Codex Naturalis

Sequence Diagrams

Franchetti-Rosada, Gherman, Giaccotto, Maestrello

Group 22

With this document, we aim to illustrate the selected client-server communication protocols and present the corresponding sequence diagrams during actions such as player's game access, playing a card from one's hand, and drawing a card from the playground.

1 Player's Game Access

There are two methods to access a game: by creating a new game or by joining an existing one created by another player. We are going to delineate the two different protocols.

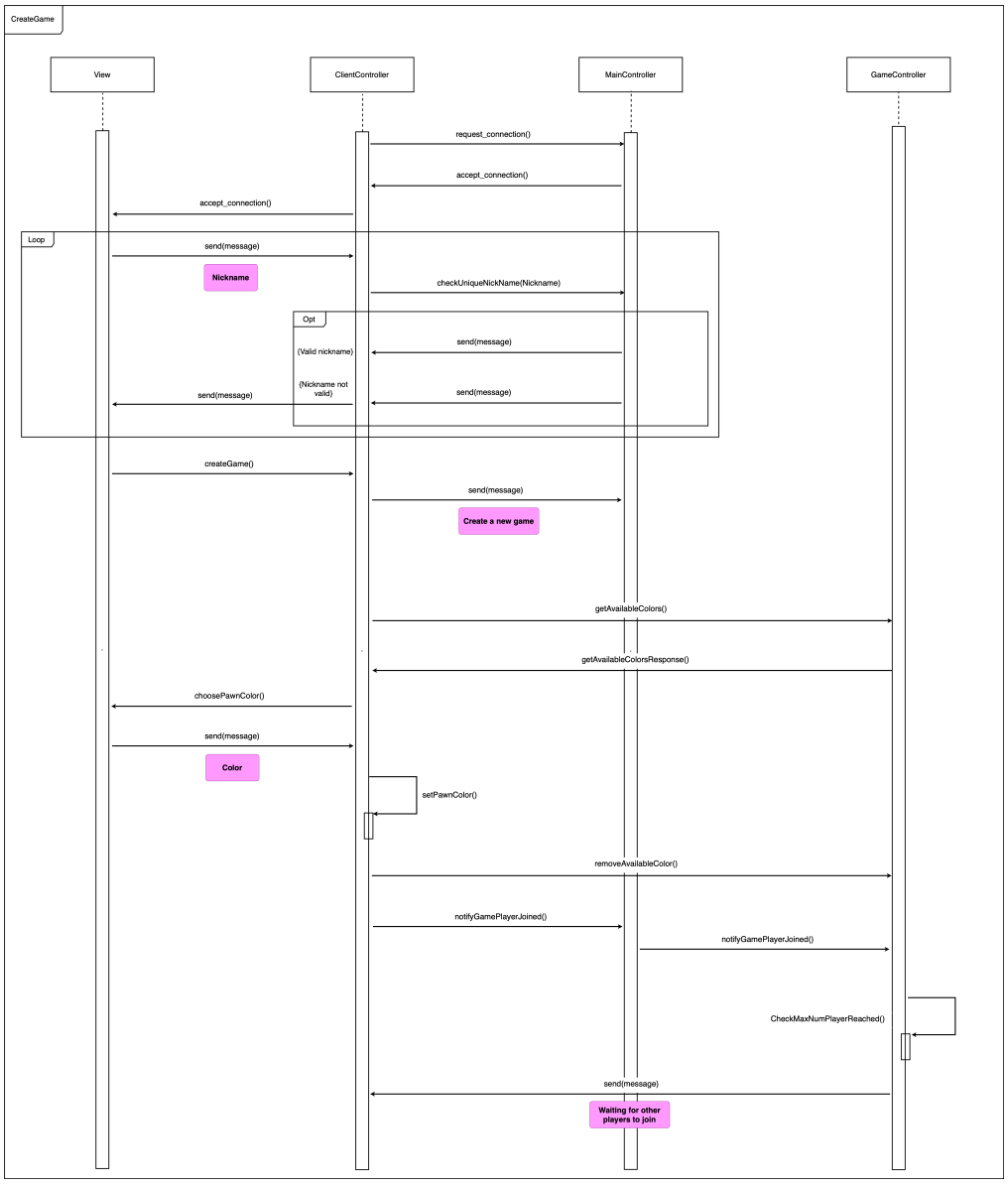


Figure 1: CreateGame

Each client connects to the server. For lobby management, the server utilizes methods from the MainController class. The view asks each client for a nickname, which is sent to the MainController to verify its uniqueness. If the nickname is not unique, the client will be asked to set it again. Subsequently, the view will send a multiple-choice message asking the client to choose whether they want to create a new game or connect to an existing one. Next, the process continues with the selection of the pawn color.

