

Final Report

Methods and Tools in SW Development

I. Group Information

Group Number: 4

Group Member names/netIDs:

- Eleftherios Vganges
 - epv15
- Allison Lyons
 - acl523
- Milton Lewis
 - ml1462
- Jake Wilson
 - jbw622
- Colton Earls
 - cce114

Group GitHub/GitLab repo link: <https://github.com/Bruvce/Group-4>

Who was assigned to do what?

Allison – Constructing the Menu and Final Report Conclusion

Milton – Construction of the initial database

Eleftherios – Database/Classes

Jake – Constructing the Cart Class

Colton – Initial Design and Final Report

II. Updated Detailed Class Diagrams

Originally, we expected to have 4 classes managing 4 different databases, but this was narrowed down to 3 classes and 3 databases. This reduction was due to better understanding of the original requirements. Since the store can run on a single machine with a single user some classes weren't even required. The User, Item, and Orders classes were completely removed. The cart class was modified, and the changes included dropping some functions and variables. The inventory class was split into two sub classes: movies and games. Each of the new classes manage their own database.

Original Classes:

- Inventory
- Shopping Cart
- User
- Orders
- Item

Original Databases:

- User List
- Item List
- Cart List
- Order History

Current classes:

- Games
- Movies
- Cart

Current Databases:

- Games
- Movies
- Cart

| Games |
|---|
| <code>+ViewAllGames(self): query</code> <code>+ViewGamesbyGenre(self, genre_type): query</code> <code>+getCartGames(self): query</code> <code>+addGametoCart(self, name): query</code> |

Functions:

- Function 1 – Prints a query of all games in the database
- Function 2 – Prints a query of all games of a certain genre from the database
- Function 3 – Returns a query of the names of all games
- Function 4 – Adds a game to the cart

Changes:

- Deleted -movieTitle: string
- Deleted -director: string
- Deleted -gameTitle: string
- Deleted -designer: string
- Deleted -itemNum: int*
- Deleted +movies()
- Deleted +games()
- Deleted +all()
- Deleted +popularItems(): void
- Deleted +discounted(): void
- Added +ViewAllGames(self): query
- Added +ViewGamesbyGenre(self, genre_type): query
- Added +getCartGames(self): query
- Added +addGametoCart(self, name): query

Notes:

The Games class is a modified child-class of the original inventory class. It manages the Games database

| Movies |
|---|
| <code>+ViewAllMovies(self): query</code> <code>+ViewMoviesbyGenre(self, genre_type): query</code> <code>+getCartMovies(self): query</code> <code>+addMovietoCart(self, name): query</code> |

Functions:

- Function 1 - Prints a query of all movies in the database
- Function 2 - Prints a query of all movies of a certain genre from the database
- Function 3 - Returns a query of the names of all movie names
- Function 4 – Adds a movie to the cart

Changes:

- Deleted -movieTitle: string
- Deleted -director: string
- Deleted -gameTitle: string
- Deleted -designer: string
- Deleted -itemNum: int*
- Deleted +movies()
- Deleted +games()
- Deleted +all()
- Deleted +popularItems(): void
- Deleted +discounted(): void
- Added +ViewAllMovies(self): query
- Added +ViewMoviesbyGenre(self, genre_type): query
- Added +getCartMovies(self): query
- Added +addMovietoCart(self, name): query

Notes:

The Movies class is a modified child-class of the original inventory class. It manages the Movies database

| Cart |
|---|
| +viewCart(self): query +removeFromCart(self, name): null +getCartlist(self): query +getStock(self, name, type): query +checkout(self): null |

Functions:

- Function 1 – Prints a query of all items in the user's cart
- Function 2 – Removes an item from the cart database
- Function 3 – Returns a query of the names of all items in the user's cart
- Function 4 – Returns a query search of a specific movie or game
- Function 5 – Checks out user by deleting items from the database

Changes:

- Deleted -cart: vector<Item>
- Deleted +addGame()
- Deleted +addMovie
- Renamed +removeItem() to +removeFromCart(self, name): null
- Renamed +viewCart() to +viewCart(self): query
- Modified checkout(self): null
- Modified viewCart(self): query
- Added +getStock(self, name, type): query

Notes:

Modified version of the original cart class. It manages the Cart database.

III. Conclusions

If you were to flesh out your project more, what requirements do you think could be added?

If the project were to be more fleshed out, we could have coded for more than one user. We could have added more users, if we wanted to. It would have just been more complex. We also could have all made a SQL table to make for a bigger inventory to flesh out the project more.

Are there any overall design choices you wish you could have changed in hindsight? What are they and why?

Any design choice we made, were to increase simplicity. Before we had a better understanding of the assignment, Cooper went as far as to designing a socket program and wished to implement it. Other than that, everyone is very content on everything.

What difficulties did your group have?

The most difficult part about the group project was coordinating meeting times. Everyone had a summer job we had to work around. Two people started another summer class in the middle of this one, taking up more time. We also let deadlines sneak up on us, like homework 5.

What did your group learn overall from the project?

Allison – I learned to really read the directions and reference them throughout the entire class. This is a very important skill to have. I also learned to improve my skills on working with a team and better my communication skills.

Colton – Learned that sockets are difficult to code and read the instructions before finding out how difficult sockets are to code.

Milton – Learned how the database tables interacted with python code.

We all learned how to work together to complete a common goal. We learned to work around everyone's varying schedules to meet a common goal. We learned how to make SQL databases.