“Go, Game, Go!”

PROJECT PROPOSAL

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Summary

We will create a board game review system to help users to get related information faster and more conveniently. This platform displays the review messages of games, which can benefit the small businesses who are planning to purchase different themed board games to attract different customers including board game geeks and newcomers.

Specifically, we will refer to the data from the website and build the board game database, and then transport the structured data to the dashboard. The dashboard could be created by Flask or Streamlit. In addition, in order to design a user-friendly interface, we will place different modules on the view, which contains different types of information that can be viewed by users and data tracked by administrators.

Description

We choose a board game application for the project. We want to use this application to provide board game information to the users, for example: games with the most reviews or those with the highest rating, filtering capabilities, and more. Different parts will be separately displayed in each module to make it easier for users to click into the content they want to utilize. On the top of the web page, we will set a search tab, so that the users can input the desired characteristics of the information and reach the content individually.

The problem we want to solve is to build a real board game's ecosystem, in which the people who love the board game can find the resources quickly and easily. Clients intended for its use may be those simply browsing for their next game, those tracking their favorite game's performance, or those who are possibly researching potential products for their business.

Usefulness

Our application mainly provides users with information about board games, but the key point is that we have a review system to help users better understand the information about board games. Here is a website similar to our application: https://boardgamegeek.com. On this website, we can learn the latest news about board games, and we can also search keywords to get the detailed information about board games. The biggest pain point of this game is that although they have reviews under each game, users can't get information about the reviews unless they visit the game page separately. Our application allows users to access this information more directly and filter it according to their needs.

The biggest difference between our app and this website is that we associate user review information with board games. We will build a review system. In addition to board game-related information such as how many people can participate in the game, how long the game will last, users can also learn about the game experience through the comments section to help them determine if the game is what they really want. At the same time, we can also categorize board games by extracting keywords from user reviews (from the database) to help users quickly understand the style of board games. All in all, our application not only provides information about board games, but also provides a review system to help users make better decisions and feel more user-friendly.

Data and Realness

The data we will use are from kaggle's "BoardGameGeek Reviews" (https://www.kaggle.com/datasets/jvanelteren/boardgamegeek-reviews?select=2022-01-08.csv). These csv files are data for detailed information of board game products and the reviews of users scraped from boradgamegeek.com constantly. To be specific, we have three different relations. The first one (Table 1) is a table of detailed information of all the games available on boardgamegeek.com, including "game id", "game name", "description", "year published", "number of players", "playing time", "number of users giving ratings", "rankings", "trading number", etc. The second one (Table 2) is a table of all of the users' reviews, including "game id", "game name", "user", "rating", "comment". The third one (Table 3) includes "game id", "game name", "rank", "average rating", "number of users giving ratings", "URL".

These three tables can be used independently and jointly for users via our web application. We can provide review information on query, and the users can also filter out the best option(s) based on their own interests. In addition, our web application can provide comparison between two specific board games in different dimensions.

What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?)

Simple features: search for basic game descriptive information, rankings, ratings, trading situations. And we will also allow users to insert their own reviews.

Complex features: Firstly, filtering out the most related board games based on keywords provided by the users in the review system. Secondly, provide comparison between two similar products from different dimensions.

Our target audience are roughly divided by three groups of people: firstly, business holders who are planning to purchase board games constantly catering for their customers' needs; secondly, board game geeks; thirdly, newcomers. We can provide good service to them in that our web application can filter out the most useful information based on their own needs.

For instance, the business holders would use the search by rankings of different board game categories and filtering out the game with certain most frequently mentioned keywords in the review system. The board game geeks can use the function of filtering out the latest and hottest games based on their tastes and use the trading information to find the best deal. The newcomers will develop their interests based on rankings and reviews as well. In addition, our comparison function will help them when they feel divided between two similar board games.

Functionality

The functionalities and capabilities offered by the board game review system will be designed with user accessibility in mind, presented in an aesthetically pleasing format. Below are the essential interactive functionalities offered, as detailed in the prior section:

1. A search function: through 3 search bars, users can type in a rank, name or category for a board game. The web application will retrieve either aggregated information and metadata, or retrieve matching records from the relational database.
2. A review-based search: users can apply filters and input keywords to retrieve matching reviews.
3. A comparison pane: users will be able to select two board games, and see key performance indicators for each.

Two components will serve to present the user with information from the dataset without user input. Two list bars will present the top ten most popular games and the most recently released games. Lastly, users of the web application are invited and able to submit their own review, which will automatically update the corresponding table(s).

The user interface mockup below (Figure 1) shows a general display strategy for the proposed functionalities.

