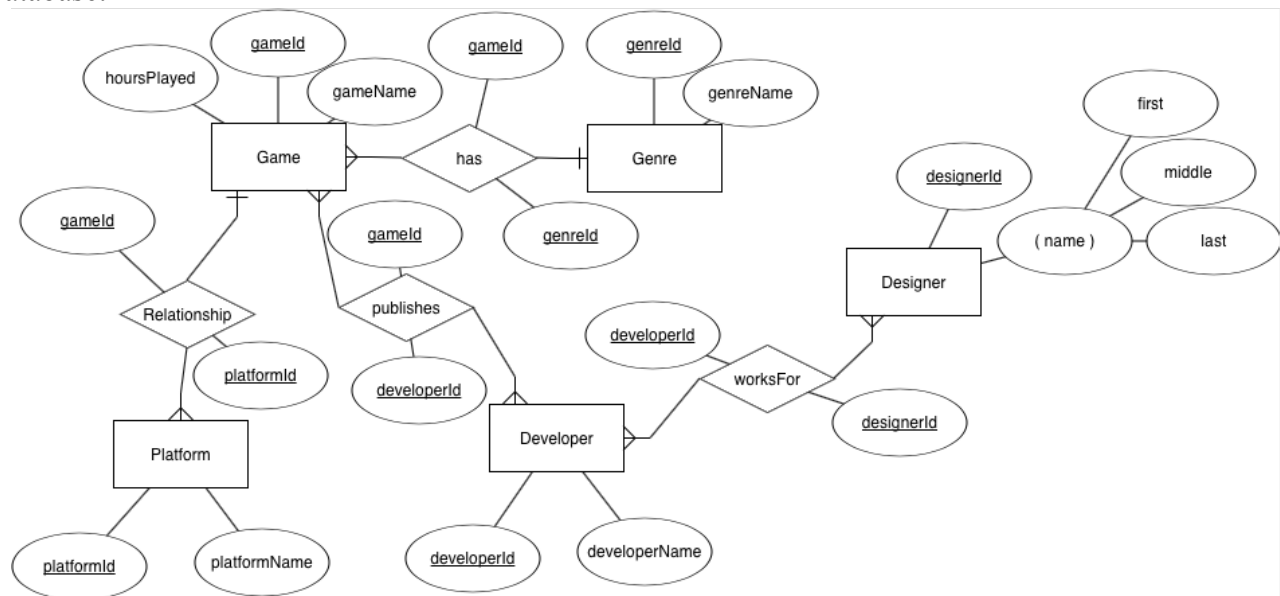


## Video-game Database Kyle McElligott

### Synopsis:

I chose a video-game database because I've been playing many games this summer thanks to covid, and there wasn't much else to do. I also built my own PC this summer and have been playing many titles with friends on it. I created my database based on all the video-game titles I've played. This includes their title, release date, hours played, genre, developer, designer, and platform the game is played on. I have been able to add more games to the database throughout the summer class and could continue to add to it afterwards. I was able to find the hours played on PC and Xbox but for the other platforms I made up how many hours played I had on those titles. Thanks to this project I can see just how many hours of my life I've wasted playing video-games, and also justify the price I've spent on said video-game to see if it was worth the money. All the information needed about the games was looked up online. This included the game's release date, platform, genre, developer, and which designers worked on the game. I also included the headquarters location of the developers and their presidents. I had plenty of data to populate the database for the advanced queries needed. I used SQLite for the database and I wrote the project/database connector in Python. I chose Python because I took an intro class to Python and learned that it is a good language for data analysis.

### Database:



(The foreign keys are underlined instead of dotted because the app I used did not include dotting)

### Game

This table has a unique Id, the name of the title, and amount of hours played. It links to the Genre, Platform, and Developer tables.

### Genre

This table has a list of game genres, such as Action, Adventure, Sports, etc. It also has a unique Id and links to the Game table.

### Platform

This table has a list of gaming platforms that the games were played on, such as Xbox, PC, etc. It also has a unique Id and links to the Game table.

### Developer

This table represents the company that created the game, it has a name attribute and a unique Id. It links to the Game table along with the Designer table.

### Designer

This table has a unique Id and a name attribute consisting of first, middle, and last. This table links with the Developer table indicating which designers work for which company.

### Functionality:

- Main functionality of this project is to indicate how many hours spent on specific video-games
- Secondary functionalities to indicate which designers and developers created which video-games and which platforms/genres the designers/developers created most

Group 1: LIKE

Group 2: HAVING

Group 3: Subquery

(All seen below in “Advanced Queries” Section)

