3 in 1 Game Test Plan

Chris Coraggio, Muhammad Hamza Farrukh, Brad Howell, Rizwanulla
Mohammed, Syed Ahad Sagheer

Functional Requirement 1

Functional test cases

ID Number	0
Title	Setting up a nickname
Functional Requirement	1
Instructions	At the choose nickname menu, type "Username001" and hit enter
Expected Result	On the main menu page, "Username001" is displayed next to Username:
Severity	Workaround

Equivalence class test cases

ID Number	1
Title	Nickname too long
Functional Requirement	1
Instructions	At the change nickname menu, type in a username that is too log and hit enter
Expected Result	The app displays a "Nickname too long" error
Severity	Workaround

ID Number	2
Title	Nickname too short
Functional Requirement	1
Instructions	At the change nickname menu, type in a username that is too short and hit enter
Expected Result	The app displays a "Nickname too short" error
Severity	Workaround

Boundary test cases

ID Number	3
Title	Username already taken
Functional Requirement	1
Instructions	At the change nickname menu, type in a username that is already used by another player
Expected Result	The app displays a "Nickname taken" error
Severity	Critical

ID Number	4
Title	Username contains illegal character
Functional Requirement	1
Instructions	Type in a username that contains emojis, backslashes, or other illegal characters
Expected Result	The app displays a "Illegal character" error
Severity	Important

Functional Requirement 2

Functional test cases

ID Number	5
Title	Changing a nickname
Functional Requirement	2
Instructions	At the change nickname menu, type "Username002" and hit enter.
Expected Result	On the main menu page, "Username002" is displayed next to Username:
Severity	Workaround

Equivalence class test cases

ID Number	6
Title	Changing a nickname
Functional Requirement	2
Instructions	At the change nickname menu, type the same username that you already have.
Expected Result	The app displays a "Username is the same" error
Severity	Workaround

Boundary test cases

ID Number	7

Title	Username already taken
Functional Requirement	2
Instructions	At the change nickname menu, type in a username that is already used by another player
Expected Result	The app displays a "Nickname taken" error
Severity	Critical

ID Number	8
Title	Username contains illegal character
Functional Requirement	2
Instructions	Type in a username that contains emojis, backslashes, or other illegal characters
Expected Result	The app displays a "Illegal character" error
Severity	Important

Functional Requirement 3

Functionality test cases

ID Number	9
Title	Play Connect 4 with AI
Functional Requirement	3
Instructions	Select a location on the board to place a coin.
Expected Result	The coin should appear in the correct location on the board.
Severity	Critical

Equivalence class test cases

ID Number	10
Title	Play Connect 4 with AI
Functional Requirement	3
Instructions	Select a location on the board that is not in bounds to place a coin.
Expected Result	A "Coin Location invalid" error
Severity	Critical

Boundary test cases

ID Number	11
Title	Play Connect 4 with AI
Functional Requirement	3
Instructions	Select a location on the left or right edge of the board that is in bounds to place a coin.
Expected Result	A coin should appear in the correct location on the board.
Severity	Critical

ID Number	12
Title	Play Connect 4 with AI
Functional Requirement	3
Instructions	Select a location outside of the board to place a coin.
Expected Result	A "Coin Location invalid" error

Severity	Critical

Functional Requirement 4

Functionality test cases

ID Number	13
Title	Play Tic-Tac-Toe with AI
Functional Requirement	3
Instructions	Select a valid location which is not marked
Expected Result	Location becomes marked (with 'X' or 'O')
Severity	Critical

ID Number	14
Title	Play Tic-Tac-Toe with AI
Functional Requirement	3
Instructions	Select an already marked location
Expected Result	Board will not update
Severity	Important

Equivalence class test cases

ID Number	15
Title	Play Hangman with AI
Functional Requirement	3

Instructions	Select a character which is not a letter (such as an #)
Expected Result	A "Character invalid" error
Severity	Important

Boundary test cases

ID Number	16
Title	Play Tic-Tac-Toe with AI
Functional Requirement	3
Instructions	Select a location outside of the board to place an 'X' or 'O'.
Expected Result	A "Marker Location invalid" error
Severity	Critical

Functional Requirement 5

Functionality test cases

ID Number	17
Title	Play Hangman with AI
Functional Requirement	3
Instructions	Guess a new letter by typing it
Expected Result	Certain locations become marked with chosen letter
Severity	Critical

ID Number	18
Title	Play Hangman with AI
Functional Requirement	3
Instructions	Select an already chosen letter
Expected Result	Board will not update
Severity	Important

Equivalence class test cases

ID Number	19
Title	Play Tic-Tac-Toe with AI
Functional Requirement	3
Instructions	Select an already marked location
Expected Result	Board will not update
Severity	Important

Boundary test cases

ID Number	20
Title	Play Tic-Tac-Toe with AI
Functional Requirement	3
Instructions	Select a location outside of the board to place an 'X' or 'O'.
Expected Result	A "Marker Location invalid" error
Severity	Critical

