Digital Game Distributor System Documentation

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User requirements

The Digital Game Marketplace is an online platform that functions as a digital marketplace for games. It combines features of a regular digital marketplace with social networking aspects, such as messaging, commenting, and a posting system.

The system includes the following roles:

Game Developer:
Role Description: The game developer is responsible for creating and submitting games to the Digital Game Marketplace. They must provide relevant information such as the studio name, email address, optionally the website, and the country of origin. Game developers can also create discounts for their games and submit them for participation in game tournaments.

Client:
Role Description: Client are customers of the Digital Game Marketplace. They have an account name and can customize their preferences by providing a list of preferred game genres. Users have a library where they can see a list of games they have purchased. Additionally, they can maintain a list of friends, enabling social interactions within the platform.

Employee:
Role Description: Employees are individuals working within the organization. They have specific roles, such as customer support, platform moderation, or tournament organization. Employee information includes their name, their date of birth, age, and salary, depending on the organization's requirements.

Customer Support:
Role Description: Customer support employees are responsible for addressing user inquiries and providing assistance. They should have proficiency in one or more languages to effectively communicate with users. The employee's known languages list helps determine their ability to assist users in specific language preferences.

Tournament Organizer:
Role Description: Tournament organizers are responsible for managing game tournaments within the Digital Game Marketplace. They should have expertise in specific game genres to evaluate and analyze game submissions for tournament participation. Their experience is denoted by a list of game genres in which they have relevant expertise.

Platform Moderator:
Role Description: Platform moderators are responsible for reviewing and approving or rejecting game submissions from developers. The average response time to submissions in minutes indicates the efficiency and speed at which the platform moderator handles these requests. Their role ensures the quality and appropriateness of games available on the marketplace.

Game Submission

a. Game developers are required to submit their games to the marketplace.
b. A registration fee must be paid during the submission process.
d. Game developers can also submit their games for participation in inner game tournaments.

Discounts

a. Game developers have the option to create discounts for their products.
b. The discount can range from 0% to 100% off the original price.

Game Purchase

a. Users/customers can browse the available games on the marketplace.
b. Users can purchase games, on which payment processing is initiated.
c. Upon confirmation of payment, a copy of the game is added to the user's library.

Social Networking Features

a. The system includes messaging functionality to facilitate communication between users.
b. Users can post comments and interact with other users on the platform.

Support Tickets

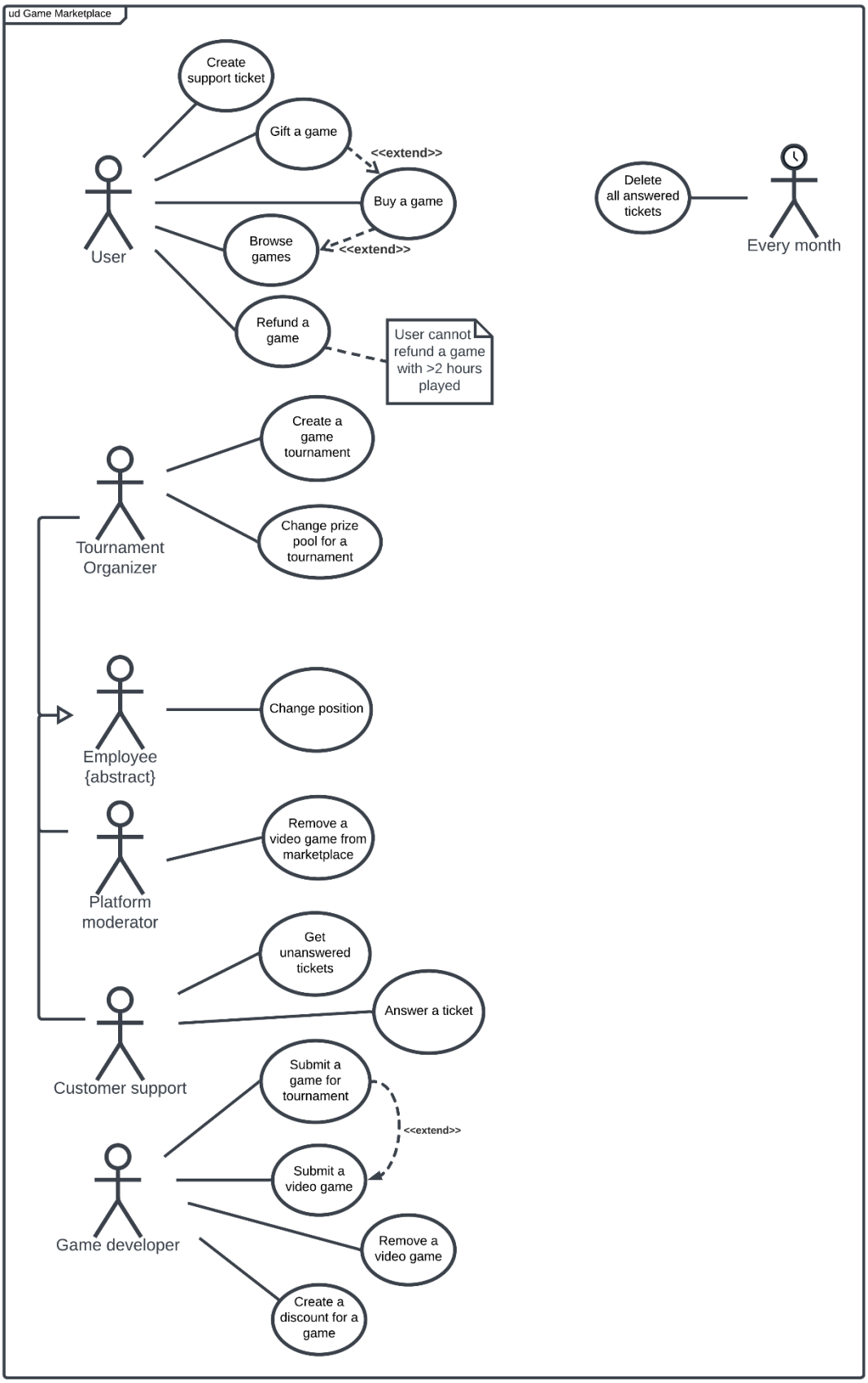
a. Users can submit support tickets when they require assistance.
b. Customer support employees respond to support tickets and provide the necessary help.

