Video Game Information

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https://github.com/sfsu-joseo/csc675-775-database-systems-fall-23-Burned357Waffles/tree/master/milestones/Milestone1

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Project Description

Overview

With this Video Game Information Database, my goal is to create a place where a person can come to whenever they are considering whether or not to purchase a video game. Oftentimes when deciding to purchase a game, people will have to go to multiple sites such as Metacritic, IGN, Steam, etc. Our Video Game Information database will serve as a one-stop shop for all who are doing research on a video game. It will give them all the relevant information such as the title, description, price, photos, update log, platforms it will be released on, publisher, developer, release date, genre, regions, and a compilation of review scores from other sites. This will be more efficient for the user and they will have an easier time deciding if the game is the right choice for them to prevent frustration and return rates.

Use Cases

1. **Use Case:** Looking for a cross-platform game

   Actor: Potential customer 1 (Carmen), Potential Customer 2 (Neil), game

   Description: Carmen is bored and is looking for a new video game to play. Nothing in his game library seems appealing to play at the moment, so he goes on Steam to find a new game. He wants to find an Action multiplayer game that he can play with his friend Neil who plays games on his Playstation. He clicks on the Action category, then the Multiplayer filter to find all the multiplayer action games available. He is presented with many popular options to choose from, but he does not know which titles will support

cross-platform play. He then realizes that he cannot filter by cross-platform compatibility here and has to go to a different tab to search for Cross-platform Multiplayer Action games. At this point, he finds a game that seems interesting, but he is still not finished yet. Carmen now has to go online to search if the game is also available on Playstation because Steam does not state which other consoles are included in the "cross-platform multiplayer" filter. Carmen wants a place where he can search for games in specific categories that show if the game is cross-platform and what platforms it was released on.

The Video Game Information Database will solve this frustrating issue of having to navigate through confusing menus just to find out that you are going to have to search on another site to find what platforms a particular game is released on. Since this database contains all platforms that the game was released on, Carmen will be able to find all the information he needs in one place. This will allow Carmen and Neil to find a game to play together quickly and efficiently.

2. **Use Case:** Looking for game reviews

   Actor: Potential Customer (Sydney), game

   Description: Sydney hears about a game from her co-worker that recently came out and it sounds interesting. When she goes home, she looks up the game to find out more about it. She sees that the first link is to the developer's website and it does not give a very clear description of the game, so she moves on to the next link which is for Steam. There is a lot of information there such as the Trailer, some photos, the description, and reviews. She reads through some of the recent reviews which are "Mostly Positive." She then goes back and looks at the next site which is Metacritic. Here she reads some reviews and sees

the score of 80. She then has to go back and continue this for a few more websites before deciding to buy the game. She feels that it is a lot of effort to have to go to all of these different sites to find all the different reviews of the game and wants one place to go to browse for games and see the reviews.

Our Video Game Information Database will solve this issue for Sydney as it will allow her to search for a game and see all of the reviews compiled into one convenient location. It will have a score given by each outlet as well as customer reviews.

3. **Use Case:** Unhappy customer due to platform specific issues

   Actor: Unhappy Customer (Richard), game

   Description: Richard recently purchased a game on his Xbox One and found out that the game did not live up to what he saw on the store page. Looking at the trailer and the screenshots, the game looked fantastic. What he did not realize at the time is that those screenshots were taken on a top of the line gaming PC. His Xbox One could not keep up with the demands of this game and suffered from bad performance and visuals. The game was also very buggy. Richard was quite upset with this and decided to return the game. He wished that the marketing was clear that what he saw on the trailers would not be what he could expect when playing the game on his console.

   The Video Game Information Database will address this by allowing the user to filter reviews made on specific platforms so they can know what to expect before purchasing a game.

4. **Use Case:** Unhappy customer due to review comparison

   Actor: Unhappy Customer **(**Claire), game

   Description: Claire bought a video game on Steam based on the IGN review of 9/10. She was very excited to play, but quickly found out that she was unhappy with the game. This was disappointing to her as a 9/10 sounds like a very good score; however, she thought that the game was not very fun to play. She began to look at reviews across different websites to see if others were having the same. Upon reading more reviews she sees that other people are also unhappy with the game. Claire wishes that there was a website that she could have gone to that compiled all of the reviews together so that she did not make the mistake of buying this game based on the one site she looked at.

   The Video Game Information Database will allow for users to find reviews from multiple sources in one convenient location. This will allow them to make an informed purchase without the hassle of looking at every site for reviews. Users will be able to search for a game and find all reviews from a variety of sources so they can get a well rounded idea of what the game will be like before purchasing.

