Project Title: GameUniverse

Team: Team008-CIF0027

Project Summary

The "GameUniverse" project is a comprehensive database system aimed at managing Steam Game Data, sourced from Steam's API. Our main objectives include developing a user-friendly front-end interface for CRUD operations with real-time updates and incorporating robust search functionalities.

Additionally, we plan to enhance sophistication by integrating stored procedures and triggers. GameUniverse aspires to be a valuable resource for gamers, researchers, and enthusiasts, offering an immersive experience in exploring Steam's extensive game library.

Application Desciption

Data Stored

Our database stores a wide array of data describing video games, originating from Steam's API. This dataset encompasses 78 columns, containing essential attributes such as game titles, release dates, genres, developers, and user reviews which are strongly correlated with each other. By consolidating this rich dataset, our system will provide a comprehensive repository of game-related information, facilitating exploration and research into the world of gaming.

Furthermore, if there’s further development on the project afterward, this dataset can be continuously updated through Steam's API to ensure it remains current and reflective of the evolving gaming landscape. The meticulous collection and storage of this data are critical to the success of our project, as it serves as the foundation for all user interactions and functionalities within the GameUniverse platform.

Basic Functions

The core functionalities of our web application encompass data management operations, including data creation, reading, updating, and deletion. Users will interact with an intuitive front-end interface that simplifies these processes while ensuring immediate updates on the interface. Alongside these fundamental features, GameUniverse offers a robust keyword search functionality, allowing users to input search terms and access relevant game data efficiently.

In addition to basic operations, our application boasts advanced functionalities. These

include conditional filtering, enabling users to refine their searches based on specific criteria, and multifaceted comparisons that assist users in making informed decisions about the games they want to explore or purchase. The combination of these features ensures that GameUniverse caters to a broad spectrum of user needs, from casual gamers to dedicated researchers.

Creative Component

To elevate the user experience, we envision implementing an innovative recommendation engine. This component will allow users to find their dream game after a process where they’re not facing countless different games but are guided through selections on different game attributes. By doing so, it will offer personalized game recommendations tailored to each user's unique tastes. This creative feature is aimed at making GameUniverse stand out as a platform that not only provides access to vast gaming data but also actively assists users in discovering new and exciting games that align with their interests.

Although we may not fully develop this project to its limit, this creative functionality, if fully supported with extensive data analysis, algorithm development, and continuous refinement, will ensure the recommendations to be accurate and relevant. Ultimately, this creative component can make GameUniverse the go-to platform for gamers seeking personalized and engaging gaming experiences within the expansive realm of Steam games.

Usefulness

Through searching, we found that there are many websites introducing games on the web now, such as https://steamdb.info/, but there is no website with the same function as ours. Take SteamDB as an example. When you click on the website, you can see a wide range of games available, and they are categorized into most played games, trending games, most popular games, and hot releases. After clicking on a specific game, users can access detailed information about that game. While these websites have comprehensive and rich data, it also means that users need to spend more time browsing and searching for a specific game he or she wants. In contrast, our website is simpler, user-friendly, and allows users to quickly find the games they want to play. This is due to the different approach we took in designing our website, making it a completely new product. Our goal is to prominently display a game selector when users visit the website, allowing them to quickly choose the games they want by selecting options such as game genre, difficulty level, whether the game is free or not and so on. After selecting a game, users can also access detailed information about it.

The core usefulness of our website lies in its ability to effectively address a common problem - helping users choose the games they want to play. Imagine coming home after a tiring day of work, sitting in front of your computer, feeling exhausted, and simply wanting to relax. What you absolutely don't need at that moment is complex game recommendations with detailed data. Instead, you need a simple website that can help you find a game you want to play in a minute or even a few seconds. One of the highlights of our website is its

ability to assist users in easily finding the games they want with just a few selections. Isn't that useful?

Furthermore, we have added numerous useful features to the website, such as user account login, bookmarking your favorite games, comparing different games, and adding comments about games. These small features were designed from the perspective of gamers and explored potential useful functionalities that many game database websites currently do not have.