Constraints and Assumptions

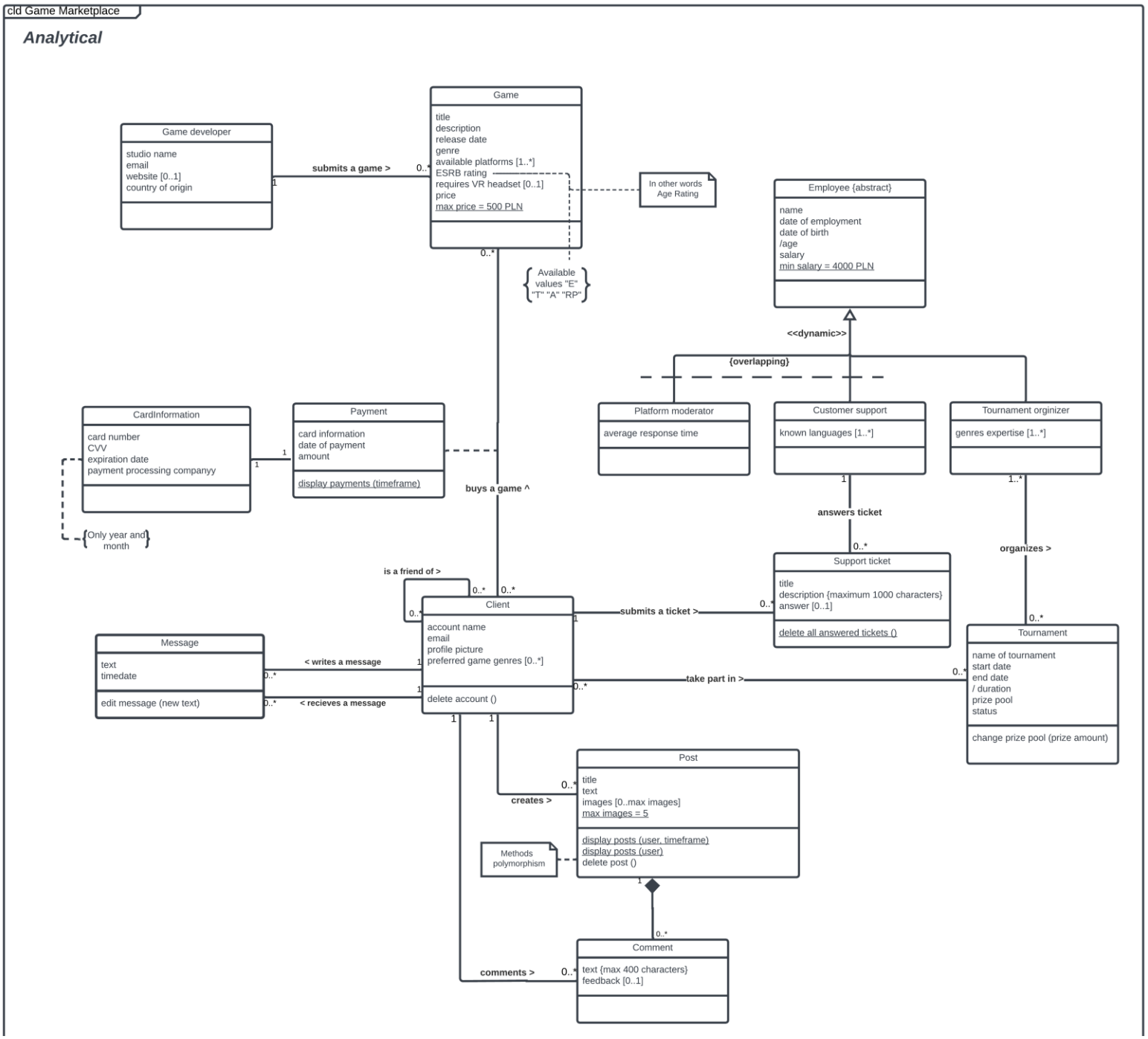
a. The system assumes that users have access to a stable internet connection for browsing and purchasing games.

Overall, the system seeks to enhance the user experience by offering comprehensive UI of a marketplace enhancing user’s experience, offers convenient social networking features and services while also considering user’s feedback.

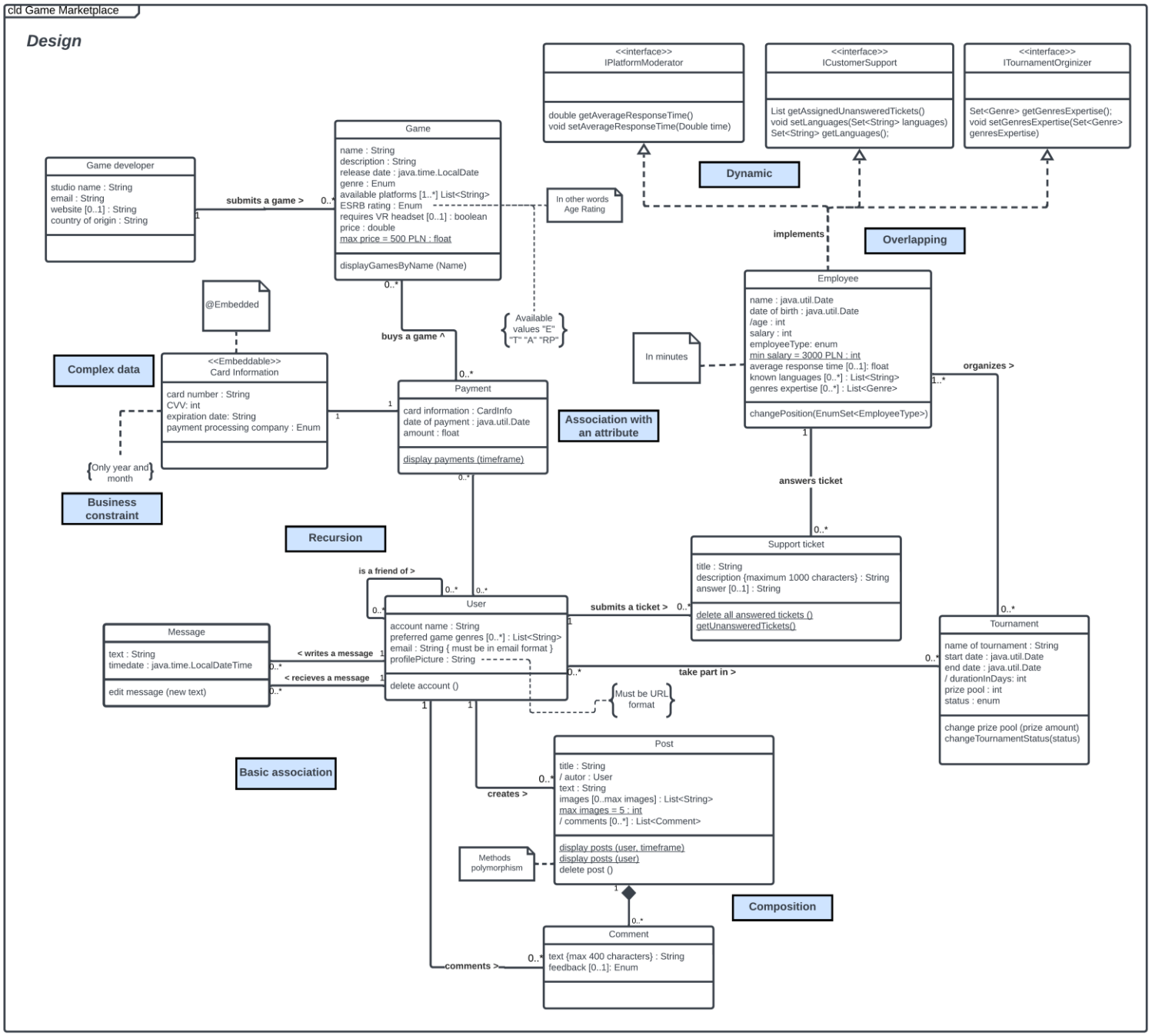
The use case diagram



The class diagram – analytical



The class diagram – design



The scenario of selected use case (as text)

Use case: Browse games
Actor: User

Pre-conditions:
There is at least one game and publisher with games in the system
User registered account and logged into the account

Post-conditions:
System successfully accepted client's payment

Basic flow of events:

