**Project Sprint #1**

Specify the requirements (i.e., user stories and acceptance criteria) of the target software that allows a human player to play a simple or general SOS game against a human opponent. These requirements will be fully implemented by the end of sprint 3. The minimum features include **choosing the board size,** **choosing the game mode (simple or general)**, **starting a new game**, **making a move (in a simple or general game)**, **determining if a simple or general game is over**. The following is a sample GUI layout.

|  |  |  |
| --- | --- | --- |
| SOS Icon  Description automatically generated Simple game Icon  Description automatically generated General game Board size  8 | | |
| Blue player  Icon  Description automatically generated S  Icon  Description automatically generated O | Chart, line chart  Description automatically generated | Red player  Icon  Description automatically generated S  Icon  Description automatically generated O |
|  | Current turn: blue (or red) | New Game |

Figure 1. Sample GUI layout of the first working program by the end of Sprint 3

Use the following tables to document your user stories and acceptance criteria.

1. **User Stories (3 points)**

* **User Story Template**: As a <role>, I want <goal> [so that <benefit>]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **User Story Name** | **User Story Description** | **Priority** | **Estimated effort (hours)** |
| 1 | Choose a board size | As a player, I want the board to be the size I specify (n; so long as n > 2) so that it will be a square board (nxn). | 1 | 10 |
| 2 | Choose the game mode of a chosen board | As a player, I want a certain game mode to be selected so that I can choose which game rules I want to play by. | 2 | 5 |
| .3 | Start a new game of the chosen board size and game mode | As a player who wants to start a new game, I want the board and game mode to reset when I have inputted and selected my desired settings so that I can play a new game when I click the “New Game” button. | 5 | 10 |
| 4 | Make a move in a simple game | As a player in a simple game, I want to be able to place an ‘S’ or an ‘O’ so that either the other player can make a move or the game can finish. | 3 | 20 |
| 5 | A simple game is over | As a player in a simple game, I want a simple game to end when the first “SOS” is formed or when the board is completely filled up. | 4 | 10 |
| 6 | Make a move in a general game | As a player in a general game, I want to be able to place either an ‘S’ or an ‘O’ on the game board so that either I can make another move, the other player can make a move, or the game can finish. | 6 | 15 |
| 7 | A general game is over | As an ending of a general game, I want a general game to end when the whole board is full and show which player won or if it ended in a draw. | 7 | 15 |

1. **Acceptance Criteria (AC) (12 points)**

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story ID and Name** | **AC**  **ID** | **Description of Acceptance Criterion** | **Status (completed, toDo, inPprogress)** |
| 1 story one | 1.1 | AC 1.1 <Player enters a correct size for the board>  Given the player wants the change the size of the board  When a player enters in a size for the board  And the size is a valid input (n > 2)  Then the board should change to the size the user specified when the user starts a new game | toDo |
| 1.2 | AC 1.2 <Player enters in an incorrect size for the board>  Given the player wants the change the size of the board  When a player enters in a size for the board  And the size is an invalid input (n <= 2)  Then the board should not change to that size when the user starts a new game | toDo |
|  |  |  |
| 2 story two | 2.1 | AC 2.1 <Player selects a game mode >  Given a player wants to select one of the two game modes  When the player clicks one of the two game mode buttons (either general game or simple game)  Then the game mode the user selects should be the one that they play by when they start a new game | toDo |
|  |  |  |
| 3 story three | 3.1 | AC 3.1 <Player starts a new game with valid input>  Given a player wants to start a new game  And the player entered in a valid size for the board (n > 2)  And the player selected one of the two game modes  When the player clicks the “New Game” button  Then a new game should start  And the board should adjust the player’s specification  And the game mode should be what the player selected | toDo |
| 3.2 | AC 3.2 <Player starts a new game with invalid board size>  Given a player wants to start a new game  And the player entered in an invalid size for the board (n <= 2)  And the player selected one of the two game modes  When the player clicks the “New Game” button  Then a new game should not start  And an error should pop up explaining that size of the board is incorrect | toDo |  |
| 4 story four | 4.1 | AC 4.1 <Player successfully makes a move in a simple game>  Given a player has input a valid board size  And that player has selected the simple game mode  And the player has clicked the “New Game” button  When it is the player’s turn  And the player has selected either an ‘S’ or an ‘O’  And the player clicks on an unoccupied square  Then an ‘S’ or an ‘O’ should be placed on that square | toDo |
| 4.2 | AC 4.2 <Player picks an already occupied spot>  Given a player has input a valid board size  And that player has selected the simple game mode  And the player has clicked the “New Game” button  When it is the player’s turn  And the player has selected either an ‘S’ or an ‘O’  And the player clicks on an occupied square  Then an ‘S’ or an ‘O’ should not be placed on that square  And an error should explain to the user that they cannot place on an already occupied square | toDo |
| 5 story five | 5.1 | AC 5.1 <A simple game is over and a player wins >  Given a player has just finished their turn  When the first “SOS” has been completed on the board  Then the game should end  And it should show who the winner is | toDo |
| 5.2 | AC 5.2 <A simple game is over and it is a draw >  Given a player has just finished their turn  When the board is completely filled  Then the game should end  And it should show that the game is a draw | toDo |
| 6 story six | 6.1 | AC 6.1 <Player picks an occupied spot in general game>  Given a player has input a valid board size  And that player has selected the general game mode  And the player has clicked the “New Game”  When it is the player’s turn  And the player has selected either an ‘S’ or an ‘O’  And the player clicks on an unoccupied square  Then an ‘S’ or an ‘O’ should be placed  And the player should be able to make another move if it completes an “SOS” | toDo |
| 6.2 | AC 6.2 <Player makes a move in a general game>  Given a player has input a valid board size  And that player has selected the general game mode  And the player has clicked the “New Game”  When it is the player’s turn  And the player has selected either an ‘S’ or an ‘O’  And the player clicks on an occupied square  Then an ‘S’ or an ‘O’ should not be placed  And an error should show that the player cannot pick an occupied space | toDo |
| 7 story seven | 7.1 | AC 7.1 <A general game ends in a player winning >  Given a player has just finished their turn  When that player picks an unoccupied space  And all the other spaces on the board are occupied  Then the game should end  And it should show which player has won | toDo |
| 7.2 | AC 7.2 <A general game ends in a draw >  Given a player has just finished their turn  When that player picks an unoccupied space  And all the other spaces on the board are occupied  And both players are tied on the number of “SOS” they have  Then the game should end  And it should show that the game is a draw | toDo |