Functional Requirement 6

Functional test cases

ID Number	21
Title	As a user, I would like to play Connect 4 with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you spelled correctly
Expected Result	Connect to a player
Severity	Workaround

Equivalence class test cases

ID Number	22
Title	As a user, I would like to play Connect 4 with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you misspelled correctly
Expected Result	Player not found error
Severity	Workaround

ID Number	23
Title	As a user, I would like to play Connect 4 with a friend online
Functional Requirement	6

Instructions	Try connecting to a user online while not connected to the internet
Expected Result	Throw "No internet connection" error
Severity	Important

Functional Requirement 7

Functional test cases

ID Number	24
Title	As a user, I would like to play Tic-Tac-Toe with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you spelled correctly
Expected Result	Connect to a player
Severity	Workaround

Equivalence class test cases

ID Number	25
Title	As a user, I would like to play Tic-Tac-Toe with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you misspelled
Expected Result	Player not found error

Severity	Workaround

ID Number	26
Title	As a user, I would like to play Tic-Tac-Toe with a friend online
Functional Requirement	6
Instructions	Try connecting to a user online while not connected to the internet
Expected Result	Throw "No internet connection" error
Severity	Important

Functional Requirement 8

Functional test cases

ID Number	27
Title	As a user, I would like to play Hangman with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you spelled correctly
Expected Result	Connect to a player
Severity	Workaround

Equivalence class test cases

ID Number	28
Title	As a user, I would like to play Hangman with a friend online
Functional Requirement	6
Instructions	Connect to a user whose nickname you misspelled
Expected Result	Player not found error
Severity	Workaround

ID Number	29
Title	As a user, I would like to play Hangman with a friend online
Functional Requirement	6
Instructions	Try connecting to a user online while not connected to the internet
Expected Result	Throw "No internet connection" error
Severity	Important

Functional Requirement 9

Functional test cases

ID Number	30
Title	Display Score - connect 4
Functional Requirement	9
Instructions	Complete a game of connect 4 with the AI
Expected Result	A score is displayed to the user

Severity	Workaround

ID Number	31
Title	Display Score - Tic-Tac-Toe
Functional Requirement	9
Instructions	Complete a game of Tic-Tac-Toe with the AI
Expected Result	A score is displayed to the user
Severity	Workaround

ID Number	32
Title	Display Score - Hangman
Functional Requirement	9
Instructions	Complete a game of Hangman with the AI
Expected Result	A score is displayed to the user
Severity	Workaround

Functional Requirement 10

Functional test cases

ID Number	33
Title	Display Game Menu
Functional Requirement	10
Instructions	Launch the application
Expected Result	The home screen, which allows you to select

	a game, is displayed
Severity	Critical

Functional Requirement 11

Functional test cases

ID Number	34
Title	Select game - Connect 4
Functional Requirement	11
Instructions	From the main menu, select the button to play connect 4
Expected Result	The app displays the options to play single or multiplayer for connect 4
Severity	Critical

ID Number	35
Title	Select Game - Tic-Tac-Toe
Functional Requirement	11
Instructions	From the main menu, select the button to play Tic-Tac-Toe
Expected Result	The app displays the options to play single or multiplayer for Tic-Tac-Toe
Severity	Critical

ID Number	36
Title	Select Game - Hangman

Functional Requirement	11
Instructions	From the main menu, select the button to play Hangman
Expected Result	The app displays the options to play single or multiplayer for Hangman
Severity	Critical

Functional Requirement 12

Functional test cases

ID Number	37
Title	Enter friend's nickname - Connect 4
Functional Requirement	12
Instructions	Select the multiplayer option from the Connect 4 menu
Expected Result	An "enter friend's nickname" option is displayed on the screen
Severity	Critical

ID Number	38
Title	Enter friend's nickname - Tic-Tac-Toe
Functional Requirement	12
Instructions	Select the multiplayer option from the Tic-Tac-Toe menu
Expected Result	An "enter friend's nickname" option is displayed on the screen
Severity	Critical

ID Number	39
Title	Enter friend's nickname - Hangman
Functional Requirement	12
Instructions	Select the multiplayer option from the Hangman menu
Expected Result	An "enter friend's nickname" option is displayed on the screen
Severity	Critical

ID Number	40
Title	Enter Invalid Nickname
Functional Requirement	12
Instructions	At the "enter friend's nickname" menu, type in a nickname that is not associated with a user
Expected Result	A "Friend not found" error is displayed
Severity	Important

Boundary test cases

ID Number	41
Title	Friend's Nickname too long
Functional Requirement	12
Instructions	At the "enter friend's nickname" menu, type in a nickname that is too long
Expected Result	The app displays a "Nickname too long" error
Severity	Workaround

ID Number	42
Title	Friend's Nickname too short
Functional Requirement	12
Instructions	At the "enter friend's nickname" menu, type in a nickname that is too short
Expected Result	The app displays a "Nickname too short" error
Severity	Workaround

