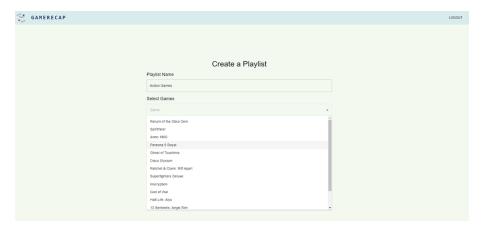


Figure 5. Create playlist page.

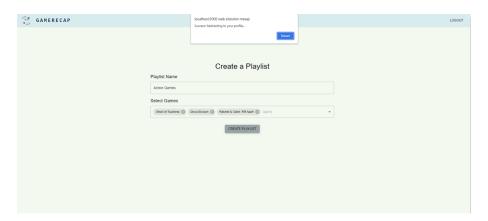


Figure 6. Create playlist page after successful submit.

Upon returning to the playlist page, the user will see the newly created playlist and can select it by clicking on it. Upon clicking on the selected playlist, the user will be redirected to a new page where they can view the games included in the playlist. From this page, the user can also access individual game pages by clicking on the desired game.

2.5 Discover 5



Figure 7. All playlists created by the user.



Figure 8. Selected playlist's page.

2.5. Discover

By clicking the "discover" button located on the profile page, the user can navigate to the discover page. From this page, users of GameRecap can discover new games by using playlists created by others. Using the table below, they can rule out columns, filter columns based on values they enter, and export this table as a .csv file or try to print it as another option of exporting.

The Discover table shows the most common genre of all the games in the playlist. This should help users identify new playlists of their interest, according to their preferences of game genres.

All of the games in a playlist can be viewed by clicking on the playlist ID button of each playlist entry in the table. After clicking, the user is redirected to the individual playlists page, where the games in that playlist are displayed, and users can view additional information about each game.

2.6 Game Profile 6

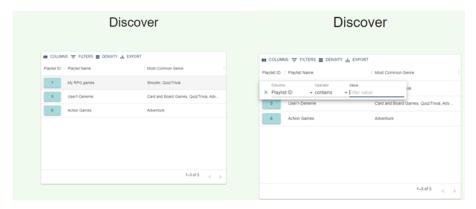


Figure 9. Left part of the figure is the discover page with all playlists. Right part of the figure is what a user will see when they try to filter. They can select a column, an operator and filter that column with that operator according to some value they enter.

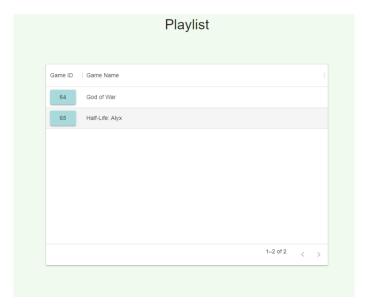


Figure 10. This is the table the users can access if they click on the playlist with ID 7.

2.6. Game Profile

The individual game page is where the users can see information about a game. From this page, users can view the game's name, release date, which languages it supports, which online stores it is in, which subscription services it is in, which DLCs it has, which studio it was developed and published by, which category it is in, on which platforms it is available and a synopsis that summarizes the game. In addition, users can access the game's merchandise site by clicking the Merchandise button. A game profile page can be seen in figure.

If the user is an admin, then the individual game page has a different bottom component compared to the users. Admins will have a bottom component with which they can add DLCs associated with that individual game. A game might have 0, 1 or multiple DLCs. After an admin submits the form, they should see the newly added DLC on the game profile.

2.6 Game Profile



Figure 11. Game profile page.

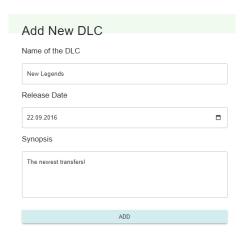


Figure 12. Add New DLC component at the bottom of game profile for admins.