1) The user clicks on "Browse game" button on main panel
2) The System shows a list of all game developers to choose from
3) The user selects desired game developer to buy a game from
4) The system displays list of all games developer by given game developer
5) The user chooses desired game from the list
6) The system shows a prompt with an option to gift this game to a friend
7) The user accepts proposal
8) The system shows a list of friends of the user
9) The user chooses a friend from the list
10) The system shows a form that consists of payment information prompts
11) The user fills in a prompt and proceeds
12) The system shows a confirmation panel
13) The user chooses "Confirm"
14) The system processes payment
15) The system shows a confirmation window and suggest to buy another game
16) The user logs out of the system

Alternative flow of events:

7a) The user declines proposal

7aa) The system skips to step 10

7b) The user has no friends in friend list

7ba) The system skips to step 10

14a) The user chooses “Cancel”

14aa) The system returns to previous page

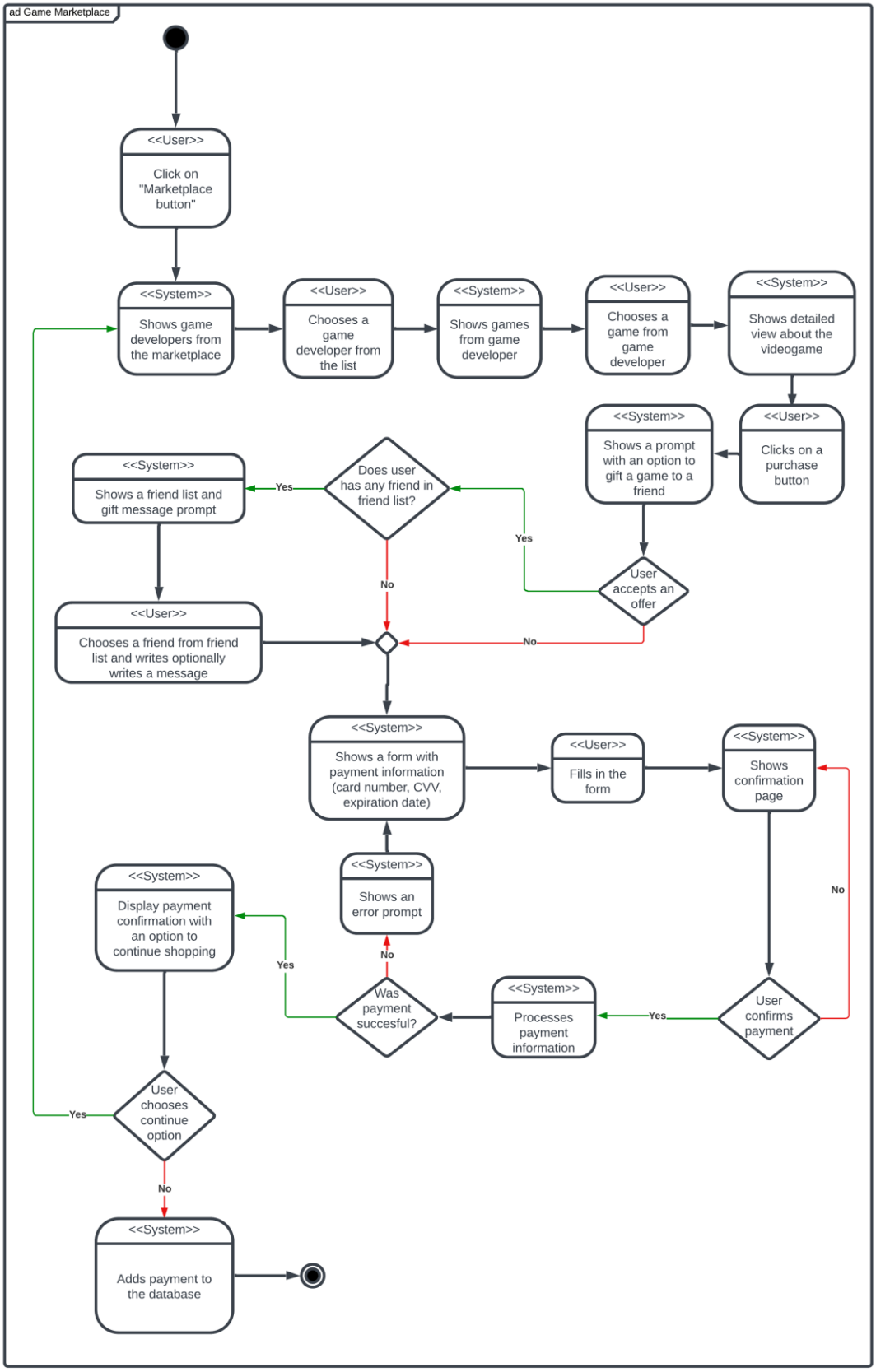
15a) Payment is unsuccessful

15aa) System shows an error message and quits

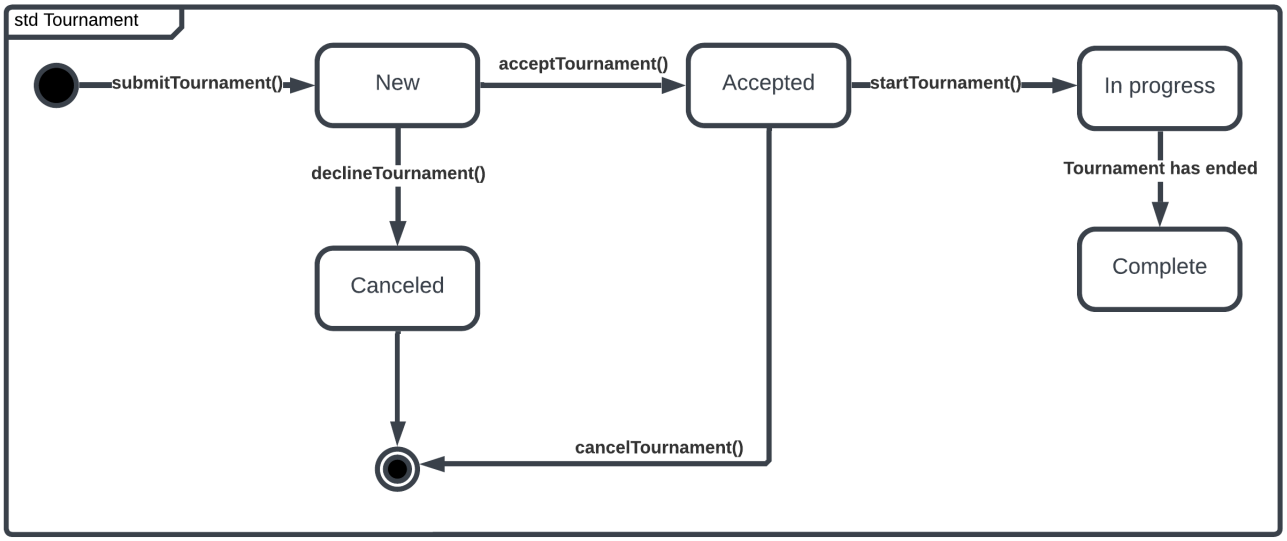
16a) The user decides to buy another game

