Use Cases of The Tic Tac Toe Game

Use case #1: User launches and starts game

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| Step | User's Action | System's Response |
| 1 | User launches the Tic Tac Toe game. |  |
| 2 |  | Shows the main screen for user to select either Dark Theme or Light Theme. |
| 3 | User selects a board style. |  |
| 4 |  | The main screen is replaced by the gameboard view with the selected style. |

Use case #2: Player X takes the turn

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| Step | User's Action | System's Response |
| 1 | Player X selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An X shows on the clicked cell, then the message on top shows O's turn to indicate the other player's turn. |

Variation 1:

* 1. In step 1, if the player selects a cell that’s already populated, the system will ignore the input in step 1.

Use case #3: Player O takes the turn

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| Step | User's Action | System's Response |
| 1 | Player O selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An O shows on the clicked cell, then the message on top shows X's turn to indicate the other player's turn. |

Variation 1:

* 1. In step 1, if the player selects a cell that’s already populated, the system will ignore the input in step 1.

Use case #4: Player X makes a move to win the game

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| Step | User's Action | System's Response |
| 1 | Player X selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An X shows on the clicked cell, turn. The system recognizes the winning state of the gameboard and announces, "X won the game!" |

Use case #5: Player O makes a move to win the game

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| Step | User's Action | System's Response |
| 1 | Player O selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An O shows on the clicked cell, turn. The system recognizes the winning state of the gameboard and announces, "O won the game!" |

Use case #6: Player X makes a move to tie the game

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| Step | User's Action | System's Response |
| 1 | Player X selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An X shows on the clicked cell, turn. The system recognizes the tie state of the gameboard and announces, "No one won the game!" |

Use case #7: Player O makes a move to tie the game

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| Step | User's Action | System's Response |
| 1 | Player O selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An O shows on the clicked cell, turn. The system recognizes the tie state of the gameboard and announces, "Nobody won the game!" |

Use case #8: Player X undo move

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| Step | User's Action | System's Response |
| 1 | Player X selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An X shows on the clicked cell, then the message on top shows O's turn to indicate the other player's turn. |
| 3 | Player X clicks on the Undo button to revert one's current move. |  |
| 4 |  | The cell of that move gets cleared and player X can make another move. |
| 5 | Player X selects a cell on the gameboard and click on it to make a move. |  |
| 6 |  | An X shows on the clicked cell, then the message on top shows O's turn to indicate the other player's turn. |

Variation 1:

* 1. In step 6, the player can repeat the undo process in step 3 for 3 times during the player’s turn.

1.2 If player X has undone for 3 times in the round, then the system will ignore the undo button click input in step 3.

Use case #9: Player O undo move

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| Step | User's Action | System's Response |
| 1 | Player O selects a cell on the gameboard and click on it to make a move. |  |
| 2 |  | An O shows on the clicked cell, then the message on top shows X's turn to indicate the other player's turn. |
| 3 | Player O clicks on the Undo button to revert one's current move. |  |
| 4 |  | The cell of that move gets cleared and player O can make another move. |
| 5 | Player O selects a cell on the gameboard and click on it to make a move. |  |
| 6 |  | An O shows on the clicked cell, then the message on top shows X's turn to indicate the other player's turn. |

Variation 1:

* 1. In step 6, the player can repeat the undo process in step 3 for 3 times during the player’s turn.

1.2 If player O has undone for 3 times in the round, then the system will ignore the undo button click input in step 3.