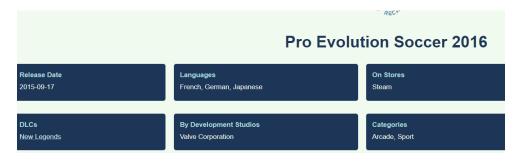


Figure 13. After adding a new DLC to PES 2016

2.6 Game Profile 8

If the user is not an admin, they will see a review component at the bottom of the game profile. They can submit reviews for any game on the system by going to that game's page. When they submit a review, they also log this game as played. It has 2 states based on if the user has previously reviewed the game. All users can submit at most one review for any game.



Figure 14. When there is no review associated with a user for a game.



Figure 15. After user writes and submits the review for a game



Figure 16. Users can see all the reviews for a game.

Same review system is also available for each DLC in the DLC page. Each DLC page displays all past reviews for the DLC and users can write at most one review for each DLC.

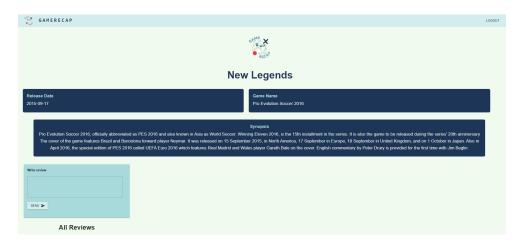


Figure 17. Full DLC profile of the newly created DLC.

2.7. User Pages

After clicking of the user page from the user profile user navigates to the user pages. These pages provides user to review the some tables. These tables include games, categories, development studios, DLCs, languages, online stores, platforms, subscription services, publishing studios, reviews, and playlists. Users can perform certain database operations on these pages, which will be explained in detail in this section. A list of user pages can be seen in figure.



Figure 18. User pages: Users can navigate to their desired table from here.

The categories page, which can be accessed by clicking on the designated button, allows users to view a list of all categories in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of categories. A list of categories can be seen before and after filtering operation in the following figures.

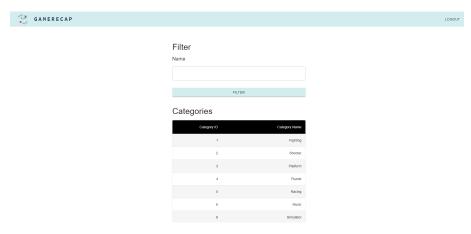


Figure 19. All the categories are shown before filtering.

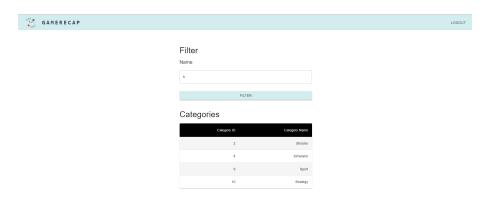


Figure 20. After the filter operation.

Subscription services provide video games or game content on a continuing revenue model, similar to software as a service. The subscription service archive can be accessed by clicking on the designated button, which allows users to view a list of all subscription services in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of subscription services. A list of subscription services can be seen before and after filtering operation in the following figures.

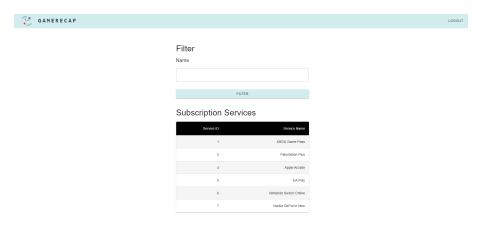


Figure 21. All the subscription services are shown before filtering.



Figure 22. After the filter operation.

Development studios help transform games from a concept to a playable reality. The development studios archive can be accessed by clicking on the designated button, which allows users to view a list of all development studios in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of development studios. A list of development studios can be seen before and after filtering operation in the following figures.

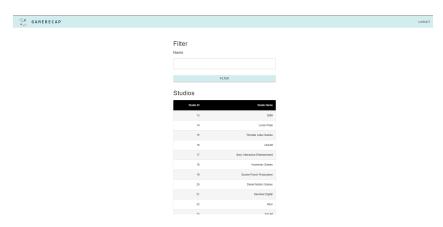


Figure 23. All the development studios are shown before filtering.