Functional Requirement 13

Functional test cases

ID Number	43
Title	Wait for friend to connect (host player)
Functional Requirement	13
Instructions	After selecting a game for multiplayer wait for a friend to connect to you
Expected Result	The app displays a waiting icon
Severity	Important

Functional Requirement 14

Functional test cases

ID Number	44
Title	Display Connect 4 Board - Single Player
Functional Requirement	14
Instructions	Select the single player option in the connect 4 options.
Expected Result	The app displays the connect 4 board
Severity	Important

ID Number	45
Title	Display Connect 4 Board - Multiplayer
Functional Requirement	14
Instructions	Select the multiplayer option in the connect 4 options, then type in a valid friend's nickname and connect to the friend
Expected Result	The app displays the connect 4 board
Severity	Important

Functional Requirement 15

Functional test cases

ID Number	46
Title	Display Tic-Tac-Toe 4 Board - Single Player
Functional Requirement	15
Instructions	Select the single player option in the Tic-Tac-Toe options.
Expected Result	The app displays the TIc-Tac-Toe board
Severity	Important

ID Number	47
Title	Display Tic-Tac-Toe Board - Multiplayer
Functional Requirement	14
Instructions	Select the multiplayer option in the Tic-Tac-Toe options, then type in a valid friend's nickname and connect to the friend
Expected Result	The app displays the Tic-Tac-Toe board
Severity	Important

Functional Requirement 16

Functional test cases

ID Number	48
Title	Display Hangman Board - Single Player

Functional Requirement	16
Instructions	Select the single player option in the Hangman options.
Expected Result	The app displays the Hangman board
Severity	Important

ID Number	49
Title	Display Hangman Board - Multiplayer
Functional Requirement	16
Instructions	Select the multiplayer option in the Hangman options, then type in a valid friend's nickname and connect to the friend
Expected Result	The app displays the Hangman board
Severity	Important

Functional Requirement 17

Functional test cases

ID Number	50
Title	Forfeit - Connect 4 Single Player
Functional Requirement	17
Instructions	Select forfeit while playing connect 4 against the AI
Expected Result	The game ends and the app displays game over
Severity	Workaround

ID Number	51
Title	Forfeit - Connect 4 Multiplayer
Functional Requirement	17
Instructions	Select forfeit while playing connect 4 against the a friend
Expected Result	The game ends and the app displays game over for both users
Severity	Workaround

Functional Requirement 18

Functional test cases

ID Number	52
Title	Forfeit - Tic-Tac-Toe Single Player
Functional Requirement	18
Instructions	Select forfeit while playing tic-tac-toe against the AI
Expected Result	The game ends and the app displays game over
Severity	Workaround

ID Number	53
Title	Forfeit - Tic-Tac-Toe Multiplayer
Functional Requirement	18
Instructions	Select forfeit while playing Tic-Tac-Toe against the a friend

Expected Result	The game ends and the app displays game over for both users
Severity	Workaround

Functional Requirement 19

Functional test cases

ID Number	54
Title	Forfeit - Hangman Single Player
Functional Requirement	19
Instructions	Select forfeit while playing hangman against the AI
Expected Result	The game ends and the app displays game over
Severity	Workaround

ID Number	55
Title	Forfeit - Hangman Multiplayer
Functional Requirement	18
Instructions	Select forfeit while playing Hangman against the a friend
Expected Result	The game ends and the app displays game over for both users
Severity	Workaround

Functional Requirement 20

Functional test cases

ID Number	56
Title	Close app while playing connect 4 - Single Player
Functional Requirement	20
Instructions	While playing a single player game of connect 4, close the app and then restart it. Finally, select connect 4 from the menu
Expected Result	A new game of connect 4 should launch
Severity	Workaround

ID Number	57
Title	Close app while playing Connect 4- Multiplayer
Functional Requirement	20
Instructions	While playing a multiplayer game of connect 4, close the app.
Expected Result	The opponent's app should display that the game ended
Severity	Workaround

Functional Requirement 21

Functional test cases

ID Number	58
Title	Close app while playing tic-tac-toe - Single Player
Functional Requirement	21
Instructions	While playing a single player game of tic-tac-toe, close the app and then restart it. Finally, select tic-tac-toe from the menu
Expected Result	A new game of tic-tac-toe should launch
Severity	Workaround

ID Number	59
Title	Close app while playing Tic-Tac-Toe- Multiplayer
Functional Requirement	21
Instructions	While playing a multiplayer game of Tic-Tac-Toe, close the app.
Expected Result	The opponent's app should display that the game ended
Severity	Workaround

Functional Requirement 22

Functional test cases

ID Number	60
Title	Close app while playing hangman - Single Player
Functional Requirement	22
Instructions	While playing a single player game of hangman, close the app and then restart it. Finally, select hangman from the menu
Expected Result	A new game of hangman should launch
Severity	Workaround

ID Number	61
Title	Close app while playing hangman - Multiplayer
Functional Requirement	22
Instructions	While playing a multiplayer game of hangman, close the app.
Expected Result	The opponent's app should display that the game ended
Severity	Workaround