

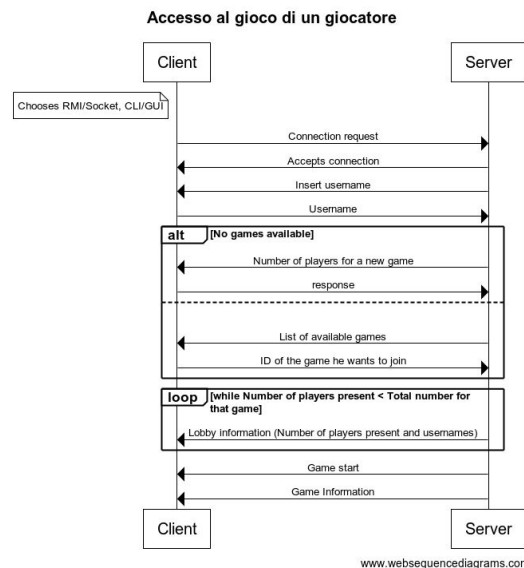
# Explicative Text sequence diagrams

Samuele Pietro Galli, Alessandro Fornara, Donato Fiore, Edoardo Gennaretti

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# 1 ACCESSO AL GIOCO DI UN GIOCATORE

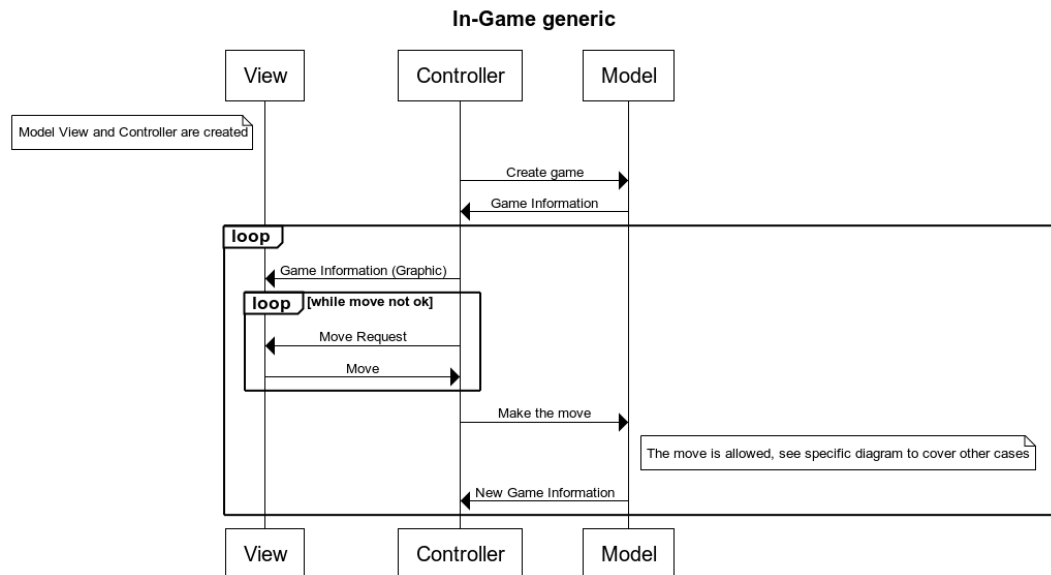
- **Connection request:** Client sends a first connection request to join the server and starts waiting for an answer from the server.
- **Accepted connection:** Server responds to the client.
- **Insert Username:** Server requests the username to the client.
- **Username:** Client sends the username to the server.
- **(NO AVAILABLE GAMES) Number of players for a new game:** Server asks for the number.
- **(NO AVAILABLE GAMES) Response:** Clients gives the number of players.
- **(AVAILABLE GAMES) Available games:** Server sends a list of available games to the client that he can join.
- **(AVAILABLE GAMES) IDtojoin:** Client chooses a game by its ID.
- **(LOOP) Lobby information:** Server sends a message with the number of players in the game and their respective usernames. Loop ends when the total number of players has been reached.
- **Game start:** Server starts the match.
- **Game information:** Server sends to the client all the information for the match (personal card, board, common cards).



## 2 IN-GAME GENERIC

### 2.1 General vision of how a game works split between Model, View, Controller

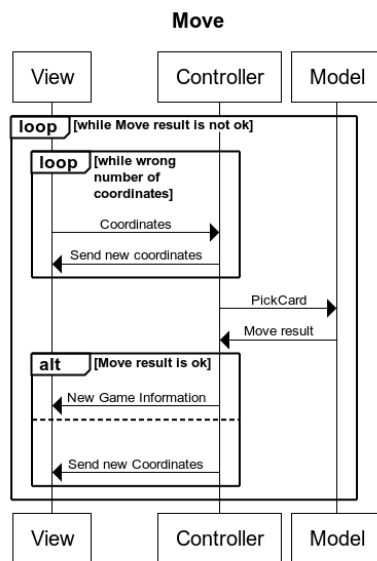
- **Create Game:** Controller send a message to the Model in order to create a new game.
- **Game information:** Once the game is created Model sends all the information to the Controller.
- **(LOOP)Game information:** For each player, Controller shares with View only the graphical information (Board disposition, Common card).
- **Move request:** Controller requires to the View a move and waits for a response.
- **Move:** View sends to Controller a player's move.
- **(LOOP) Move request:** If the move can't be executed following the rules, Controller continues to ask for a possible move.
- **Make the move:** Once the move is approved by the Controller, a message is sent to the Model, and the move gets completed (Check the next paragraph for a more detailed view).
- **New Game Information:** Model sends to the Controller all updated information, and everything gets repeated, based on the latest situation.