Figure 24. After the filter operation.

A game store is a platform or service that allows users to purchase and download video games, often via the internet. The game stores archive can be accessed by clicking on the designated button, which allows users to view a list of all game stores in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of game stores. A list of game stores can be seen before and after filtering operation in the following figures.

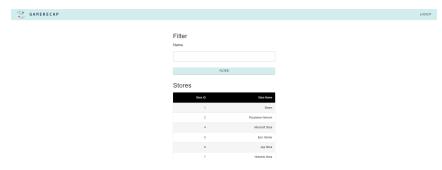


Figure 25. All the game stores are shown before filtering.



Figure 26. After the filter operation.

Platforms refer to the specific type of hardware or operating system that a game is developed for and played on. The platform archive can be accessed by clicking on the designated button on the User Pages page, allows users to view a list of all categories in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of platforms. A list of platforms can be seen before and after filtering operation in the following figures.

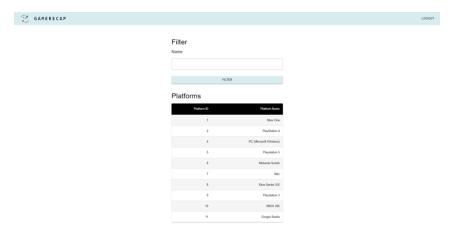


Figure 27. All the platforms are shown before filtering.



Figure 28. Platforms after the filtering operation.

The game archive can be accessed by clicking on the designated button, which allows users to view a list of all games in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of games. A list of games can be seen before and after filtering operation in the following figures.

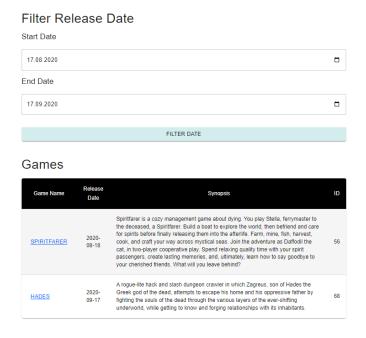


Figure 29. All the games are shown before filtering.

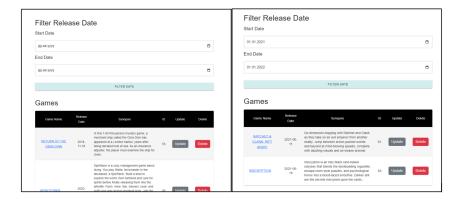


Figure 30. Games after the filtering operation.

The publishing studios archive can be accessed by clicking on the designated button, which allows users to view a list of all publishing studios in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of publishing studios. A list of publishing studios can be seen before and after filtering operation in the following figures.



Figure 31. All the publishing studios are shown before filtering.



Figure 32. Publishing studios after the filtering operation.

The playlists archive can be accessed by clicking on the designated button, which allows users to view a list of all playlists in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of playlists. A list of playlists can be seen before and after filtering operation in the following figures.



Figure 33. All the playlists are shown before filtering.



Figure 34. Playlists after the filtering operation.

The languages archive can be accessed by clicking on the designated button on the User Pages page, allows users to view a list of all languages in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of languages available. A list of languages can be seen before and after filtering operation in the following figures.



Figure 35. All the languages are shown before filtering.



Figure 36. Languages after the filtering operation.

The DLC archive can be accessed by clicking on the designated button on the User Pages page, allows users to view a list of all DLCs in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of DLC of games. A list of DLCs can be seen before and after filtering operation in the following figures.



Figure 37. All the DLCs are shown before filtering.



Figure 38. DLCs after the filtering operation.

The reviews archive can be accessed by clicking on the designated button on the User Pages page, allows users to view a list of all reviews in the database. This page also offers users the ability to utilize filtering options in order to narrow down the displayed list of reviews. A list of reviews can be seen before and after filtering operation in the following figures.