16aa) The system returns to step 2

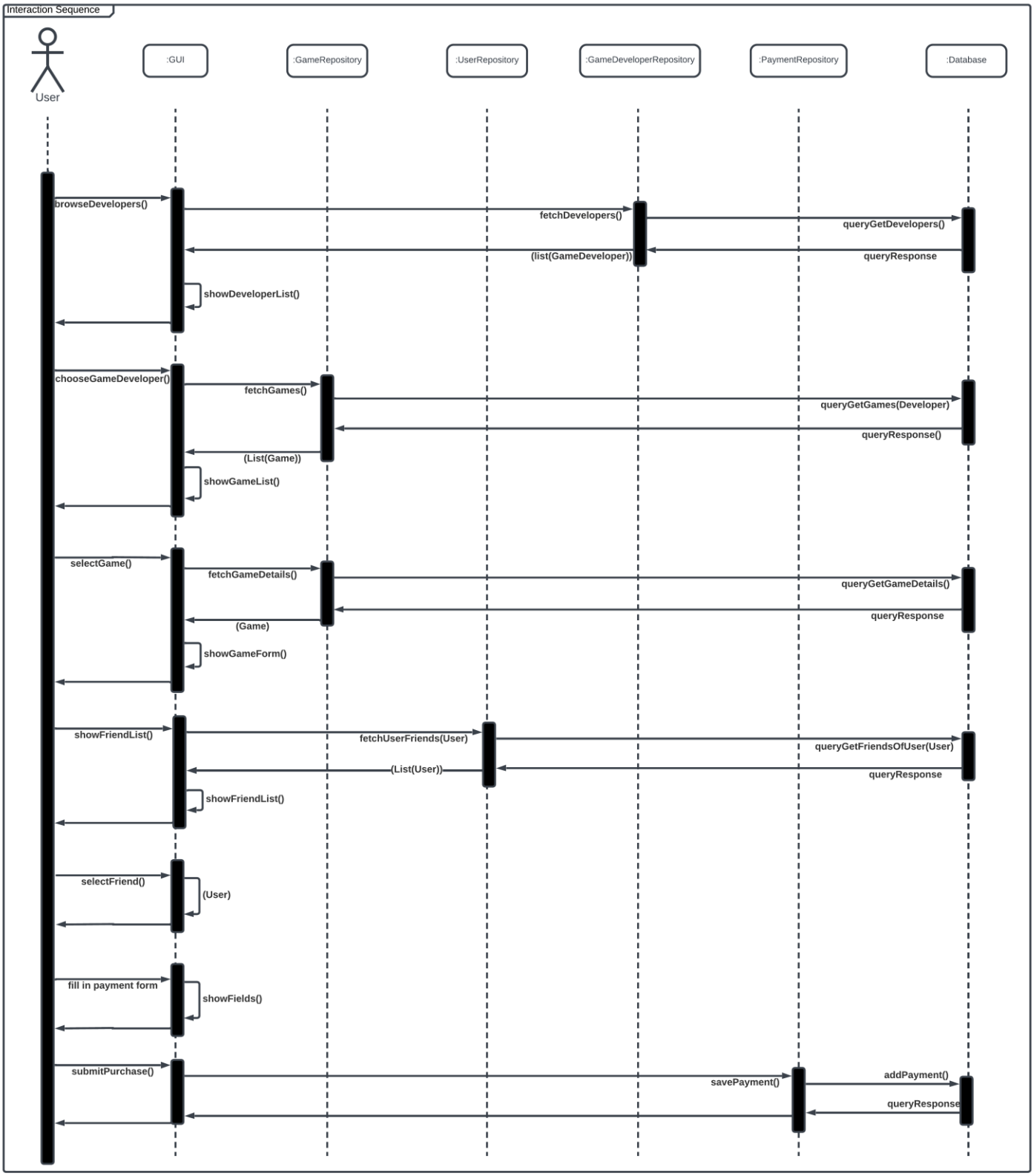
The activity diagram for picked use case