Realness

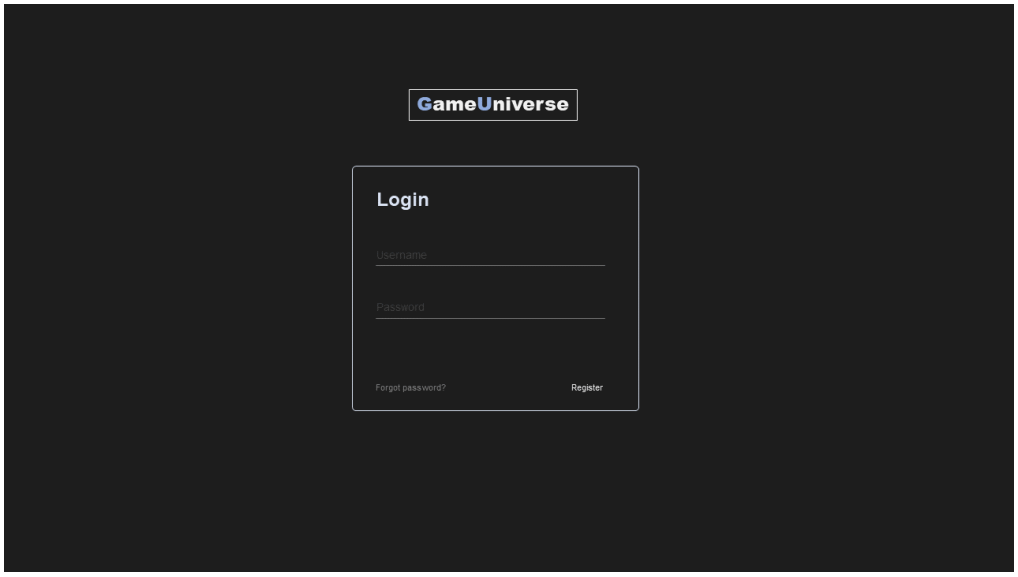
The realness of our website can be realized by the rich data in the database 'Steam Game Data'(https://data.world/craigkelly/steam-game-data). First of all, the main search function of the games is realized mainly through the searching and matching of the database. When the user selects the contents of different checkboxes, such as selecting game types, price of games, etc., the front-end of the app will receive the data selected by the user. By selecting the intersection between the different categories in the database, we are able to find out which games we can recommend to the user. If we have time, we will add algorithms to our searcher, such as setting different weights for different categories, finding data in the database for different kinds of games that best represent them, and so on. We could even tap into chatgpt's interface to allow users to directly enter a paragraph describing the game they want. These advanced features will make our product even smarter.

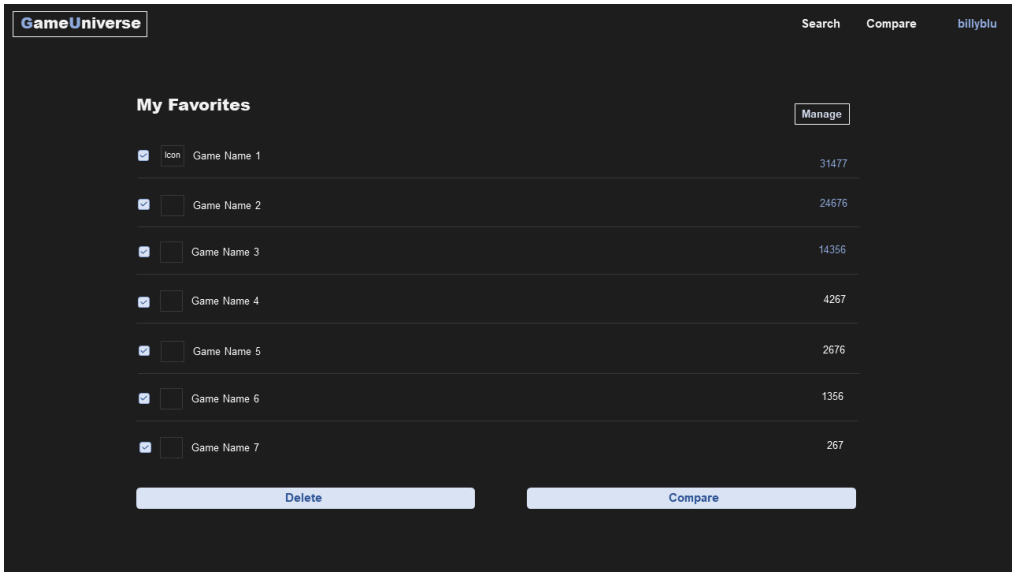
Some of the other functionality came from the front-end working with our own database. For example, to create user accounts, favorite games, and compare different games, we needed to create a separate database of our own. When a user creates an account, collects a game, etc., we add information to our database so that different users can have a personalized, independent experience. Whenever a user logs into their account, we call back to fetch information from the database. By finding, adding, deleting, and modifying the contents of our own database, we are confident that we will be able to achieve the functionality we envisioned.

Functionality Description

GameUniverse is designed with a diverse range of functionalities, encompassing user systems, keyword search, conditional filter, game comparisons and game introductions.