Figure 39. All the reviews are shown before filtering.



Figure 40. Reviews after the filtering operation.

2.8 Admin Profile 16

2.8. Admin Profile

This page displays an admin's username, role, and email. The admin profile serves as a central hub for accessing and navigating to management of all information.

An admin profile page can be seen in the next figure.



Figure 41. Admin profile: Landing page of the admins.

2.9. Admin Panel

In the Admin administration panel, the management of certain tables is provided from the application. These tables include categories, development studios, DLCs, languages, online stores, platforms, subscription services, playlists, publishing studios, users, games. Admins can perform certain database operations on these pages, which will be explained in detail in this section. An admin management panel can be seen in following figure.



Figure 42. Admin management panel; admins can navigate to desired table from there

The subscription service archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all subscription services in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of subscription services just like in the user page. A list of subscription services can be seen before and after filtering operation in the following figures.

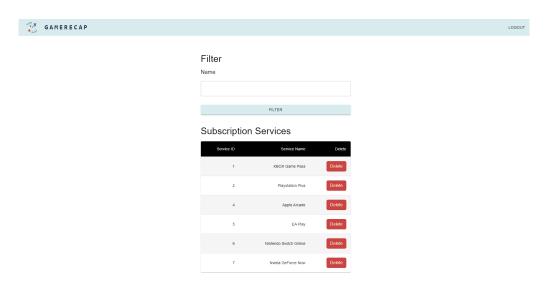
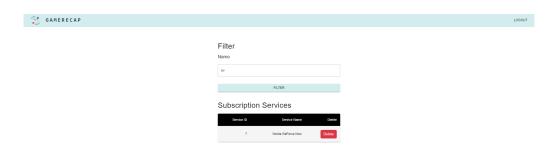


Figure 43. All the subscription services are shown before filtering.



 ${\bf Figure~44.}~{\rm After~the~filtering~operation}.$

2.9 Admin Panel 18

In addition, admins can add new subscription services by using the add component, so that when a new subscription service comes out, the database stays up to date. A list of subscription services can be seen before and after insertion operation in the following figures.

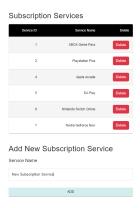


Figure 45. Before adding operation.

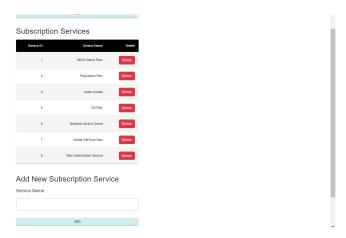


Figure 46. After add operation.

Lastly, admins can delete the subscription service they want by pressing the delete button at the end of the row. A list of subscription services can be seen after delete operation in the following figure.

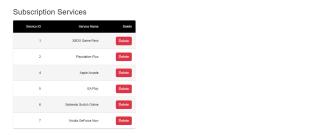


Figure 47. After the deletion operation of last added element.

The online stores archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all online stores in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of online stores just like in the user page. A list of online stores can be seen before and after filtering operation in the following figures.



Figure 48. All the online stores are shown before filtering.



Figure 49. After the filtering operation.

In addition, admins can add new online stores by using the add component, so that when a new online store appears, the database stays up to date. A list of online stores can be seen before and after insertion operation in the following figure.

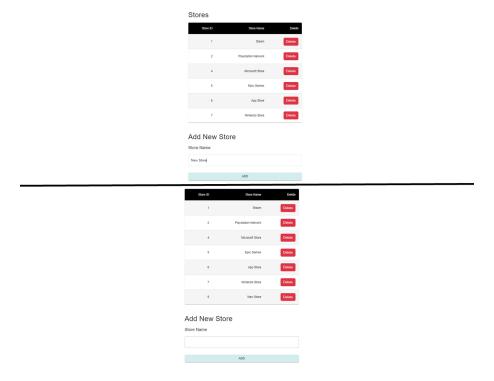


Figure 50. Before and after of add operation.