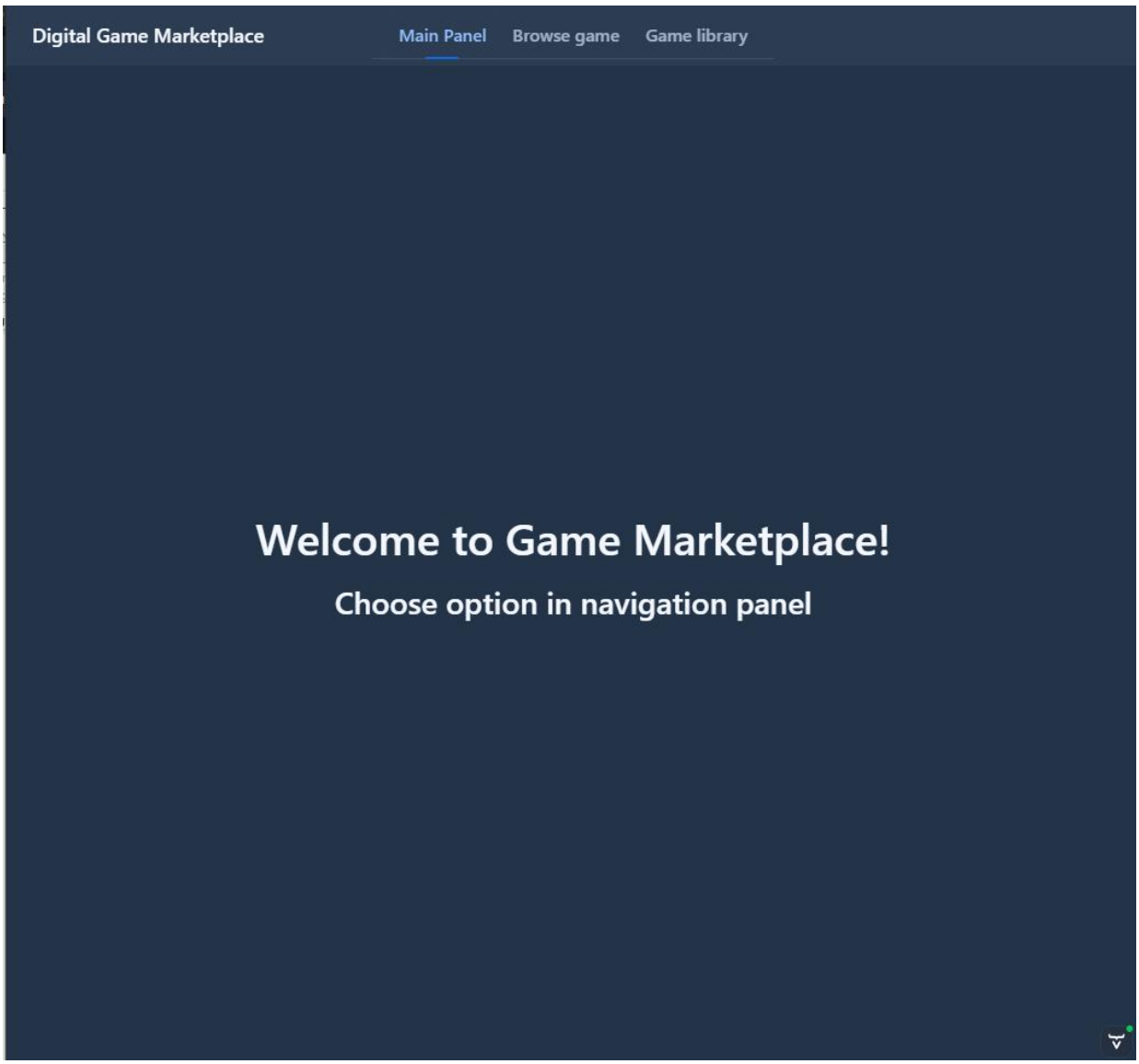
The state diagram for selected class

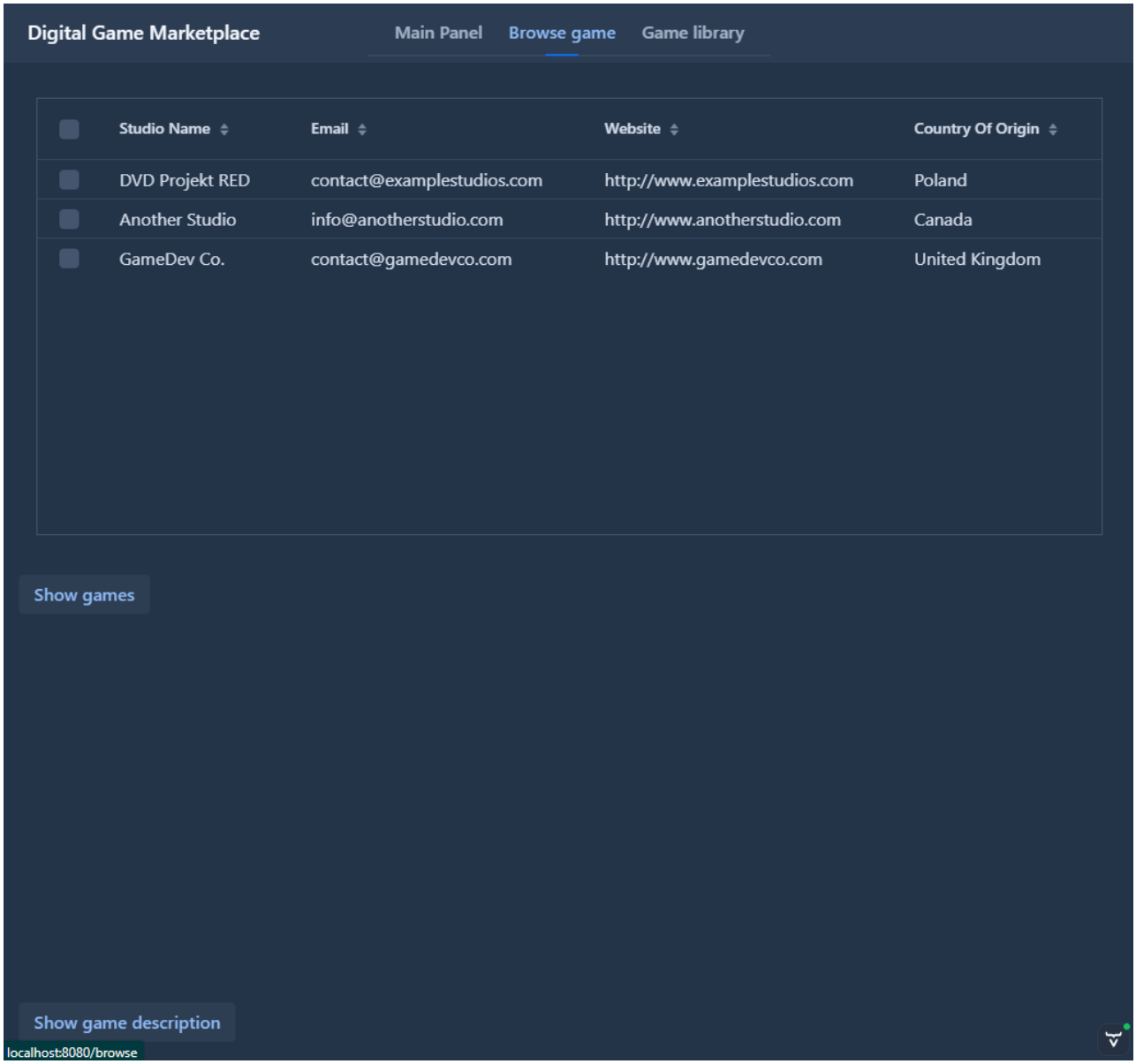


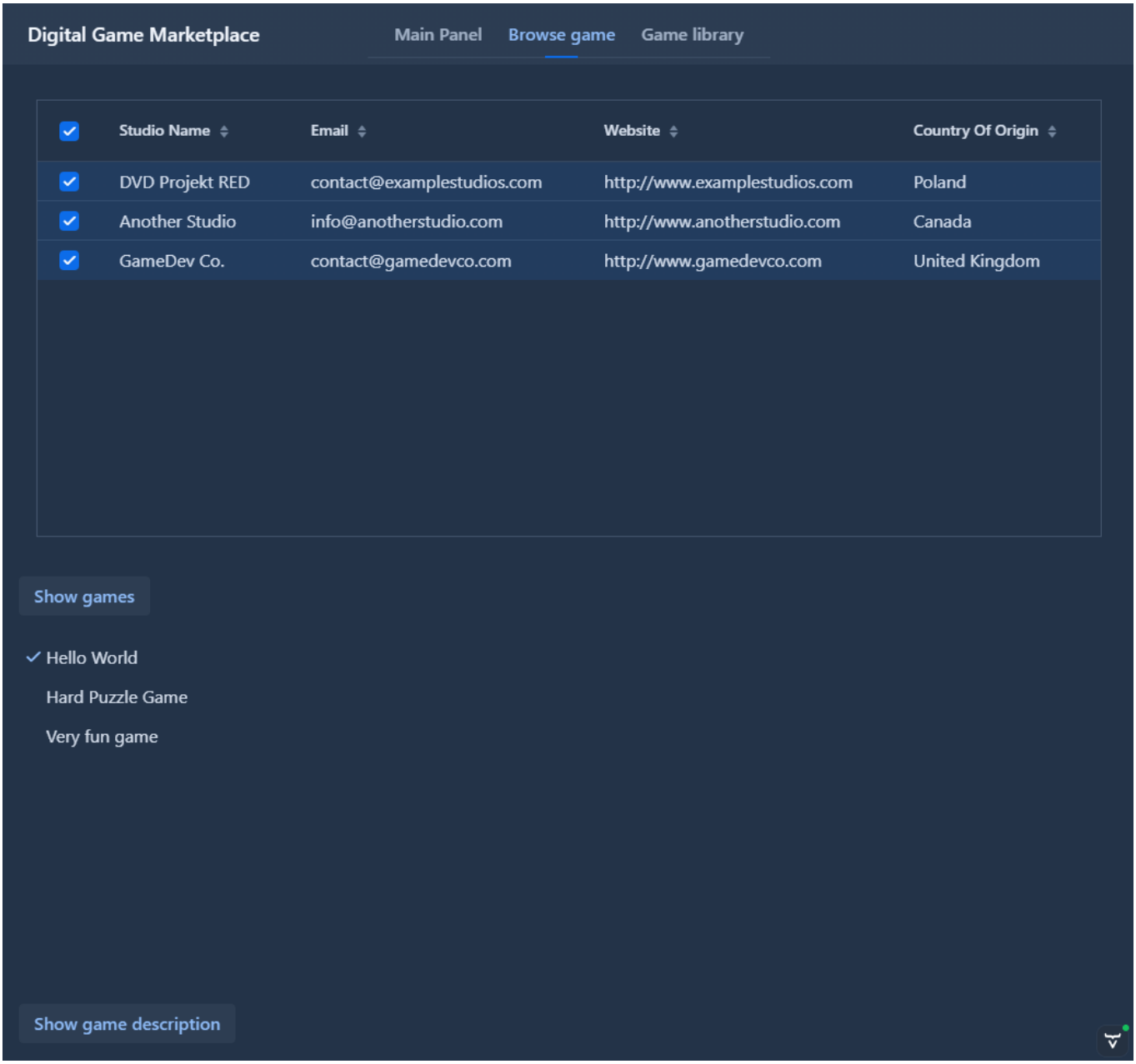
The interaction (sequence) diagram for selected use case