User System

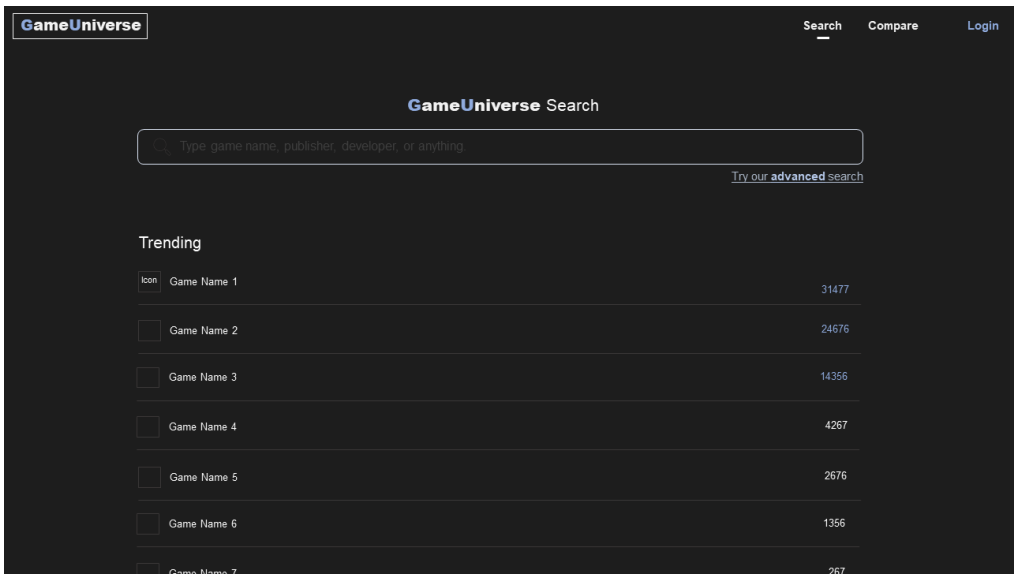




GameUniverse provides users with individual accounts, enabling them to bookmark their preferred games during searches and add them to a personal favorites list for future reference. The number of items in the favorites list on the interface will be dynamically

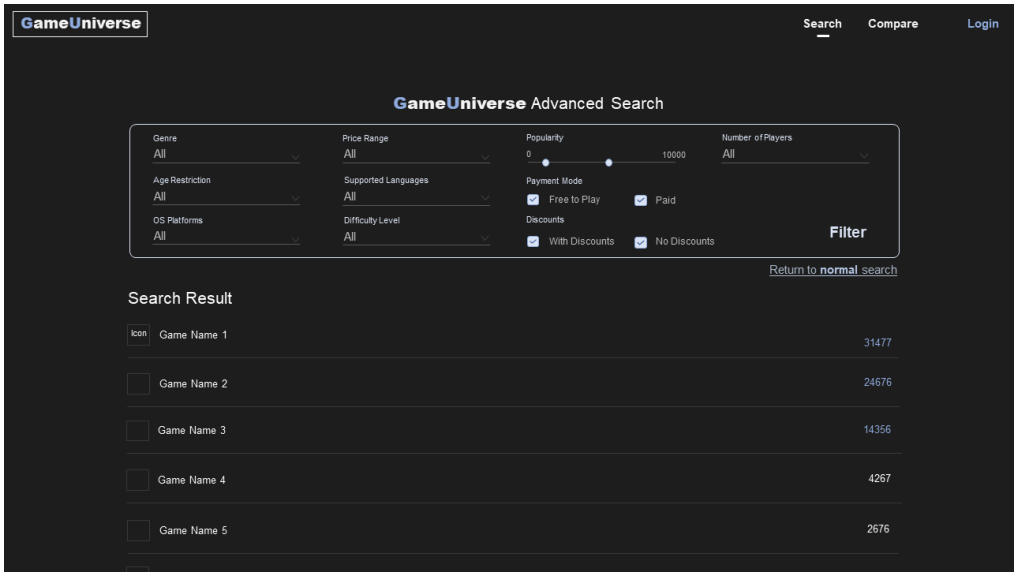
updated based on any modifications made by users, such as additions or deletions to their favorites list. Additionally, users can create and upload their own games by completing a comprehensive form that includes all necessary game information. They can also update or delete these games as needed, which is a good way for user to participate in the building of the website and form a sense of belonging.