Lastly, admins can delete the online stores service they want by pressing the delete button at the end of the row. A list of subscription services can be seen after delete operation in the next figure.

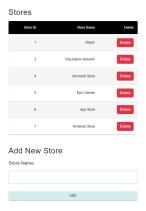


Figure 51. After the deletion operation of last added element.

The development studios archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all development studios in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of development studios just like in the user page. A list of development studios can be seen before and after filtering operation in the following figures.

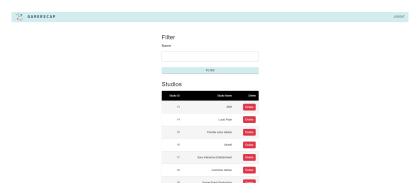


Figure 52. All the development studios are shown before filtering.



Figure 53. After the filtering operation.

In addition, admins can add new development studio by using the add component, so that when a new development studio appears, the database stays up to date. A list of development studios can be seen before and after insertion operation in the following figures.



Figure 54. Before adding operation.



Figure 55. After add operation.

Lastly, admins can delete the development studios they want by pressing the delete button at the end of the row. A list of development studios can be seen after delete operation in the next figure.

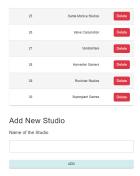


Figure 56. After the deletion operation of last added element.

The categories archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all categories in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of categories just like in the user page. A list of categories can be seen before and after filtering operation in the following figures.

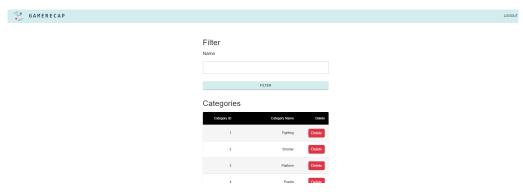


Figure 57. All the categories are shown before filtering.

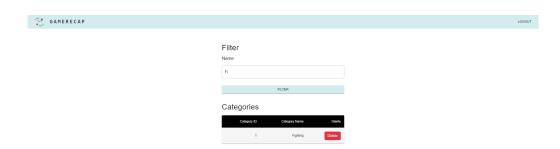


Figure 58. After filtering operation

In addition, admins can add new category by using the add component, so that when a new category appears, the database stays up to date. A list of categories can be seen before and after insertion operation in the next figure.

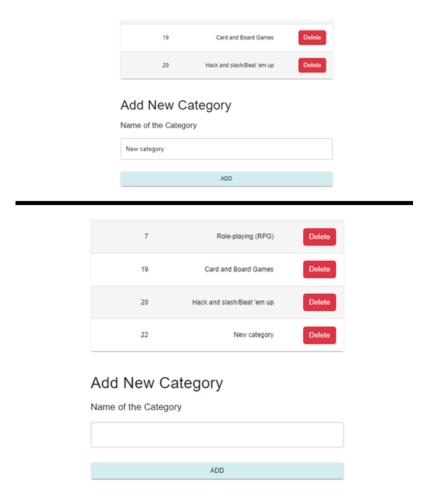


Figure 59. Before and after add operation.

Lastly, admins can delete the category they want by pressing the delete button at the end of the row. A list of categories can be seen after delete operation in the next figure.

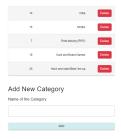


Figure 60. After the deletion operation of last added element.

The language archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all languages in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of languages just like in the user page. A list of languages can be seen before and after filtering operation in the following figures.

2.9 Admin Panel 24

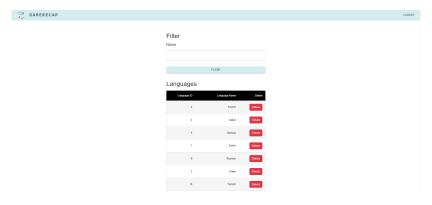


Figure 61. All the languages are shown before filtering.