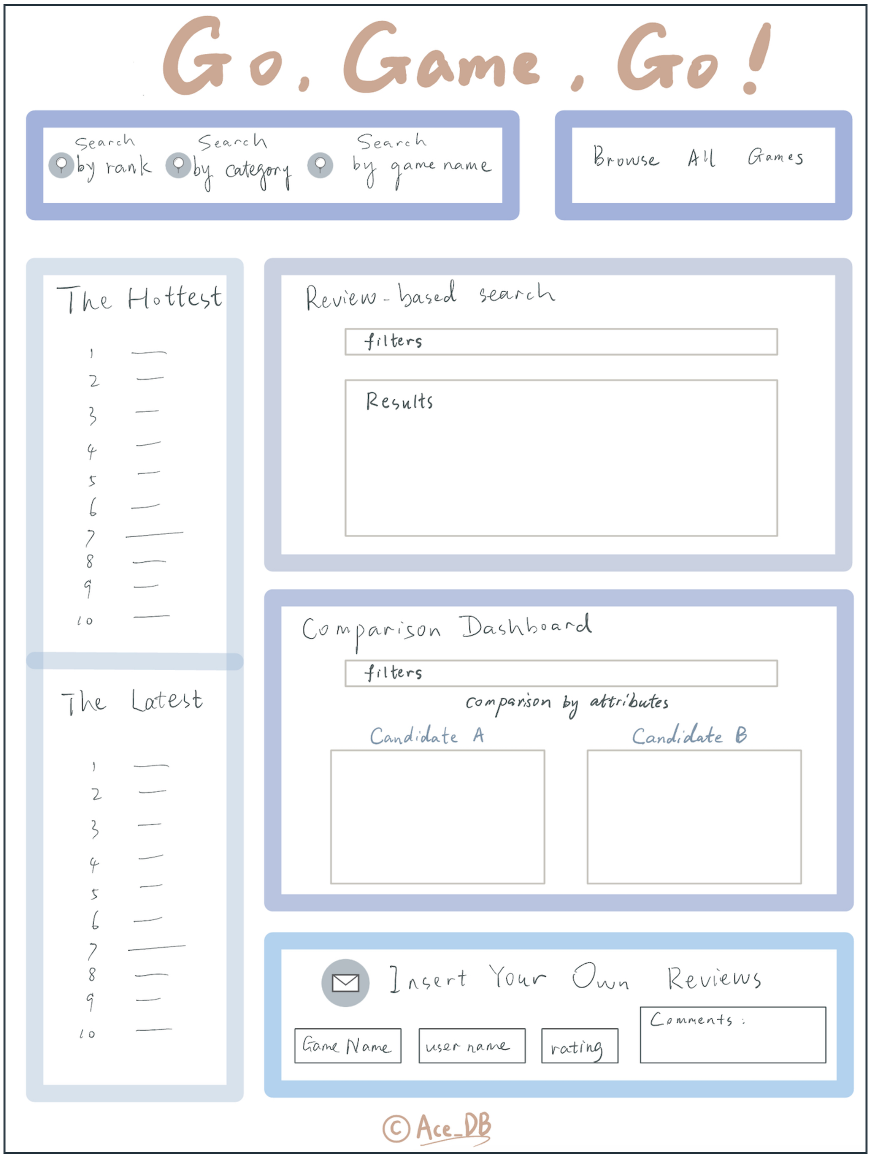

Figure 1: Low-fidelity user interface mockup of web application

With these elements in mind, the web application seeks to offer a number of functionalities that can serve two general types of users: those who might have a specific game of interest, or those who are browsing with the objective of choosing a game.

What would be a good creative component (function) that can improve the functionality of your application? (What is something cool that you want to include? How are you planning to achieve it?)

https://boardgamegeek.com is the largest forum for the board game geeks and it provides all kinds of information the users may need. However, it has some shortcomings.

Firstly, although it provides reviews of users for each board game, it does not have a search function by keywords throughout all the games for the reviews. The users need to enter the independent pages for each game to browse the reviews for that specific game. The creative component of our web application is to provide such search service to the users. To be specific, the user can filter out the “classic” board game with “average rating” above 8, whose playing time is above 1.5 hours with players mentioning “puzzle” the most frequently.

Secondly, to help the users better (and faster) decide on which board game to go to, we provide an innovative comparison function. After the users filtere out the results based on their own interests (e.g., one user may filter out “farming”, “3 players”, “minimal age being 10”, reviews mostly mentioning “entertaining”), this comparison function will be able to compare two similar options in different dimensions (e.g., “ranking”, “owned number”, “playing time”).

We plan to achieve these by joining the three datasets and form a database. We can create the dashboard for comparison using Streamlit (which are recent python libraries) connected to the database. We can also use Flask to make the web application framework look neater and feel more interactive than https://boardgamegeek.com does.

Proposed Work Distribution

Our distribution of the workload is still evolving. At this time, we each expect to play a significant hand in both the back- and front-end sides of our web application. Given that our web application contains many smaller applications, we intend to divide these equally, and then collaborate on front-end facilitation. Our proposed steps for a tentative workflow/process division is as below:

1. Database creation: **Raina, Andrea**
2. Module 1 - Search tabs: **Xuecen, Tinghua**
3. Module 2 - Review filtering, keyword match: **Raina, Tinghua**
4. Module 3 & 4 - User submission, and top 10 lists: **Xuecen, Andrea**
5. Front-end design will be agreed upon by all members, and then applied by each member to their respective module: **All Members**