Bilkent University

Department of Computer Engineering

Database Systems Project

CS - 353 - Section 1

Video Game Digital Distribution Service - Adex

Olcay Akman - 21702671
Muhammet Kamil Gök - 21600879
Ege Hakan Karaağaç - 21702767
Rumeysa Özaydın - 21601558

1. Introduction

Since the invention of "the world's first legitimate electronic game", the Cathode Ray Tube Amusement Device, the video gaming industry has been an ever-expanding one [1]. The industry has come a long way from the now "retro" considered game consoles such as the PlayStation Classic, NES Classic and Super Nintendo [2]. Ever since PC gaming has come into the scene of the video game industry, the marketplace has had a drift toward PC gaming. Although the market of game consoles has proven to be quite profitable in 2019 and early 2020 [3], PC gaming has become so popular that platforms such as Steam have emerged and gaming PC's have become more popular.

Currently, there are over 200 notable PC video game companies. These companies produce video games for computers, for different operating systems, mainly Windows and MacOS. The distribution of those PC video games was available via video game sell-points where customers could buy CDs or other disk formats to be able to play the games on their computers. Later, with the development of better and faster network communication, downloadable gaming content was made available as well. Using POS systems online, developers could sell the PC video games they developed to customers via the internet. Thus emerged Steam and similar formats of PC video game selling platforms. Seeing the strength of such platforms today, it is apparent that the demand for such services is not yet close to come to an end. Adex, in today's industry, promises to be successful with its neat database management design in terms of being a video game digital distribution service.

2. Project Description

Adex is a video game digital distribution service. The service provides its users with various video games of different genres. Via Adex, game development companies find the opportunity to share the games they developed with the world. The publisher companies can directly communicate with developer companies and work with them.

The database design of the platform is strong and efficient, such that it can manage a large list of different games. This way, its users find the opportunity to obtain a large game library. The use of such a database also allows for easy tracking of the games developed and published by developer companies.

This platform is suitable for use to any customer that wishes to purchase and play games, and also for both publisher and developer companies which may want to gain profit from exchanges made with the customers.

3. Functional Requirements

3.1-User

- Users should sign up to the system by finding a unique username and a password.
- Users can log in to the system by using their credentials
- Users can search and buy a video game from the store
- Users can return the game they bought.

- Users can comment on games.
- Users can search for other users and add them to their friend list.
- Users can see their friends' activities
- Users can follow curators.
- Users can build mods for specific games.
- Users can download mods that are built by other users.
- Users can change their passwords.

3.2-Developer Company

- Developer companies will be able to ask publisher companies to publish the game which they have developed.
- Developer companies will be able to update the game that they have developed.

3.3-Publisher Company

- Publisher companies confirm or decline to publish the games developed by developer companies.

3.4-Curator

- Curators have followers.
- Curators can review games.
- Curators can suggest games to their followers.

4.Nonfunctional Requirements

4.1-Scalability

- The system should not be affected by the number of simultaneous users and should not limit the number of users.

4.2-Usability & User Friendliness

- Adex should have an easy to understand interface so that it can be appealing for all ages.
- Buying and returning games should be easy to perform.
- With the reviews of curators and comments of other users, users will have an idea of the game before they buy it.

4.3-Portability

- Because Adex is a web-based application it can be used in every device. It will be suitable for mobile too.

4.4-Security

- Users' will have their unique usernames to login to the system with their passwords.
- Users' will be asked to enter a hard, secure password to prevent password thievery.
- Users' passwords will be encrypted.

5.Pseudo Requirements

- We will use React.js at Front-End.
- We will use Django.py for Back-End.
- We will use MySQL to implement our database.

6.Limitations

- A user can only comment on games he/she has.
- A user can only see their friends activities.
- A user cannot chat with his/her friends.
- Publisher companies cannot modify or update the games they publish. Only developer companies can.
- Curators can only suggest games to their followers.
- Users can only build mods for specified games.
- Usernames will be unique and can be taken once.