Figure 62. After filtering operation.

In addition, admins can add new languages by using the add component, so that when a new languages used, the database stays up to date. A list of languages can be seen before and after insertion operation in the following figures.

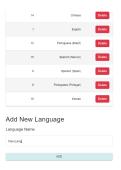


Figure 63. Before adding operation.

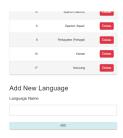


Figure 64. After add operation.

Lastly, admins can delete the language they want by pressing the delete button at the end of the row. A list of languages can be seen after delete operation in the next figure.

Admin Panel 25



Figure 65. After the deletion operation of last added element.

The platform archive can be accessed by clicking on the designated button on the admin panel, which allows admins to view a list of all platforms in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of platforms just like on the user page. A list of platforms can be seen before and after the filtering operation in the following figures.

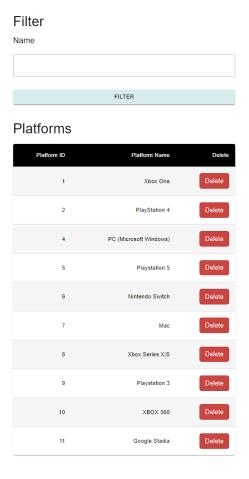


Figure 66. All the platforms are shown before filtering.

2.9 Admin Panel 26



Figure 67. After filtering operation.

In addition, admins can add new platforms by using the add component, so that when a new platform comes out, the database stays up to date. A list of platforms can be seen before and after the insertion operation in the next figure.

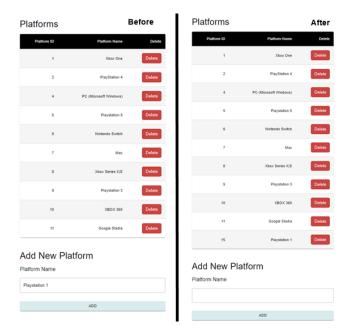


Figure 68. Before and after adding new platform.

Lastly, admins can delete the platform they want by pressing the delete button at the end of the row. A list of platforms can be seen after the delete operation in the next figure.

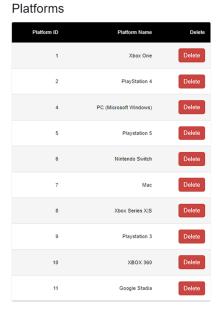


Figure 69. After the deletion operation of last added element.

The games page can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all games in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of games just like in the user page. The filter can be used for start date, end date or both of them. A list of games can be seen before and after filtering operation in the next figure.

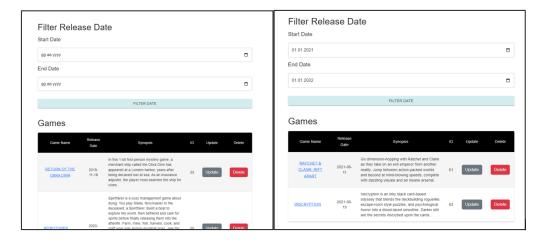


Figure 70. Before and after filter operation of the game.

In addition, admins can add new games by using the add component, so that when a new game comes out, the database stays up to date. A list of games can be seen before and after insertion operation in the next figure.

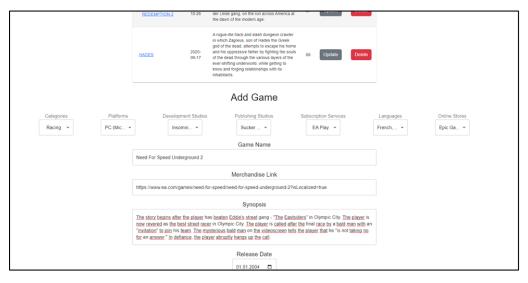


Figure 71. Before add operation.

The process of adding a new game to the database involves selecting relevant categories, platforms, studios, and subscription services, as well as specifying the languages and online stores in which the game is available, and then inputting the game's information.