Keyword Search



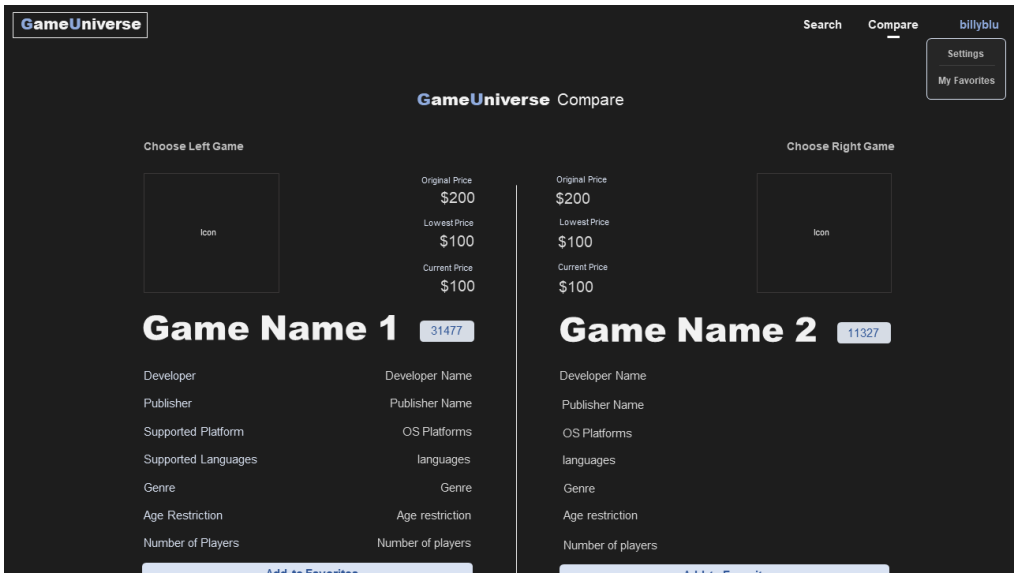
GameUniverse boasts a robust search functionality, enabling users to efficiently retrieve game information based on the relevant keywords. The search results include game titles, images and concise descriptions. Based on this keyword search feature, users can easily find the games satisfying their multifaceted requirements, in order to make sure that they have a wonderful experience browsing the database and thus enjoy themselves in the GameUniverse.

Conditional Filter



Conditional filter enables users to efficiently search for games of their interest. Our conditional filter offers various options including game genre, difficulty level, popularity, age restriction, price range, currency, OS platforms, supported languages, availability as a free or paid game, presence of discounts and the number of players.

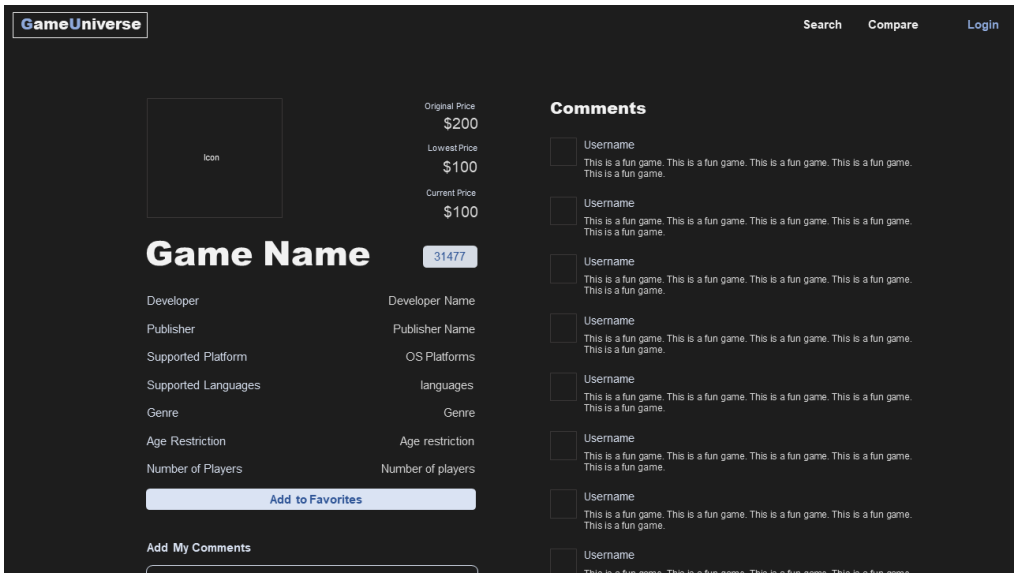
Game Comparison



GameUniverse allows users to compare two distinct games by presenting a

comprehensive list of attributes and visually representing the data through an integrated image.

Game Introduction



For each game, there exists a dedicated introduction page, providing comprehensive information about the game. Users can access all relevant details and contribute reviews about the game to update the information.

Work Distribution

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keyword search & conditional filter: Li Yi (Net Id: liyi3)

game comparisons: Haozhe Wu (Net Id: haozhew4)

game introductions: Gaokai Zhang (Net Id: gaokaiz2)