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## 2.2 Move

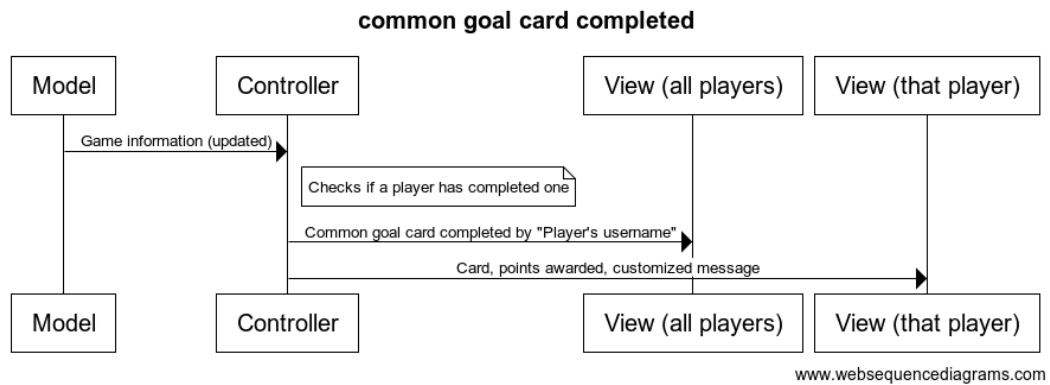
- **(Loop) Move result not ok:** The process will repeat until the move is completed.
- **(Loop) Wrong number of coordinates:** this process will repeat until the number of coordinates is correct.
- **Coordinates:** Client sends the coordinates of the tiles the player wants to take from the board and the column in which he wants to put them.
- **Send new coordinates:** The controller will check if the player has submitted a correct number of tiles. This involves checking if the number is between 1 and 3 and if the player's column in the bookshelf has enough space to put them. If the result is negative it will ask the client to send new coordinates.
- **PickCard:** The controller sends the coordinates to the model and asks it to remove the tiles from the board and put them in the bookshelf of the player who sent them.
- **Move result:** The model sends the result of the move to the controller. It will be positive if the coordinates of the tiles don't break the rules of the game, negative otherwise.
- **(Move completed) New Game Information:** The controller sends to the client the new status of the game (board, bookshelf ecc.).
- **(Move not allowed) Send new Coordinates:** The controller asks the client to send new coordinates.



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## 2.3 Common Goal Card Completed

- **Game Information:** Once a move is completed, Model sends the updated information of the game to the Controller.
- **Checks if a player has completed a common card goal, and gives points for it**
- **Common goal card completed:** Controller sends to the general View a message with the username of the player who completed the common card goal.
- **Card Points Awarded:** Controller sends only to the player's View who completed the card a customized message.



### 3 Messages

- **Insert username:** "Choose a username"
- **Username:** "..."
- **Number of players for a new game:** "There are no games available, please insert how many players will be in your game (between 2 and 4)"
- **Response:** Integer
- **Lobby Information:** "n/tot players connected. waiting for more players... Players connected: usernames...."
- **Game Start:** "Starting game..."
- **Game Information/New Game Information/Game Information (updated):** This message will be an object containing: board, common goal cards, personal cards (each player his own) and more if necessary.
- **Create Game:** "CREATE NEW GAME"
- **Game Information (Graphic):** This message will be an object containing information to print the contents of Game Information.
- **Move Request:** "Which tiles would you like to remove from the board, and the column of you bookshelf you want to put them in (the first one will go to the first position available on the bottom of the column and the others will pile up). Example: x1,y1,x2,y2,x3,y3,column"
- **Move:** x1,y1,x2,y2,x3,y3,column
- **make the move/PickCard:** This message will be an object containing integer values for the coordinates, the column and the player's ID.
- **New Game Information:** This message will be an object containing: board, common goal cards, personal cards (each player his own) and more if necessary.
- **Send new coordinates:**
  - "Choose not less than 1 tile and not more than 3"
  - "You don't have enough space in the column for that many tiles"
  - "You chose a column that doesn't exist"
  - "You have selected an empty position."
  - "The tiles aren't adjacent."
- **Move result:** This message will be an object containing: a Boolean that signals if the move has been completed, if true it will also contain the Game Information.

- **Common goal card completed by "Player's username":** "The x common goal card has been completed by Player's username who has been awarded y points"
- **Card, points awarded, customized message:** "You have completed the x common goal card, you have been awarded y points, good job!"