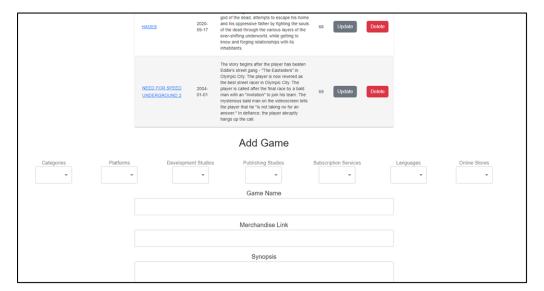


Figure 72. After add operation.

In addition, admins can update the game they want by pressing the update button at the end of the row. A list of subscription services can be seen before and after update operation in the following figures.

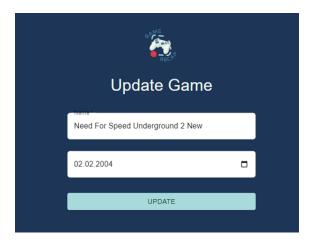


Figure 73. Update operation process.



Figure 74. After the filter.

The user archive can be accessed by clicking on the designated button on the admin panel, which allows admins to view a list of all users in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of users. A list of users can be seen before and after the filtering operation in the following figures.

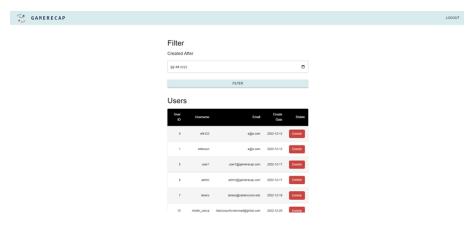


Figure 75. All the users are shown before filtering

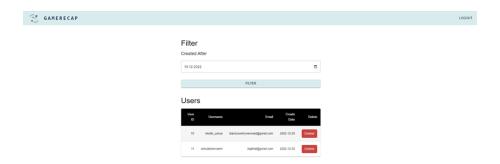


Figure 76. After the filtering operation.

Lastly, admins can delete the user they want by pressing the delete button at the end of the row. A list of users can be seen after delete operation (user with ID 7 has deleted) in the next figure.

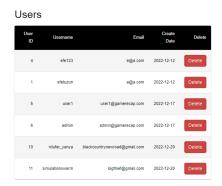


Figure 77. User list after deletion.

The reviews can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all reviews in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of reviews just like in the user page. A list of reviews can be seen before and after filtering operation in the following figures.

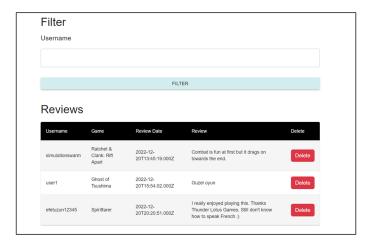


Figure 78. All the reviews are shown before filtering operation.

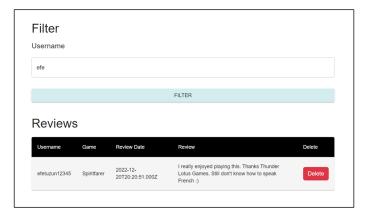


Figure 79. After filtering operation

In addition, admins can delete reviews by pressing the delete button at the end of the row. A list of reviews can be seen after delete operation in the next figure.

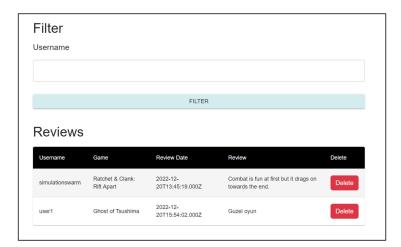


Figure 80. After the deletion of efetuzun12345's review.

The subscription service archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all subscription services in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of subscription services just like in the user page. A list of subscription services can be seen before and after filtering operation in the following figures.

