Great Gaming Database

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I. Abstract

This database project is the answer to some of the most important questions that the gaming community asks. One simple question, "What are some of the best games that I might want to play", this question haunts the minds of millions of people as they browse game stores like *Steam* or *GameStop*. There are so many different websites, newspapers, articles, and store reviews that people can never really know where to get the right information. This could lead to several customers not being satisfied with their purchase. With the creation of this database, we can bring together thousands of games that people have reviewed. With this information we are not going to be able to see what games are communally accepted as fun. We created tables of several different aspects so that we can understand the smaller details of the games enjoyed by the community. We did this so that we can identify what games have the best rating, as well as what games are the most fun on each consol, and finally what genre is enjoyed most by players.

II. Introduction

We are wanting to take videogame stats over the last 10 years and put them into a database so that we can predict if the next game in a series will be good or bad. We solve the problem of having all of the information in one spot, making it easier to accurately predict future data. We want to be able to see all of the information that we gathered so we can see trends in game titles and genres.

III. Literature Review

A. Existing Databases

There are some databases that already exist, however there is no definitive database that has taken every single game from over the last 10 years. These pre-existing databases may have missed a title or two of games that people might be interested in. These databases have created their own scale based on public review of the game, which could lead to people not trying a game that they may enjoy. There were also several other sources that the public would be able to see the statistics of the games, one of the biggest influences on the public was *Game Informer*. Unfortunately, *Game Informer* has shut down after 33 years. This monthly magazine would take games and review them and give details about statistics and other elements of the games themselves. These publishers would also rate the game based on the editor and testing team's interaction with the game. All of these rating were published in their articles and were more than likely saved to their own database that could have been accessed through their website. We are looking to recreate something like this, being able to become a central source of information about the games and their ratings.

B. Identifying games and their "ratings"

We plan to use several game stores such as *Steam, Epic Games, Google Play, and Apple App Store* so that we can identify what games were published in the past 10 years. These places will have applicable filters so that users can be able to find what kind of games they want by using keywords or genera's. Each of these platforms have their own ratings that are unique to the public's review of the game. Most use the rating on a five star scale. We intend to highlight the rating that the game has on the store that they are listed on.

IV. Methodology

In order to create our own database we needed to find the data that we wanted to be in the dataset. We decided to take from several of the sources that I mentioned in the references section.

A. Finding the data

We decided to pull the majority of statistics from vcgchartz. This dataset had actually too much data for us to handle so we ended up cutting a large number of the data so that we could create and query a dataset. Once we found the data we had to make some minor changes so that we could fit the overall idea

of this project. By changing some of the columns and the order they were in it streamlined the visual appearance of the data.

B. *Creating the Database*

- Firstly we had to actually create the database, this is done through the very first line of code.
    - ```
      create database if not exists my_gaming_project;
      ```
- After we had created the database in MySQL, we needed to create the tables that would house the data that we are going to import. We created five tables that would house the data we were going to import.
    - The tables are: GameList (to house all of the games that we have in the database), TitleList (a smaller table that holds the titles of games and their ID), Reviews (this holds the data about the game's sales and public review), genres (a small table that just held the genres of the games), and finally platforms (a place where games were shown what platforms they are on.)

```
Use my_gaming_project;
CREATE TABLE GameList
(
title_id INT PRIMARY KEY,
game_name VARCHAR(200) NOT NULL UNIQUE,
genre_id int REFERENCES genres (genre_id),
genre varchar(100) NOT NULL,
publisher varchar(100),
developer varchar(100),
release_date varchar(50)
);
```

- Since we had created the database we were able to start importing all of the data that we had acquired. We uploaded the information through a zip file.
- Once we had the data uploaded to the database we are able to begin searching for the specific data.

C. *Querys that we run to find specific games*

Now that we have created the dataset we can begin to start creating queries that will be able to fetch the data that we want to display. We have tested with several queries to see if the data was fetchable.

We noted that this query was a good test of the dataset. It was able to fetch all of the data that it selected. It was also able to show that the tables were able to be joined together.

```
Select review_id, r.game_name, critic_score
from reviews r
join titlelist tl on r.title_id = tl.title_id
where r.title_id = 1;
```

Since this code has worked we were able to finally complete this project. We had successfully created the database and imported all of the data. We also are able to call all of the data that we needed.

D. *Challenges that we Faced*

- With the original excel sheet that we created to hold the data it was a challenge to generate all of the IDs and row numbers that we needed. With the professors help, we were able to overcome these challenges, and we had successfully.
- We also faced challenges uploading the data into the tables that we had created. There was so much data within the zip folder that it took several attempts that each took more than an hour. We overcame this challenge by setting up the upload and leaving it for several hours.

V. Conclusion

At the end of this project, we were able to solve the issue at hand. We have created a centralized location for all the information that is scattered around the internet. Although this project is only a small portion of the total number of games that exist, it represents the potential that if the team had enough time and resources that we would be able to create a complete collection of every game in existence.

With all these ratings and genres centralized, we can see what trends there are within the gaming industry. Such as what genres are most popular by the year that they were published, or what developers created the highest rated games.

Finally, this project was a great teaching experience. It brought the team together through the creation, development, and testing of the database. It also put to the test our knowledge of the SQL coding language. This language may be useful in the future as many Computer Science students may enter a field that requires the use of this language and the manipulation of data.

References

Finding datasets that we could pull from were not too hard, but it is such a unique topic. Finding the right kind of data that we could use needed to have several elements such as date released, total downloads, and number of awards.

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