

# Problem Statement for The Really Big Game Database

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# 1 Executive Summary

The Really Big Game Database (RBGDB) is an in-development system that seeks to provide a universal access point to finding information about games, a process which is currently fragmented across a variety of different systems and sites. The RBGDB will provide the ability to search for games similar to others by a variety of different metrics, thus supplying more control and flexibility to the user than alternative systems.

The number and types of video games only grows more massive and more impenetrable as the years pass, and as such this product will only grow in value and usefulness over time. To accomplish these things, the RBGDB will need to store information such as user reviews, user recommendations, game series, ESRB ratings, user-assigned tags, and more to supply an extensive repository of information to draw from.

## 2 Introduction

This is the first document describing the RBGDB management system. The RBGDB project documents will include an ER diagram (included below), a relational schema, this problem statement document, a security analysis, and a final presentation.

This document illustrates a brief overview of the requirements of the system and its purpose. This document also gives an idea of the project and the function of the database. The security and data analysis demonstrates details of the system. The final presentation will showcase the completed system and present how the system was created.

## 3 High Level Problem Summary

Customers for video games need an effective way to sift through the ever-growing number of products to choose from to find games that they will find the most enjoyable, and this database seeks to provide a flexible, transparent, and powerful means to fill this need.

## 3.1 Primary Success Criteria

Success for this system can be defined by the following:

1. Games recommended by the system to a well-defined user appeal to that user's preferences
2. Users can efficiently search through games, reviews and mods
3. Database managers may admit any amount of new game and mod data into the system
4. Users can create and post their reviews of games
5. Users security is preserved via a login system

Additionally, the system must be operational by late February 2017. This is a non-negotiable deadline.

## 3.2 Project Scope

The project's scope is defined to be:

Inside:

- Video game information such as platform availability, development studio, year of release, and tags associated with it
- Mod information such as what game it's for, who made it, and tags associated with it
- User-created reviews of video games and mods for those games
- User-assigned tags for video games and mods
- Providing useful and appropriate search results and recommendations to users
- Information about each user, such as a history of reviewed, liked, and disliked games

Outside:

- Purchasing, trading, or otherwise handling monetary transactions of any kind relating to video games
- Automatically tracking users' games libraries

# 4 Detailed Problem Statement

## 4.1 Function

1. Ability to search through a large list of games and mods by various metrics, including basic information of those games such as game names, user-assigned tags, series name, and game studio.
2. Ability to provide recommendations of games and mods to a user based on user's history, information, and other game information.

3. Users may write reviews on games or mods that can be searched and seen by other users.
  - a. Reviews provide a rating that alters the system's perception of their preferences.
  - b. Reviews help categorize games by searchable tags by popular opinion.
4. Ability to record the games users have.
5. Ability to record which users were involved in the creation of different mods.
6. Ability to store which platforms a game is available on.

## 4.2 Form

### 4.2.1 Availability

- Web based, for convenience to read text and type reviews
- Secure access for authorized individuals

### 4.2.2 Usability

- Fast response times and lookup times
- Easy to learn and use

### 4.2.3 Security

- Users will use the login system to register their personal account. Users need to provide Username and Password to enter the system.
- The admin will use the admin account to manage the database. Only the admin can upgrade, delete, and maintain the database. Users who use a user account cannot modify the database outside of making new reviews or adding a game to the list of what they own.

### 4.2.4 Maintainability

The regular maintenance activities, such as adding new mods or games to the catalog, will be streamlined to allow for easier input or, if possible, implemented programmatically to alleviate the need for manual entry.

### 4.2.5 Safety

User-related data will only be deleted when users manually do so through our front end. All data will be protected by regular database backups.

## 4.3 Economy

### 4.3.1 Marketability

Once game lovers see how conveniently they can share their reviews and get recommendations, many of them will be willing to pay for a membership to

access the system's full features. Additionally, once the system gains a substantial user base, it will be very feasible to sell a "promoted games" list on the front page and in some searches, much like how Google shows advertisements above regular search results.

## 4.4 Time

### 4.4.1 Past

Existing solutions to the problem of finding and recommending games such as Steam, Playstation Network, and Nintendo eShop already exist, but each is limited to its own platform. Steam only stores PC games, the eShop only stores games for the Wii U or 3DS, but nothing stores a global list for players looking for a broader market.

Additionally, while each has good searching and recommendation algorithms, they are often very opaque, leading to recommendations that are often ignored by the user due to their perceived irrelevancy.

### 4.4.2 Current

The game's market has never been better, with a total value of the market estimated by some to be near \$1.81 trillion [1]. As this continues to grow, the number of games already in existence will also, with plenty that will appeal to users of all kinds. Other similar products don't completely fill this need, sticking to narrow bands of games, and this system can help fill that need.

### 4.4.3 Future

In the future, users will be able to search through an extensive, constantly expanding catalog as well as experienced a continually refined searching and recommendation algorithm, both of which will allow them to more effectively find games they will enjoy.

## 5 Key Stakeholders

Name	Role
Aaron Wilkin	Project Team Advisor
Haoran Geng	Project Team Member
Lewis Kelley	Project Team Member
Xiwen Li	Project Team Member
Video Game Shoppers	End User
Video Game Researchers	End User

## 6 Glossary

### Front end:

(of a device or program) directly accessed by the user and allowing access to further devices, programs, or databases.

## 7 References

- [1] Statista-Facts on the Video Game Industry:  
<https://www.statista.com/topics/868/video-games/>

## 8 ER Diagram