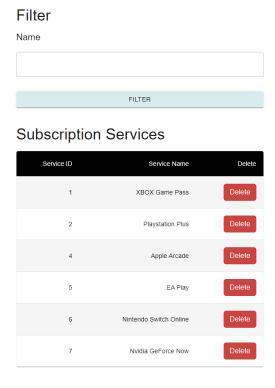


Figure 81. All the subscription services are shown before filtering.



Figure 82. After filtering operation.

In addition, admins can add new subscription services by using the add component, so that when a new subscription service comes out, the database stays up to date. A list of subscription services can be seen before and after insertion operation in the following figures.

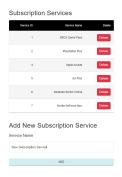


Figure 83. Before add operation.

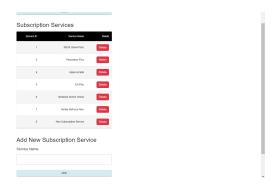


Figure 84. After add operation.

Lastly, admins can delete the subscription service they want by pressing the delete button at the end of the row. A list of subscription services can be seen after delete operation in the next figure.



Figure 85. After the deletion operation of last added element.

The DLC archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all DLCs in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of DLCs just like in the user page. A list of DLCs can be seen before and after filtering operation in the next figure.

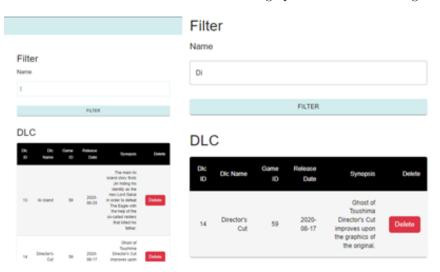


Figure 86. Before and after DLC filtering.

In addition, admins can delete the DLCs they want by pressing the delete button at the end of the row. A list of subscription services can be seen after delete operation in the next figure.



Figure 87. After DLC deletion.

And lastly, as it was showed before, DLCs can be added from the game profile if the user is an admin.

The publishing studio archive can be accessed by clicking on the designated button on the admin panel, allows admins to view a list of all publishing studios in the database. This page also offers admins the ability to utilize filtering options in order to narrow down the displayed list of publishing studios just like in the user page. A list of publishing studios can be seen before and after filtering operation in the following figures.

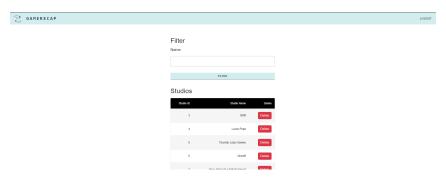


Figure 88. All the publishing studios are shown before filtering.



Figure 89. After filtering operation.

In addition, admins can add new publishing studios by using the add component, so that when a new publishing studio comes out, the database stays up to date. A list of publishing studios can be seen before and after insertion operation in the following figures.



Figure 90. Before add operation.

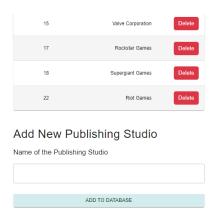


Figure 91. After add operation.

Lastly, admins can delete the publishing studio they want by pressing the delete button at the end of the row. A list of publishing studios can be seen after delete operation in the next figure.

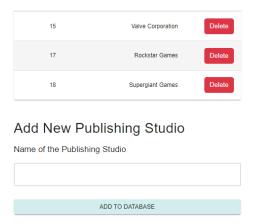


Figure 92. After the deletion operation of last added element.

3. Final

These were all the features we developed in our app. The features of our app includes everything in our proposal report. The GameRecap provides archives for games and entities associated to them. Each game has a separate page with its reviews and information. Each DLC has a separate page with its reviews and information. Users can review all the games to create a log of they played previously. Functionalities are only available after registration. Users can create playlist and see playlists made by other users. Based on their personal preferences users can discover new games using the playlists in discover tab. Users can see a merchandise link in the page of each game. These were all the proposed features of our app and this report details how they were implemented. Thank you for reading our report.