### Stakeholders:

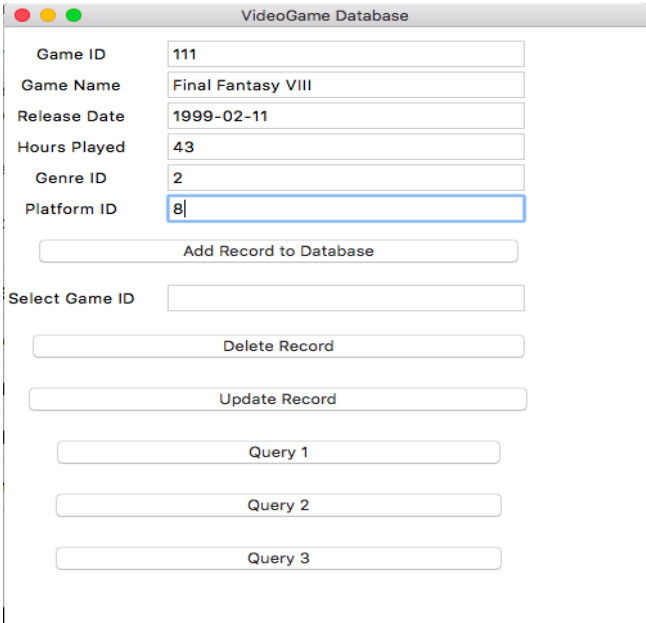
I have created this project for envisioning myself as the user. I've played a large selection and amount of video-games in my life and would like to see which genres I've played the most and on which platforms. I can also see which developers created which games, their president, and headquarter's location.

### Technological Requirements:

I envisioned this as a personal desktop application I can use whenever I want to update my video-game library. I used SQLite as the database and used a Python connector to link the application to the database. The GUI I created with Python was created with the Tkinter python library, it is Python's standard GUI. I worked on this project alone so no code was needed to be shared with a partner. If I did have a partner I would've use Github to share code because I've used it before and am familiar with it.

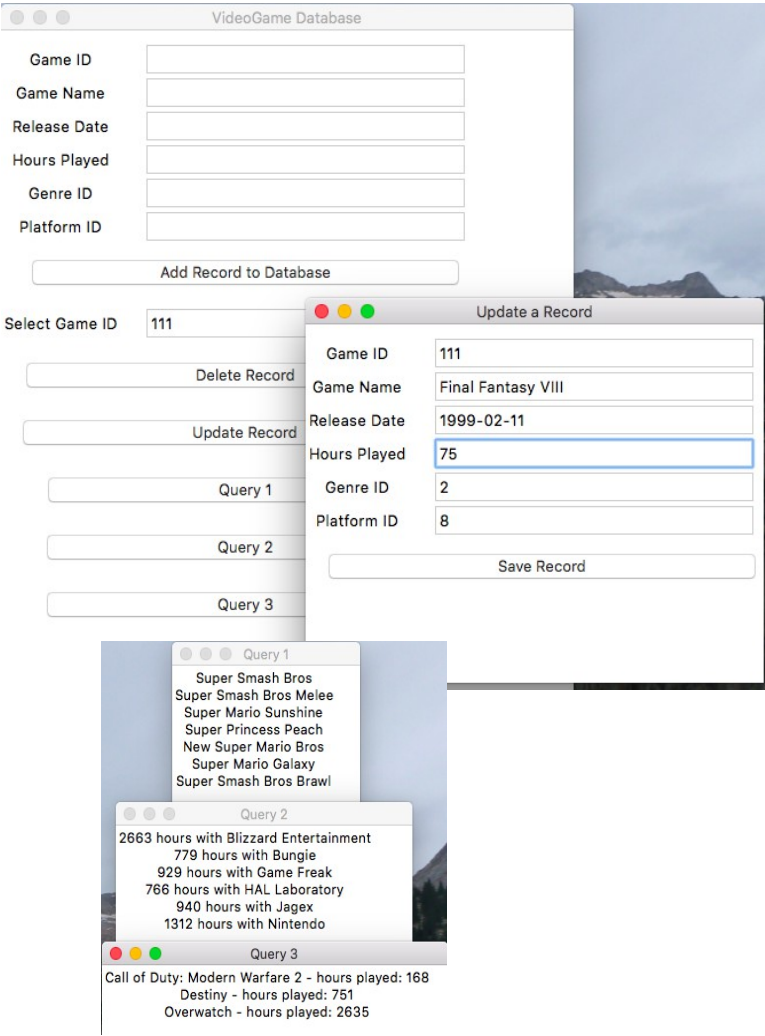
Screenshots:

To add to the database, provide the information about the game title and click the 'Add Record to Database' button.



When deleting or updating, provide the game ID in the required field and press the 'Delete Record' or 'Update Record' button.

The update option pops up an update window where the game's information can be edited and saved.



The 'Query 1', 'Query 2', and 'Query 3' buttons all display the advanced queries' outputs required for the project.

## Advanced Queries:

Group 1: 

```
SELECT gameName
FROM Game
WHERE gameName LIKE "%Super %"
```

-This query selects all games with 'Super' in their title.

Group 2: 

```
SELECT sum(hoursPlayed), developerName
FROM DevelopGame JOIN Developer
ON DevelopGame.developerId = Developer.developerId
JOIN Game ON DevelopGame.gameId = Game.gameId
GROUP BY developerName
HAVING sum(hoursPlayed) > 500
```

-This query selects the total hours of games played and the developer name that created those games with hours played over 500.

Group 3: 

```
SELECT gameName, hoursPlayed
FROM Game JOIN Genre ON Genre.genreId = Game.genreId
WHERE genreName = 'Shooter' AND hoursPlayed >
(SELECT sum(hoursPlayed)
FROM Game JOIN Genre ON Genre.genreId = Game.genreId
WHERE genreName = 'Puzzle')
```

-This query selects the games and hours played with genre 'Shooter' that has more hours played than every 'Puzzle' genre game combined.