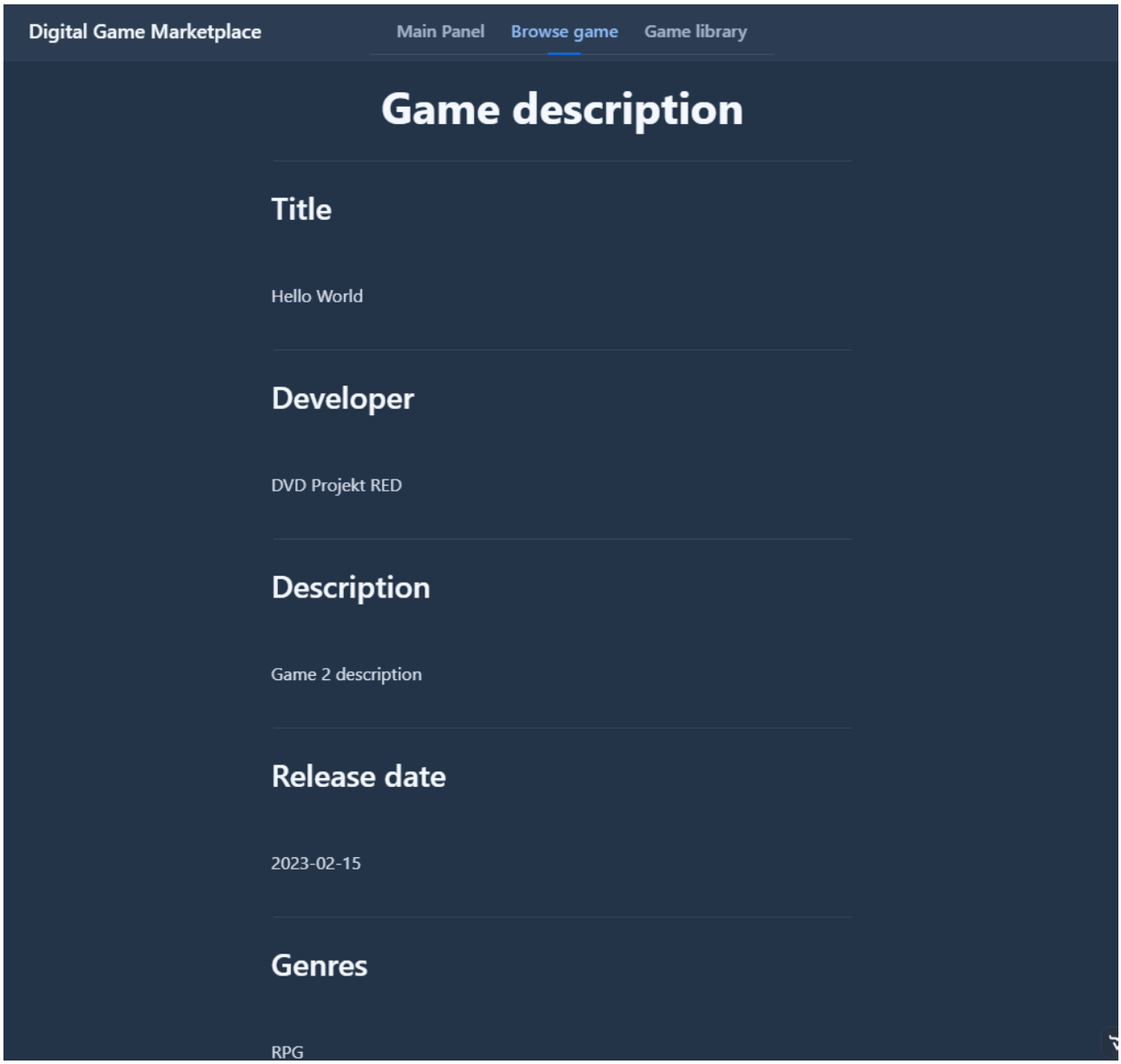


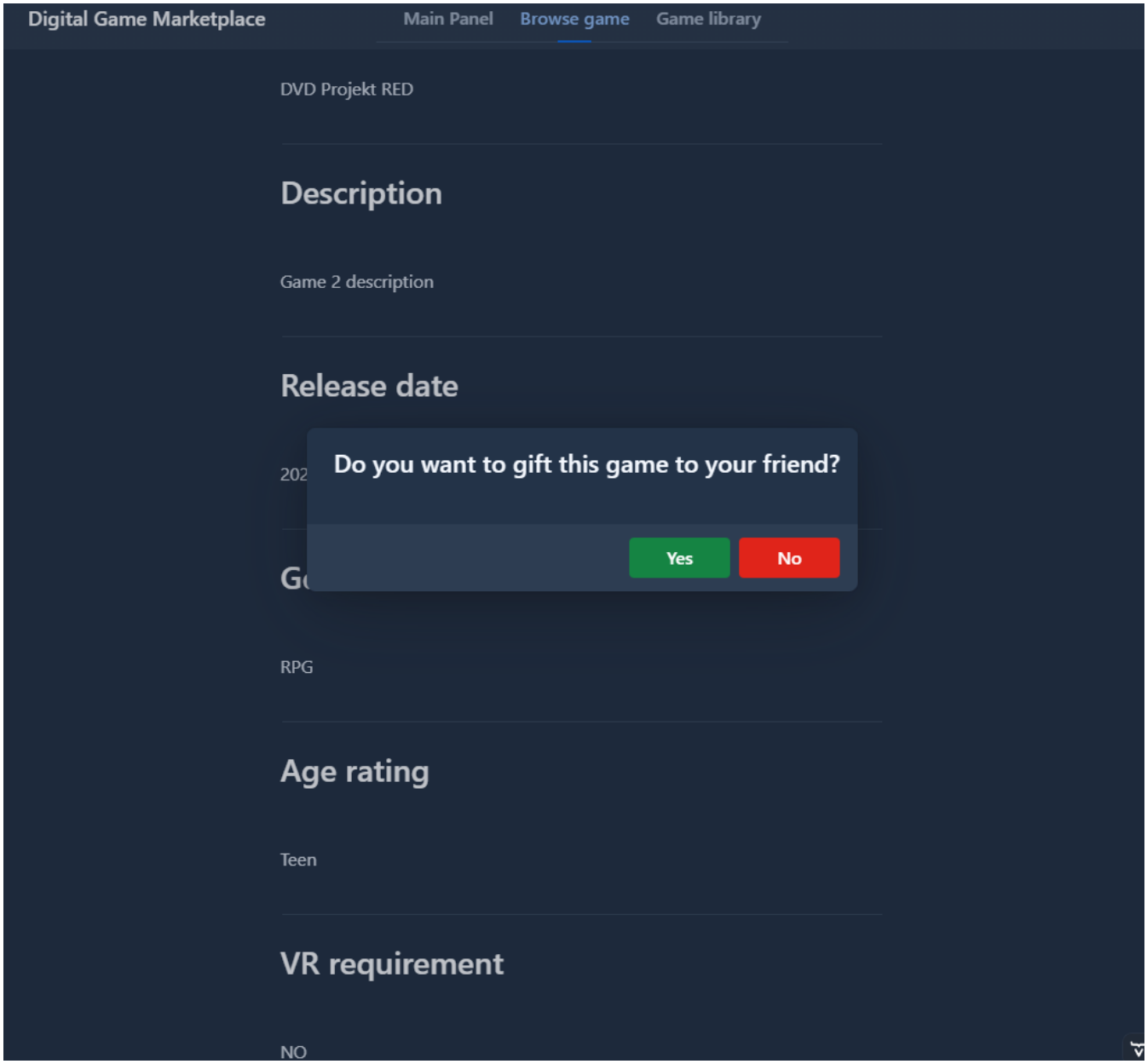
The GUI design

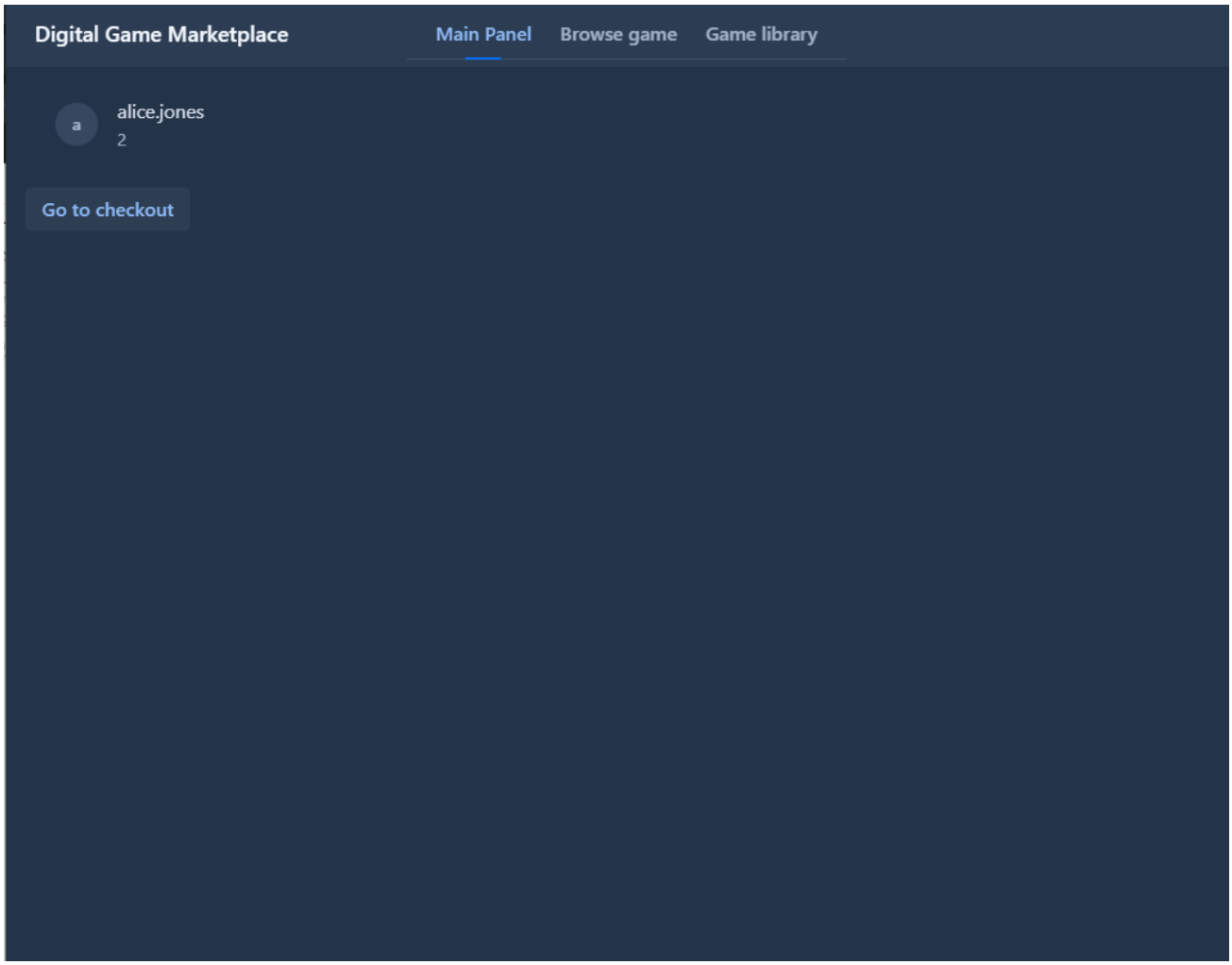


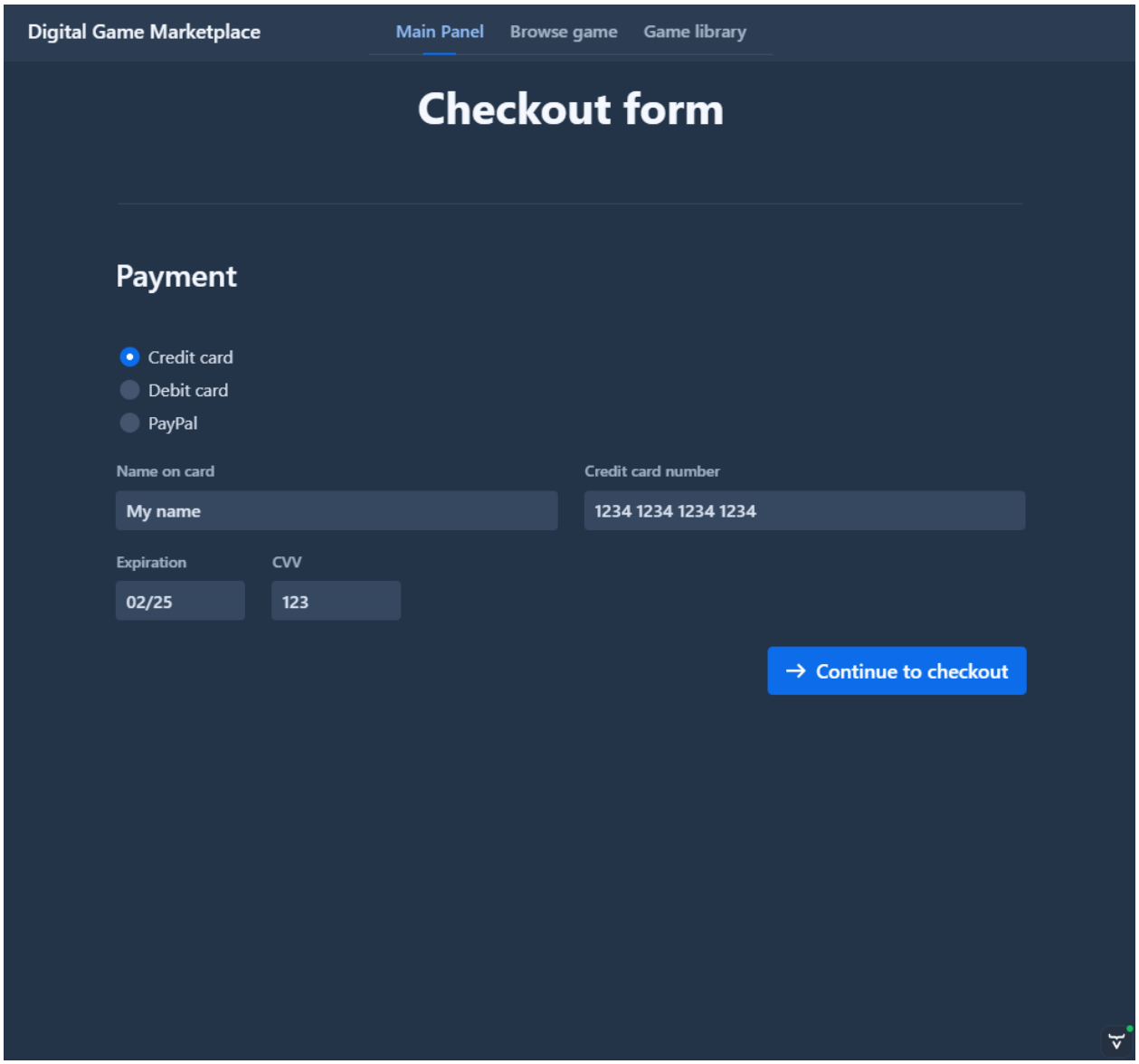

Digital Game Marketplace
Main Panel
Browse game
Game library
Studio Name
Email
Website
Country Of Origin
DVD Projekt RED
contact@examplestudios.com
http://www.examplestudios.com
Poland
Another Studio
info@anotherstudio.com
http://www.anotherstudio.com
Canada
GameDev Co.
contact@gamedevco.com
http://www.gamedevco.com
United Kingdom
Show games
Show game description
localhost:8080/browse

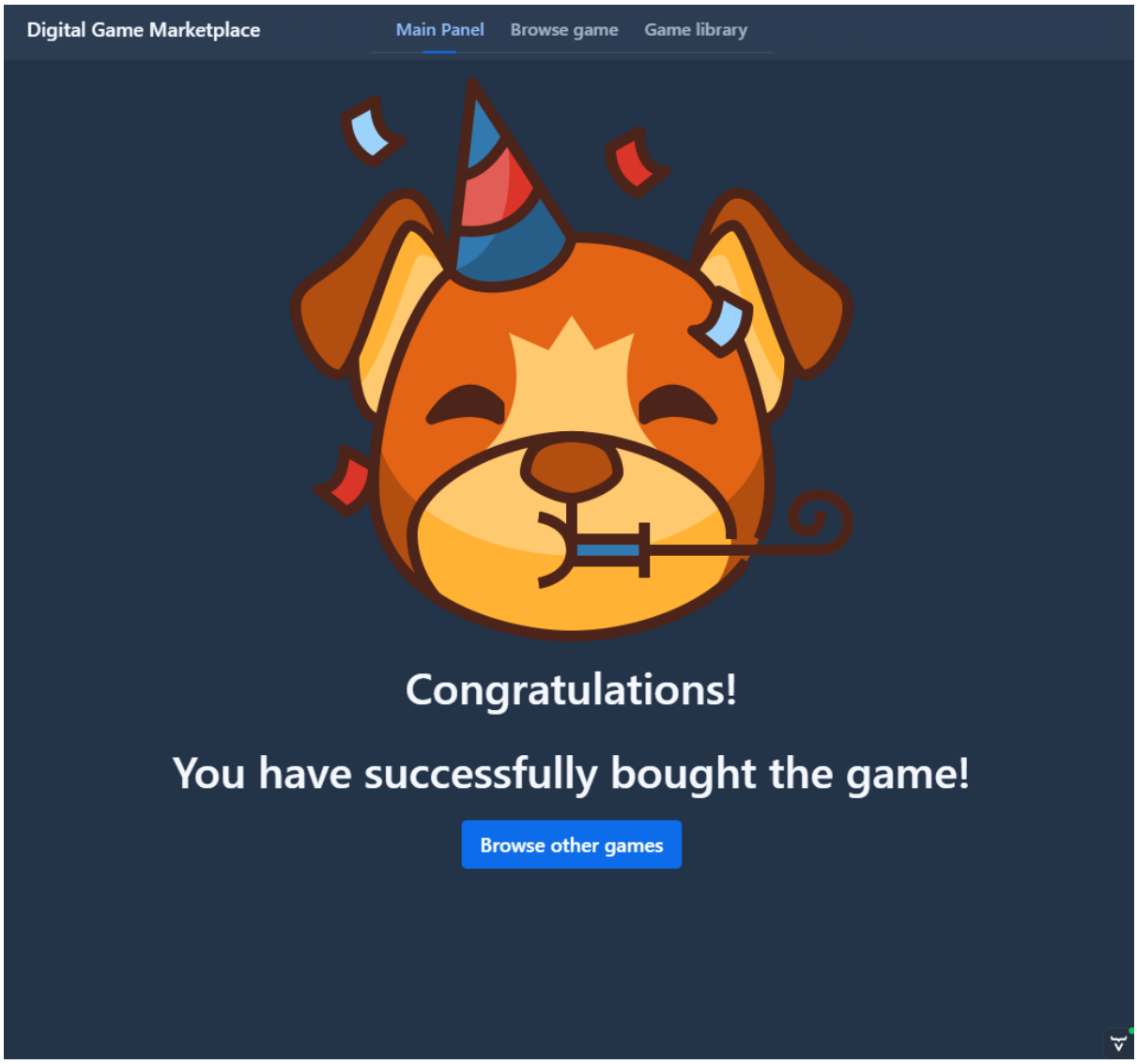

Digital Game Marketplace
Main Panel
Browse game
Game library
Studio Name
Email
Website
Country Of Origin
DVD Projekt RED
contact@examplestudios.com
http://www.examplestudios.com
Poland
Another Studio
info@anotherstudio.com
http://www.anotherstudio.com
Canada
