1. **Use Case:** Start Matchmaking
   Primary Actor: Player
   Goal in Context: To allow players to enter a matchmaking queue and find a suitable match
   Preconditions:
   - Player is logged on
   - Internet Connection is stable
   - Player has reached a rank high enough

   Trigger: Player clicks “Start Game”
   Scenario:
   - Player navigates to the matchmaking menu
   - Player selects game mode (Casual, Ranked, and etc)
   - System searches opponents depending on factors such as rank, preference, region, and etc.
   - System finds a match and displays confirmation
   - System adds player into the lobby

   Postconditions:
   - Player is delivered into the game lobby with an opponent of a similar rank

   Exception(s):
   - No match is found for a player
   - Network connection is unstable, system cannot proceed
   - Player disconnects mid-process

   Priority: High
   When Available: Within 1 to 2 sprints
   Channel to Actor:
   - Through physical interaction using a touch screen on the players device or input devices (keyboard/mouse)
   - Game UI

   Secondary Actors: Player Database (To access ranks)
   Channel to Actor: System Communication
   Open Issues:
   - If a player leaves a match mid process, do they suffer consequences?
   - Should there be a confirmation before a player is placed into a game lobby with the opponent?

2. **Use Case:** Leave Matchmaking
   Primary Actor: Player
   Goal in Context: To allow players to leave a matchmaking process before being placed in a game lobby
   Preconditions:
   - Player is logged on
   - Internet Connection is stable
   - Payer has initiated the matchmaking process

   Trigger: Player clicks “Cancel”
   Scenario:
   - Player has initiated the matchmaking process.
   - **Case 1:** Player does not want to play the game anymore and does not want to suffer consequences of leaving mid game
   - **Case 2:** Player does not have good network connection and risks disconnecting mid game

   Postconditions:
   - Player is removed from the matchmaking queue and delivered back to select game interface

   Exceptions:
   - System has already found a match for the player and does not let player cancel
   - Player has weak network and cancel request is not sent fast enough

   Priority: High
   When available: 1 to 2 sprints
   Channel to Actor:
   - Through physical interaction using a touch screen on the players device or input devices (keyboard/mouse)
   - Game UI

   Secondary Actors: None
   Channel to Actor: N/A
   Open Issues:
   - Should a timeout be a consequence of frequently cancelling matchmaking requests

3. **Use Case:** Match Confirmation
   Primary Actor: System
   Goal in Context: To display confirmation of match found
   Preconditions:
   - Player is logged on
   - Internet Connection is stable
   - Payer has initiated the matchmaking process

   Trigger: System has found an appropriate match
   Scenario:
   - Player has initiated the matchmaking process.
   - System finds an appropriate match and displays the opposition players name on the game interface

   Postconditions:
   - The system displays opposition players ranking and name

   Exceptions:
   - System does not find any appropriate match
   - Player has weak network

   Priority: High
   When available: 1 to 2 sprints
   Channel to Actor:
   - Game UI

   Secondary Actors: None
   Channel to Actor: N/A
   Open Issues:
   - Should the system display a timeout message if there are no matches found

4. **Use Case:** Timeout
   Primary Actor: Player
   Goal in Context: Repercussion for players who have left ongoing matches
   Preconditions:
   - Player has left one less than minimum number of matches in progress

   Trigger: Player leaves a minimum number of matches in progress
   Scenario:
   - Player has initiated the matchmaking process.
   - System finds an opponent
   - Match begins
   - Player leaves ongoing match

   Postconditions:
   - System displays a message, showing the penalty for leaving an on-going match: A period of time for which the player will not be able to play any games

   Exceptions:
   - Player has weak network signal and the game disconnects

   Priority: High
   When available: 1 to 2 sprints
   Channel to Actor:
   - Game UI

   Secondary Actors: None
   Channel to Actor: N/A
   Open Issues:
   - Should the timeout period be increased if the player leaves matches over and over again
   - Should the first time be a warning
   - Should only ranked matches have this timeout consequence or even casual game mode have it too

5. **Use Case:** Finding Opponent
   Primary Actor: System
   Goal in Context: Pairing two similar ranking opponents
   Preconditions:
   - Player has a minimum rank

   Trigger: Player clicks Start Game
   Scenario:
   - Player has initiated the matchmaking process.
   - System goes through the queue list of players waiting to matched with an opponent in the same game
   - System finds an opponent with a ranking within a range of the with the pairs ranking

   Postconditions:
   - System displays a “Match Found” confirmation

   Exceptions:
   - Player has weak network signal
   - There are no players in queue

   Priority: High
   When available: 1 to 2 sprints
   Channel to Actor:
   - Game UI
   - Leaderboard database and Queue data structure

   Secondary Actors: Players
   Channel to Actor: Game UI
   Open Issues:
   - What if the system cannot find an opponent player with ranking within the range? Should the algo. expand its range each time it fails?
   - What if the player does not have a minimum rank

6. **Use Case:** Game Invite
   Primary Actor: Player
   Goal in Context: Sending game invite to friend
   Preconditions:
   - Player has opponent as friend

   Trigger: Player clicks "Send Challenge"
   Scenario:
   - Player has good network connectivity
   - Player's friend is online and player sends an invite

   Postconditions:
   - System sends an invite to to opponent's screen

   Exceptions:
   - Opponent player disconnects

   Priority: Medium
   When available: 2 to 3 sprints
   Channel to Actor:
   - Game UI

   Secondary Actors: System
   Channel to Actor: System Database and internal communication
   Open Issues:
   - Should there be an invite timeout if the opponent doesn't respond?
   - Should there be a notification system if the opponent is idle?

7. **Use Case:** Invite Confirmation
   Primary Actor: Player
   Goal in Context: Accepting Game Invite
   Preconditions:
   - Player has received an invite from a friend

   Trigger: Player clicks "Accept"
   Scenario:
   - Player has good network connectivity
   - Player receives invite
   - Player accepts invite

   Postconditions:
   - System delivers both players into game room
   - Game session is initialized

   Exceptions:
   - Either one of the player loses network connectivity during the process
   - Player declines invite

   Priority: Medium
   When available: 1 to 2 sprints
   Channel to Actor:
   - Game UI

   Secondary Actors: System
   Channel to Actor: System database and Internal communication
   Open Issues:
   - Should there be a buffer period before sending another invite if the opponent doesn't respond?
   - Should there be a notification system if the opponent is idle?