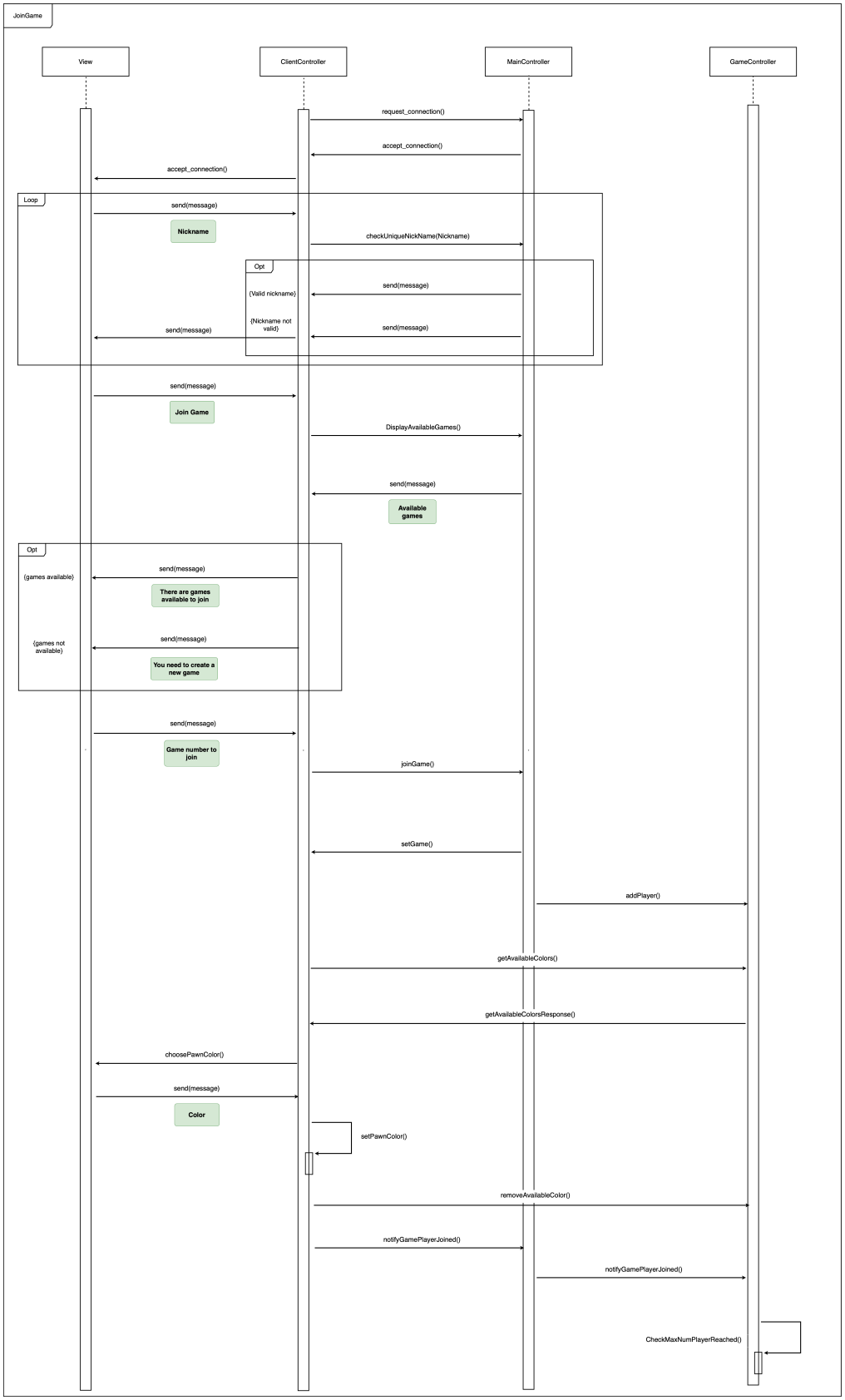
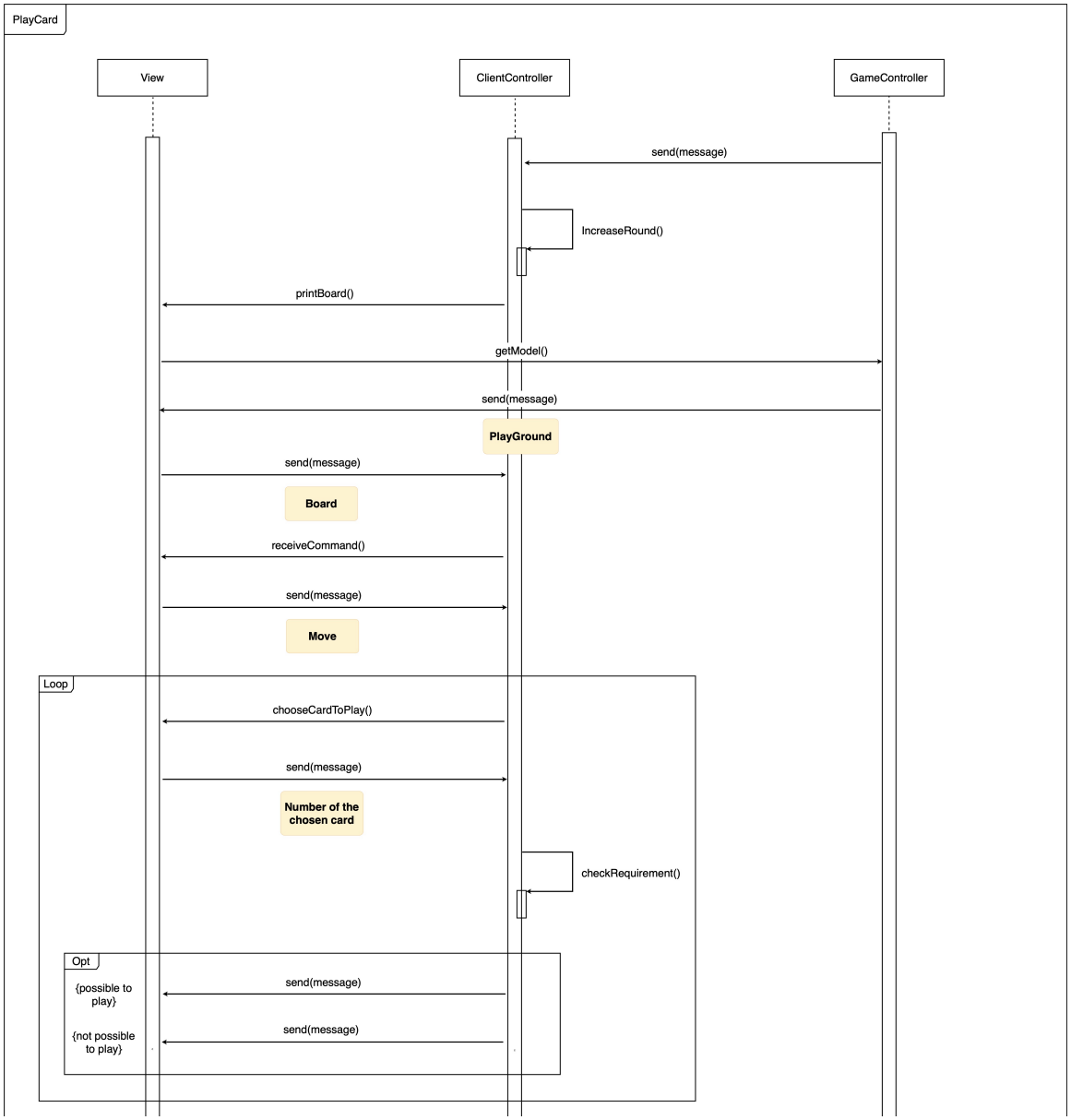


