Use Case Descriptions: Connect Four

Use Case: Load Game
Iteration: First
Primary Actor: Player
Goal in Context: To load the connect four game so that a player can play the game.
Preconditions:
- The player must already be on the Online Multiplayer Board Game Platform
- The player must have enough RAM to run the game

Trigger: The player chooses to play connect four on the platform
Scenario:
1. The player clicks the option to play connect four on the online platform
2. The player is notified to choose their opponent for the match
3. The connect four game loads and begins

Postconditions:
- The game starts for the player who selected it
- The condition of the game (whether or not someone has won) is constantly checked

Exceptions:
- The server for connect four players is full

Priority: High. The Connect Four game is one of the initial games for the Online Multiplayer Board Game Platform, and must be up and running for the initial release.
When Available: April 11, 2025.
Frequency of Use: Dependent on the number of system users, but expected to be high based on being one of few initial games
Channel to Actor: Player interaction through the mouse and keyboard to select the option.
Secondary Actors: None.
Channel to Secondary Actors: N/A.
Open Issues:
- How should the system allow multiple Connect Four games to be run simultaneously?How should the game handle the scenario of a player abandoning the game partway through? Should their place be taken over by AI? Should the game end immediately?

Use Case: Choose Opponent
Iteration: First
Primary Actor: Player
Goal in Context: To allow the player to select their opponent if they do not want to play against a random player on the platform.
Preconditions:
- The player must already be on the Online Multiplayer Board Game Platform
- The player must have chosen to load connect four

Trigger: The player chooses to select their opponent for connect four
Scenario:

1. The player selects the option to choose their opponent in connect four
2. The player selects a player they would like to play against from a list of currently online players, or chooses one of their friends on the data to request to play against
3. The players opponent accepts, and the game begins

Postconditions:

- The player gains an opponent for the game
- The game can complete loading

Exceptions:

- There are no available players online to play connect four
- The players opponent leaves while the match is loading

When Available: April 11, 2025.

Frequency of Use: As often as the connect four game is expected to be used, which is expected to be high.

Channel to Actor: Player uses their mouse and keyboard to select the option to choose their opponent.

Secondary Actors: None.

Channel to Secondary Actors: N/A

Open Issues:

- The server will need to adapt to an opponent selection system where the player can request multiple opponents, since they may request a friend that is not currently online or a random online opponent that does not want to play with them, and ensure that no player is allowed into a match where they do not have an opponent by accident

Use Case: Exit

Iteration: First

Primary Actor: Player

Goal in Context: To allow the player to exit the game during the match.

Preconditions:

- The player must already be on the Online Multiplayer Board Game Platform
- The player must have chosen to load a connect four game and picked an opponent in order to have a match to leave

Trigger: The player selects the exit button during the match.

Scenario:

1. The player begins a match by loading the game and choosing their opponent
2. The player decides they want to leave the match, and subsequently exits the game using the exit button
3. The player is removed from the game, but is still in the online multiplayer platform

Postconditions:

- The player is no longer in the connect four game they were currently playing in

Exceptions:

- The server is malfunctioning and cannot immediately remove the player

When Available: April 11, 2025.

Frequency of Use: Minimal, as the matches are intended to last until a player wins, and the exit button is only intended for the rare circumstance that a player cannot complete the match
Channel to Actor: Player uses their mouse and keyboard to select the exit button.
Secondary Actors: None.
Channel to Secondary Actors: N/A
Open Issues:

- Handling the game after the opponent leaves is a primary concern
    - The main two options are to either end the game immediately on both sides or have the original player continue playing with an AI bot

Use Case: Play Chip
Iteration: First
Primary Actor: Player
Goal in Context: To allow the player to play a chip during their turn of the connect four game.
Preconditions:

- The player must have chosen to load a connect four game and picked an opponent
- The match must currently be running and it must be the players turn

Trigger: The opposing player plays their turn or the match begins and the player starts the round.
Scenario:

1. The player is informed it is currently their turn, and that they may now play a chip
2. The player selects the column that they would like to play their chip in, and then a chip is added to the lowest possible spot in that column, as though the chip fell until it landed on another
3. The system checks on whether the player has won with this turn, and then switches back to the opponents turn if the game is not won

Postconditions:

- The player has one more chip on the board than they had at the start of their turn
- The players pieces have been checked to ensure that if the player did win on their previous turn, the game has ended

Exceptions:

- The game has ended abruptly so the player will no longer play on their turn

When Available: April 11, 2025.
Frequency of Use:
Secondary Actors: None.
Channel to Secondary Actors: N/A
Open Issues: