Use Cases of The Tic Tac Toe Game

Use case #1: User launches and starts game

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

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:
1.1 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

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:
1.2 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

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

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

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

Step	User's Action	System's Response

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

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:
1.1 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

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:

1.2 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.