Figure 2: JoinGame

To join an existing game, the initial steps are identical to the process for creating a game. After this, the MainController will provide the client with a list of available games to join. If no games are available, the client will be prompted to create a new game. If the client successfully joins a game, the MainController will assign the GameController to the connected client and add the client to its list of players. The process then continues with the selection of the pawn color.

2 The action: 'Playing a card from one's hand'



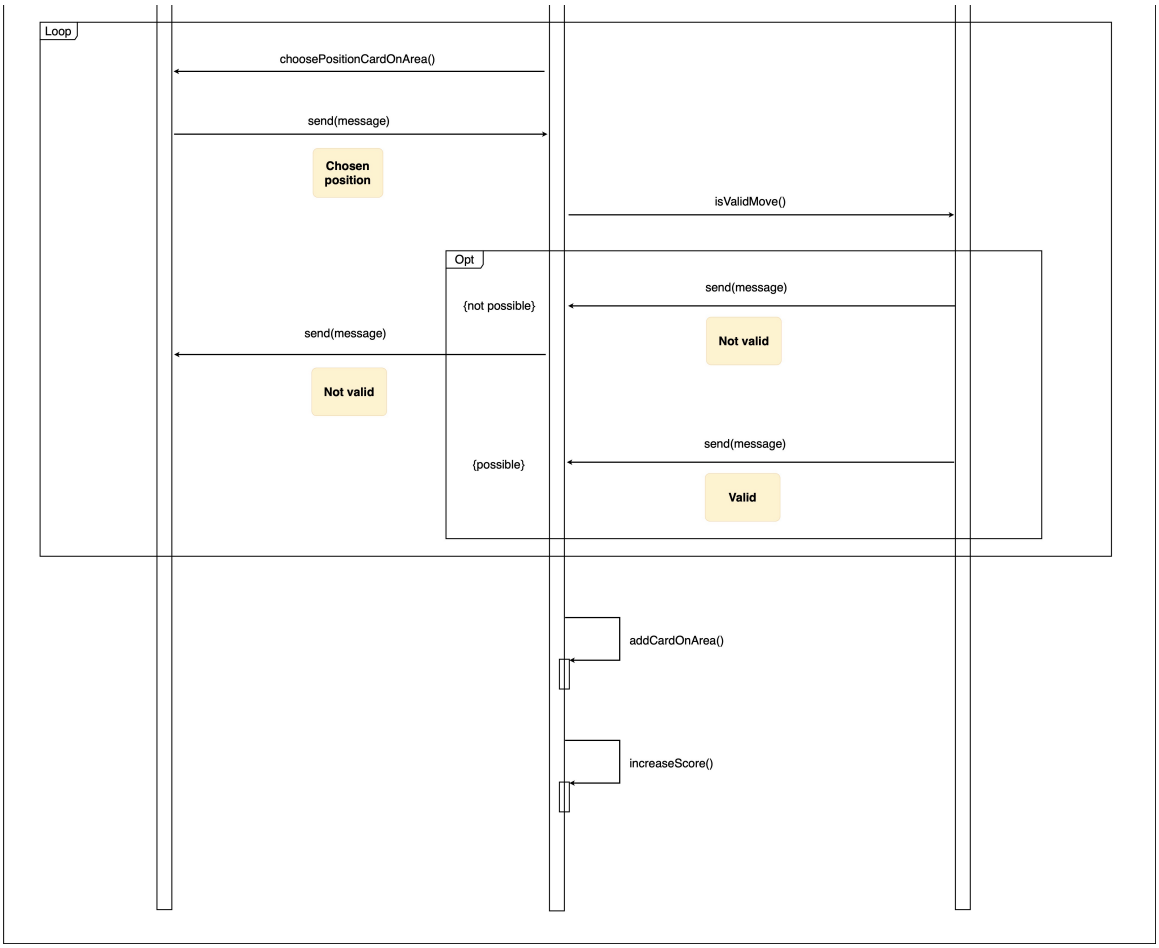


Figure 3: PlayCard

The GameController notifies the client that it is their turn to play. The client will increase their round count and then ask the view to display the game area. The view requests the updated model from the GameController and subsequently displays the game area to the client. The client enters "MOVE" to make a move. The client calls the chooseCardToPlay method of the view, which will return the index of the card in the list that the client sent. It will verify if the card meets the requirements of their game area; otherwise, the process will repeat. Once the choice is successful, the next step is to choose the position where the card will be placed. The choice made is sent to the game controller, which will verify if it complies with the game rules; otherwise, a new choice will be requested.