GameDev Co.
contact@gamedevco.com
http://www.gamedevco.com
United Kingdom
Show games
Hello World
Hard Puzzle Game
Very fun game
Show game description


Digital Game Marketplace
Main Panel
Browse game
Game library
Game description
Title
Hello World
Developer
DVD Projekt RED
Description
Game 2 description
Release date
2023-02-15
Genres
RPG


Digital Game Marketplace
Main Panel
Browse game
Game library
DVD Projekt RED
Description
Game 2 description
Release date
202
Do you want to gift this game to your friend?
Yes
No
G
RPG
Age rating
Teen
VR requirement
NO


Digital Game Marketplace
Main Panel
Browse game
Game library
a
alice.jones
2
Go to checkout


Digital Game Marketplace
Main Panel
Browse game
Game library
Checkout form
Payment
Credit card
Debit card
PayPal
Name on card
My name
Credit card number
1234 1234 1234 1234
Expiration
02/25
CVV
123
Continue to checkout


Digital Game Marketplace
Main Panel
Browse game
Game library
Congratulations!
You have successfully bought the game!
Browse other games

Technologies

H2 database engine

The decision to use the H2 database for persistence is driven by its lightweight nature, high performance, and ease of use. H2 is an in-memory database that can also be persistently stored on disk, making it suitable for various scenarios.

Vaadin framework

I chose to use the Vaadin framework for creating the front-end because it caters to my lack of experience in HTML/CSS. Additionally, I can build user interfaces using Java instead of directly dealing with HTML and CSS. This abstraction simplifies web development, allowing me to focus on the functionality and logic of my application while leveraging Vaadin's ready-made components and layout management for a visually appealing and responsive user interface.