7. Entity Relationship

8.Project Link

- https://egehakankar.github.io/adex/
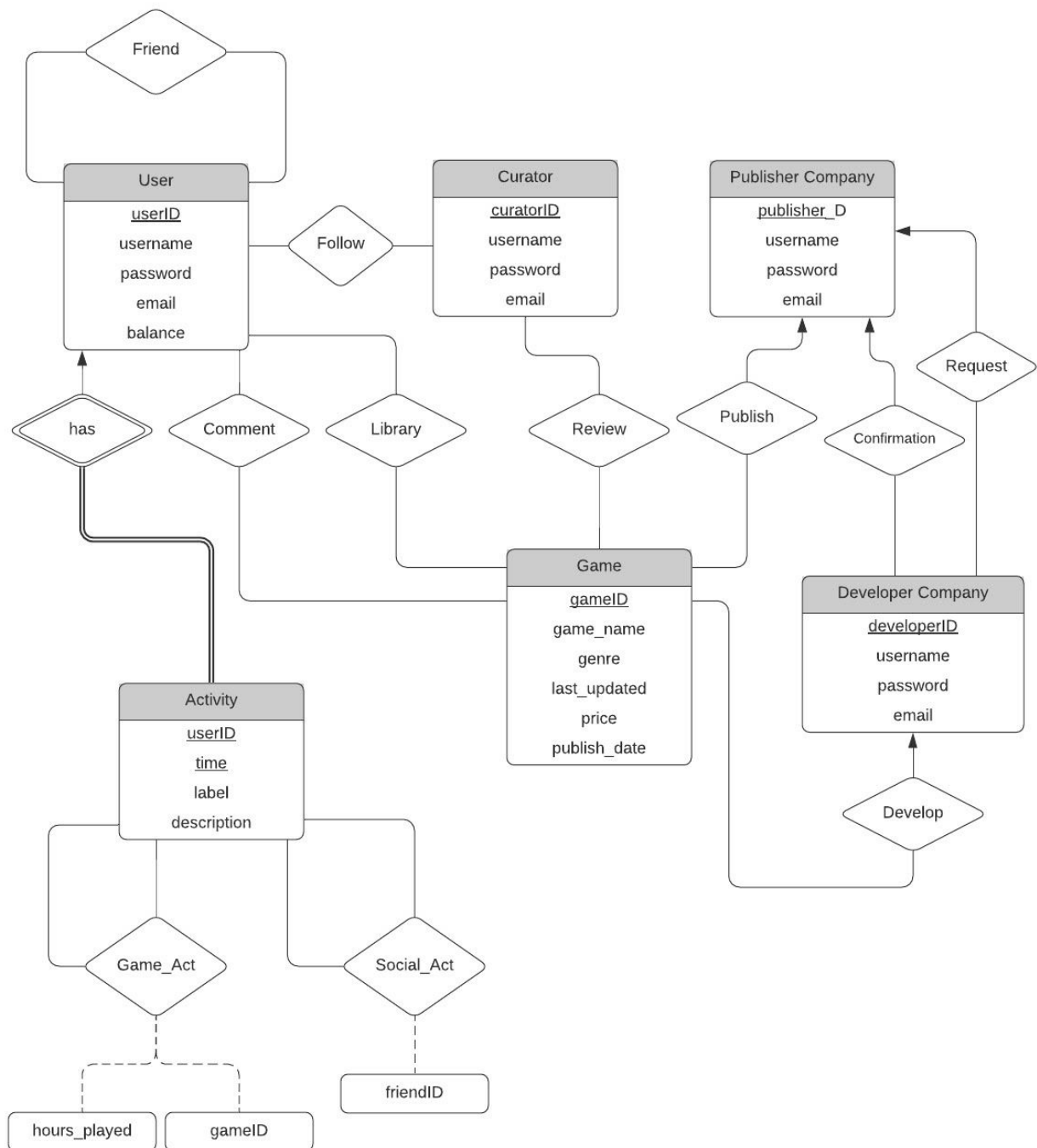
9. References

[1] Roth SH. Keller v. Electronic Arts: How Copyright Law Precludes Electronic Arts' First Amendment Defense. *Texas Review of Entertainment & Sports Law*. 2011;13:1. Accessed October 14, 2020. http://search.ebscohost.com/login.aspx?direct=true&db=edslex&AN=edslex4BC2CA1D&site=eds-live

[2] Crookes D. Retro games consoles. *Web User*. 2018;(460):38-39. Accessed October 14, 2020. http://search.ebscohost.com/login.aspx?direct=true&db=f6h&AN=132333563&site=eds-live

[3] MarketLine Industry Profile: Games Consoles in Global. *Games Consoles Industry Profile: Global*. March 2020:1-46. Accessed October 14, 2020. http://search.ebscohost.com/login.aspx?direct=true&db=bsu&AN=142579132&site=eds-live