3 The action: 'Drawing a card from the playground'

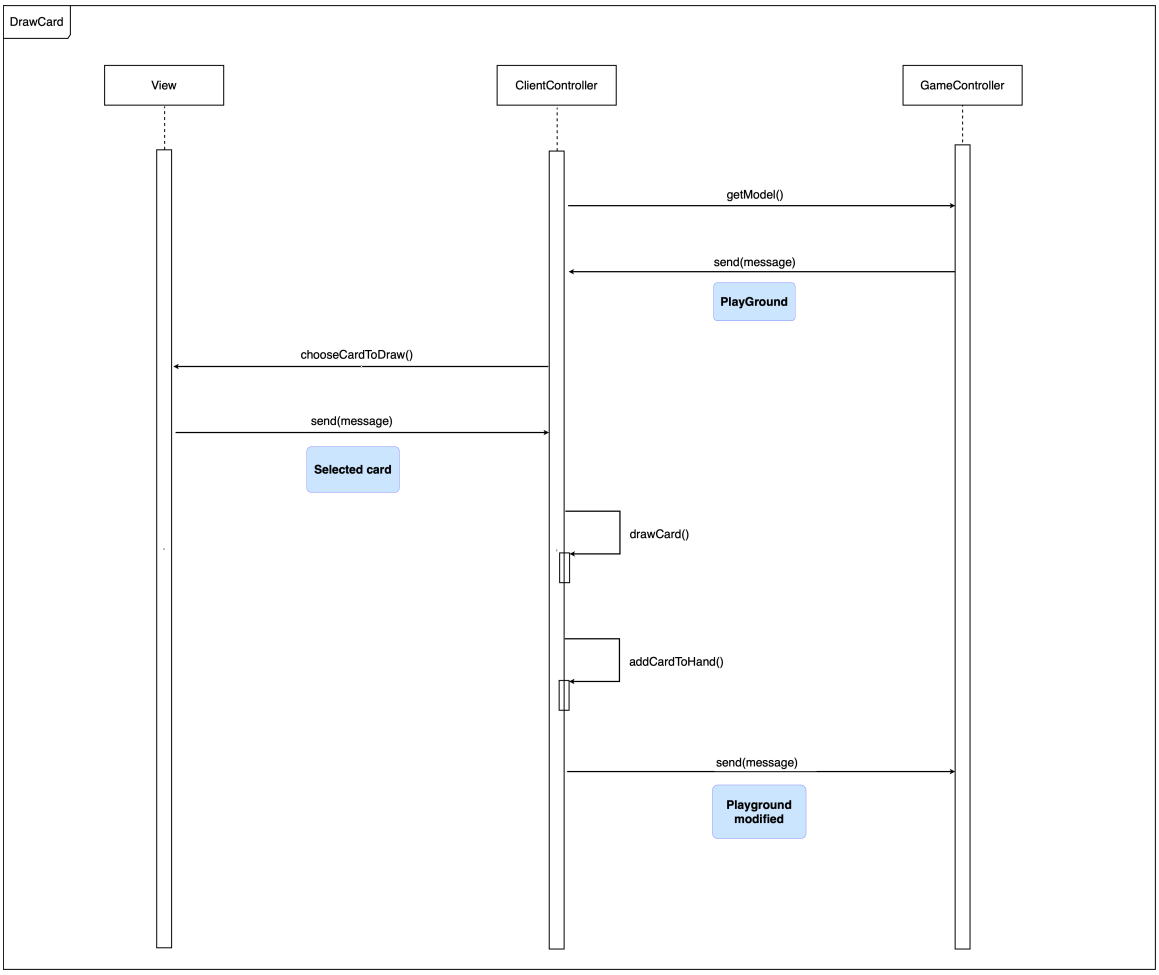


Figure 4: DrawCard

The client requests the updated version of the model from the GameController. Then, the client will call the chooseCardToDraw method of the view, which will allow the client to choose a card to draw. Next, the client calls the drawCard method, which will update all the various decks or the playground. Finally, the client adds the card to their hand.