

Initiate a Game

Primary Actor: Player

Stakeholders and Interests:

Player: Wants to be able to apply basic game settings, wants the initiation to reflect those settings, wants to be able to easily play the game.

Developers: Wants the game to run smoothly and intuitively for players, wants the game to initialize without fail

Preconditions:

User is authorized to play the game.

Success Guarantee (Postconditions):

Game initiates using user-selected settings. Game board and pieces are rendered onscreen. The first player is prompted to take their turn.

Main Success Scenario:

1. The user runs the game.
2. The system prompts the user to select a game variation (number of players).
3. The user selects the game variation which they would like to play.
4. The system adjusts the number of player slots based on the game variation.
5. The user is given the opportunity to select how many players will be human players.
6. The user selects the number of human players [*Alt1: Not Enough Player Slots*]
7. The system adds the specified number of human players to the turn order, populating any remaining player slots with computer players.
8. The user is given the opportunity to select one of three difficulty levels for the computer player(s). [*Alt2: No Computer Players*]
9. The system adjusts the strategy of the computer player(s) to reflect the player's selection.
10. The system displays the game board and pieces, and prompts the first player to take their turn.
[*Use Case Ends*].

Alternative Flows:

Alt1: Not Enough Player Slots

1. The system informs the user that they have selected more players than they have allotted player slots for the game.
2. The user is given the opportunity to change the game variation or change the selected number of players.
3. Flow resumes at Main Success Scenario Step 2 or Step 5 based on the user's choice.

Alt2: No Computer Players

1. Flow resumes at Main Success Scenario Step 10.

Exceptions:

If at any point the system is unable to retrieve the game options or display the game, the use case ends.

Special Requirements:

Colors and patterns of text fonts and the game board and pieces must accommodate those with color blindness.

Open Issues:

Will the game settings options be displayed in a single step or one after the other?

Take a Turn

Primary Actor: Current Player

Stakeholders and Interests:

Current Player: Wants to be able to select and rotate a piece to place. Wants to select a location on the game board to place that piece.

Other Players: Wants to observe the current player's move to plot their next move accordingly. Wants the current player to finish their move so they can have their next turn.

Preconditions:

It is the current player's turn.

Success Guarantee (Postconditions):

User has selected a legal move. The result of their move is now displayed on the game board. The next player in the turn order is prompted to take their turn.

Main Success Scenario:

1. The system checks that the current player has any pieces with which a legal move can be made *[Alt1: No Legal Moves Available]*
2. The system prompts the current player to take their turn.
3. The user selects the piece which they would like to place.
4. The system ensures there are any legal moves that can be made with the selected piece. *[Alt2: No Legal Moves Available With Selected Piece]*
5. The user is given the opportunity to rotate and place the selected piece on the game board.
6. The system ensures this is a legal move. *[Alt3: Illegal Move]*
7. The system removes the selected piece from the current player's bank of available pieces, and displays the current player's move on the game board.
8. The system checks to see if the game is over (no player has any legal moves remaining). *[Alt4: Game Over]*

9. The system moves on to the next player's turn [*Use Case Ends*].

Alternative Flows:**Alt1: No Legal Moves Available**

1. The system moves on to the next player's turn [*Use Case Ends*].

Alt2: No Legal Moves Available With Selected Piece

1. Inform current player that there are no legal moves they can make with the piece they've selected and to select another.
2. Flow resumes at Main Success Scenario Step 2.

Alt3: Illegal Move

1. Inform current player that the move they have attempted is not a legal move.
2. Flow Resumes at Main Success Scenario Step 5.

Alt4: Game Over

1. Inform users that a winner has been declared and display results
2. [*Use Case Ends*].

Exceptions:

If at any point the system miscalculates the legality of a move, the use case ends.

Special Requirements:

Colors and patterns of text fonts and the game board and pieces must accommodate those with color blindness.

Open Issues:

Will a player be able to change their choice of piece in the middle of their turn?