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CS 411; Database Systems

Stage 1: Detailed Project Description

1. Describe what data is stored in the database. (Where is the data from, and what attributes and information would be stored?)

This database contains a wide range of information related to Steam games. The dataset includes details such as game names, release dates, age requirements, developer and publisher information, Metacritic scores, downloadable content (DLCs), packages, recommendations, screenshots, achievements etc. Entries also include information about the game's pricing, platform capability (Linux, Windows, Mac), system requirements (minimum and recommended), categories (single-player, multiplayer, etc.), genres (action, adventure, etc.), and various flags indicating attributes like free-to-play, early access and more. Additionally, the database also includes textual information such as game descriptions, system requirements, legal notices, reviews, supported languages, and website URLs. This data is sanitized, processed, and stored to facilitate efficient query and presentation for our application.

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

The user is able to use the web application to get game recommendations based on a number of different inputs. The user can input things like their favorite genres, the specs of their computer, other games they have enjoyed, or other pieces of information, and the application will suggest some games that they may enjoy. The user is also able to search the database with different queries about the title of the game, the development studio, the platforms it runs on, and other types of search functionalities. The user can then sort the results by different criteria, such as price, release date, or rating. The user can also create an account with a username and password to store their computer specs or their favorite games. With an account, users can also leave comments or likes on games they enjoy.

3. 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?)

We want to include an interactive visual where we can select descriptors of games and have the visual automatically adjust to show the user the data they want.

4. **Project Title**

Steam Engine

5. **Project Summary**: It should be a 1-2 paragraph description of what your project is.

We want our project to be a good way for users to find any games they want to play and/or explore data about Steam's library. The main functionality will be a way to search up either the title of a game or identifiers, like the genre of the game, and explore any matches through filters. Our database gives us plenty of different identifiers for the user to search by, like minimum hardware necessary to play the game, reviews, whether the game is casual or not, and many others. Additionally, we want to include an interactive visual to show the breakdown of steam's library with respect to user-chosen identifiers: for example, if the user wanted to see how much of steam's library is categorized as RPG and single player, they would be able to see that breakdown via an interactive visual.

We also will include functionality to log into an account of some sorts. Features associated with that would include the option to "like" a game and add comments about it for other users to see, as well as save games for future sessions. We also want the user to be able to enter their computer specifications so that we can recommend games their systems are capable of running.

6. **Description** of an application of your choice. State as clearly as possible what you want to do. What problem do you want to solve, etc.?

The main problem we would like to solve is to create a centralized application that allows users to easily explore and discover games based on their interests and system capabilities. This application seeks to address the problem of simplifying the game selection process by allowing users to input their PC specifications, games they have previously enjoyed, tags, preferred genres, and other filters, enabling tailored

game recommendations. Furthermore, users will also be able to search the database with different queries about the title of the game, the development studio, the platforms it runs on, and other types of search functionalities. They can optionally then sort the results by different criteria, such as price, release date, or rating. Lastly, users will also create an account with a username and password to store their computer specs or their favorite games. With an account, users can also leave comments or likes on games they enjoy. By offering a streamlined and user-friendly interface, our goal is to enhance the average user's gaming selection experience by providing users with a curated list of titles that matches their unique preferences and hardware.

7. **Usefulness**. Explain as clearly as possible why your chosen application is useful. Make sure to answer the following questions: Are there any similar websites/applications out there? If so, what are they, and how is yours different?

Our application allows the user to find new games they might be interested in by categorizing and filtering the search based on their criteria. They can filter by genres they enjoy, previous game history, and uniquely PC requirements! There are other game recommendations out there such as https://steamdb.info/instantsearch/ or even the built in game store on the steam application, however both do not provide the option to filter results by pc requirements and specs. Our website can allow the user to quickly find games that their PC can run.

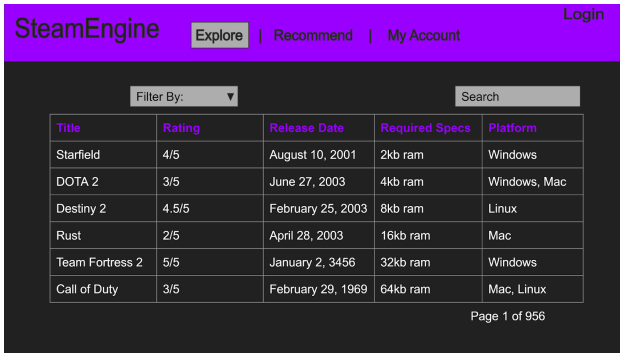
8. **Realness**. Describe what your data is and where you will get it.

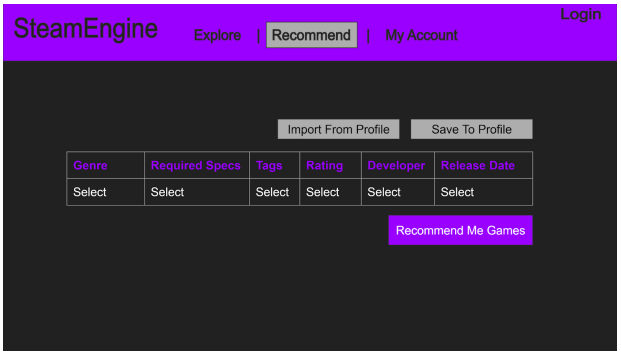
We will be using one of the TA-proposed datasets called "Steam Game Data." This data is a combination of data from publicly available Steam API's and steamspy.com. This database contains a wide range of information related to Steam games. Regarding the actual data, once again this data includes information about the game's pricing, platform capability (Linux, Windows, Mac), system requirements (minimum and recommended), categories (single-player, multiplayer, etc.), genres (action, adventure, etc.), and various flags indicating attributes like free-to-play, early access and more. Additionally, the database also includes textual information such as game descriptions, system requirements, legal notices, reviews, supported languages, and website URLs. Lastly our database will include details like game names, release dates, age requirements, developer and publisher information, Metacritic scores, downloadable content (DLCs), packages, recommendations, screenshots, achievements etc.

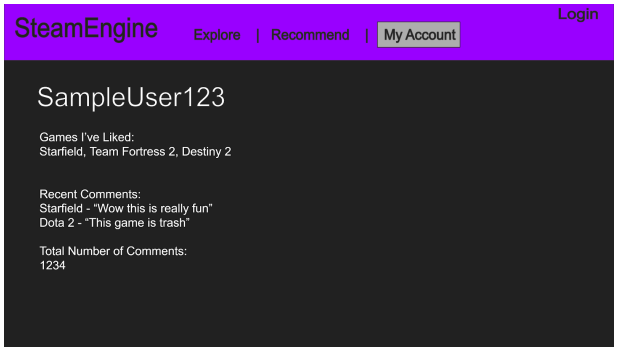
9. Description of the **functionality** that your website offers. This is where you talk about what the website delivers. Talk about how a user would interact with the application (i.e., things that one could create, delete, update, or search for). Read the requirements for stage 4 to see what other functionalities you want to provide to the users. You should include:

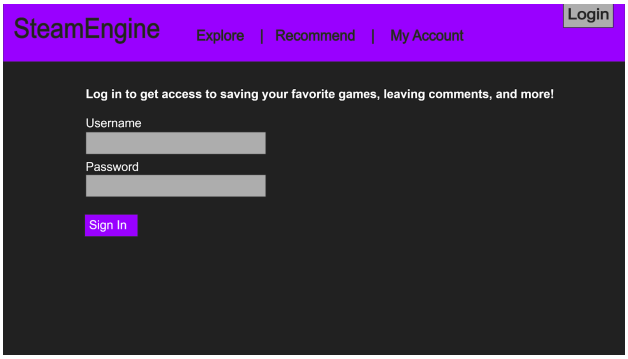
Users can log in to their profiles on our website. At the top of the front page, they'll find a search bar and filtering options. By entering keywords and using filters, users can refine their search for recommended games. Results are displayed in an easy-to-read list format. Clicking on a game takes them to a dedicated page with detailed game information, user comments, and the ability to "upvote" games they like. In addition to this, users can store their own pc specifications as an attribute associated to their account.

1. **A low-fidelity UI mockup**: What do you imagine your final application's interface might look like? A PowerPoint slide or a pencil sketch on a piece of paper works!









2. **Project work distribution**: Who would be responsible for each of the tasks or subtasks?
   List of the person responsible for which exact functionalities in section 6. Explain how backend systems will be distributed across members.

Be as specific as possible as this could be part of the final peer evaluation metrics.

a. Username/Password database, registration, validation: Krishna
b. UI Elements (Search bar, Filters, different pages [Explore, Recommend, My Account]): Justin
c. Backend Functionality (Queries) : Wyatt
d. Recommendation logic/engine: Praveen

We plan on each being involved in all parts of the project, as we are looking to grow our full stack skills. However, we have agreed to take ownership of the above categories and make sure they get done on time.