5. **Use Case:** Browsing for a new game

   Actor: Potential customer (Marcus), game

   Description: Marcus is looking for a new RPG and likes games made by developer "X." He goes online and searches for games made by "X" and sees that they released a new game 6 months ago. Marcus reads some of the Metacritic and OpenCritic reviews and they are somewhat negative. Some time passes and he keeps hearing about how good the game is, but his thoughts have been skewed by reading the negative reviews before so he

ignores them. What he did not realize is that those reviews were based on the state of the game at launch, but the developers have been hard at work fixing bugs and improving features. Marcus wishes that there was a site that provided up to date reviews so that he could have an idea of how the game has been improved since initial reviews.

The Video Game Information Database will solve this problem by being a place where all reviews are compiled together, allowing for the user to sort by most recent reviews. Sometimes developers make changes to their games after release which vastly impact player's enjoyment of the game. The Video Game Information Database will have up to date information regarding reviews and update logs so that they can see if there were any major changes made by the developers.

Functional Database Requirements

1. User

1. A general user is a registered user or an admin
2. A user shall create at most one account with a unique email address
3. A user shall be able to view multiple games at time
4. A user shall have at least one role

2. Account

1. An account shall be created by only one user
2. An account shall belong to only one user
3. An account can have many roles

3. Role

1. A role shall be linked to many users

4. Admin

1. An admin is a role for a registered user
2. An admin shall add many games
3. An admin shall add many reviews
4. An admin shall add many sites
5. An admin shall add many update logs

6. An admin shall add many update entries
7. An admin shall add many videos
8. An admin shall add many photos
9. An admin shall add many regions
10. An admin shall add many prices
11. An admin shall add many genres

5. Reader

1. A reader is a role for a registered user

6. Registered User

1. A registered user is a general user
2. A registered user can login to their account from multiple devices

7. Game

1. A game shall be added by an Admin
2. A game shall be viewed by many users
3. A game shall have one and only one name
4. A game shall have at least one developer
5. A game shall have at least one publisher
6. A game shall have one and only one description
7. A game shall have many genres
8. A game shall have many regions

9. A game shall have many photos
10. A game shall have many videos
11. A game shall have many prices
12. A game shall have many reviews
13. A game shall have only one update log

8. Review

1. A review shall be added by an Admin
2. A review shall be viewed by many users
3. A review shall belong to one and only one game
4. A review shall be from one and only one site
5. A review shall have one and only one platform
6. A review shall have one and only one rating
7. A review shall have one and only one date
8. A review shall have only one description

9. Site

1. A site shall be added by an Admin
2. A site shall have many reviews

10. Update log

1. An update log shall be added by an Admin
2. An update log shall have many update entries

3. An update log shall be viewed by many users

11. Update entry

1. An update entry shall be added by an Admin
2. An update entry shall be viewed by many users
3. An update entry shall belong to only one update log
4. An update entry shall contain one and only one title
5. An update entry shall contain one and only one description

12. Video

1. A video shall be added by an Admin
2. A video shall be viewed by many users
3. A video shall belong to one and only one game

13. Photo

1. A photo shall be added by an Admin
2. A photo shall be viewed by many users
3. A photo shall belong to one and only one game

14. Region

1. A region shall be added by an Admin
2. A region shall be viewed by many users
3. A region shall have many games

15. Price

1. A price shall be added by an Admin
2. A price shall be viewed by many users
3. A price shall have one and only one game

16. Genre

1. A genre shall be added by an Admin
2. A genre shall be viewed by many users
3. A genre shall have many games

17. Developer

1. A developer shall be added by an Admin
2. A developer shall be viewed by many users
3. A developer shall have at least one game
4. A developer shall have at least one publisher
5. A developer shall have a publisher which is also a developer

18. Publisher

1. A publisher shall be added by an Admin
2. A publisher shall be viewed by many users
3. A publisher shall have at least one game
4. A publisher shall have many developers

Non-Functional Database Requirements

1. Performance

1. The database system shall support concurrent users

2. Scalability

1. The database system shall assign 10MB of memory per table
2. The database system shall support persistent storage
3. The database system shall be able to support 10,000,000 games

3. Maintainability

1. In the event of a failure, the mean time to restore shall be no greater than 10 minutes

4. Availability

1. The database system shall be available at all times unless there is a failure at some level

5. Compatibility

1. The database system shall be able to be accessed on many browsers without change in behavior or performance
2. The database system shall be able to be accessed on mobile devices
3. The database system shall be able to be accessed on desktop devices

6. DBMS

1. The database management system shall be MySQL

7. Security

1. Only encrypted passwords shall be supported by the database system
2. Only encrypted emails shall be supported by the database system
3. All the values inserted into the database shall be consistent with the attribute's datatype and domain.
4. The database shall be automatically backed up everyday at 11:59 pm