**Project Sprint #1**

The SOS game is described in CS449HomeworkOverview.docx. You should read the description very carefully.

In this assignment, you aim to 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 to input a custom board size where **n > 2** so that I can customize my game grid. | 1 | 2 |
| 2 | Choose the game mode of a chosen board | As a player, I want to choose between **simple or general mode** so that I can play my preferred version of the game. | 2 | 1 |
| 3 | Start a new game of the chosen board size and game mode | As a player, I want to start a new game with my **selected board size and mode** so that I can begin playing. | 3 | 1 |
| 4 | Make a move in a simple game | As a player, I want to place **S or O** in simple mode so that I can attempt to form an SOS. | 4 | 3 |
| 5 | A simple game is over | As a player, I want the game to detect when a **simple game ends (win or draw)** so that I know the final result | 5 | 2 |
| 6 | Make a move in a general game | As a player, I want to place **S or O** in general mode so that I can make multiple SOS sequences and track my score. | 6 | 3 |
| 7 | A general game is over | As a player, I want the game to detect when a **general game ends** so that I can see the final score. | 7 | 2 |

1. **Acceptance Criteria (AC) (12 points): Add/delete rows as needed.**

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story ID and Name** | **AC**  **ID** | Description of Acceptance Criterion | **Status (completed, toDo, inPprogress)** |
| 1. Choose a board size | 1.1 | Given the game hasn’t started yet, when the player inputs a board size where **n > 2**, then the board updates and shows the correct dimensions. | toDo |
| 1.2 | Given a board size is input, when the player confirms, then the board should display the chosen size | toDo |
| 1.3 | Given the game hasn’t started yet, when the player inputs a board size **n ≤ 2**, then the input is rejected, and an error message is displayed. | toDo |
| 2. Choose the game mode of a chosen board | 2.1 | Given the **board size is picked**, when the player selects a game mode, then the game updates to that mode. | toDo |
| 2.2 | Given a game mode is selected, when the game starts, then the **correct mode should be active**. | toDo |
| 3. Start a new game of the chosen board size and game mode | 3.1 | Given a board size and mode are set, when the player clicks ‘New Game’, then the game resets with those settings | toDo |
| 4. Make a move in a simple game | 4.1 | Given an ongoing **simple game** with a player's turn, when they place **S or O** in an empty cell, then the board updates and the turn switches. | toDo |
| 4. Make a move in a simple game | 4.2 | Given an ongoing **simple game**, when a player attempts to place **S or O** in an already occupied cell, then the cell is not changed and the turn is not changed. | toDo |
| 4. Make a move in a simple game | 4.3 | Given an ongoing **simple game**, when a player attempts to place **S or O** outside the board, then the turn is not changed. | toDo |
| 5. A simple game is over | 5.1 | Given an ongoing **simple game**, when a player completes an SOS sequence, then the game is over, and the player is declared the winner. | toDo |
|  |  |  |  |
| 5. A simple game is over | 5.2 | Given a **simple game**, when the board fills up and no player has formed an SOS, then the game is over, and it is declared a draw. | toDo |
| 6. Make a move in a general game | 6.1 | Given an ongoing **general game** with a player's turn, when they place **S or O** in an empty cell, then the game checks for SOS sequences, updates scores (if applicable), and the turn switches. | toDo |
| 6. Make a move in a general game | 6.2 | Given an ongoing **general game**, when a player attempts to place **S or O** in an already occupied cell, then the cell is not changed and the turn is not changed. | toDo |
| 6. Make a move in a general game | 6.3 | Given an ongoing **general game**, when a player attempts to place **S or O** outside the board, then the turn is not changed. | toDo |
| 7. A general game is over | 7.1 | Given an ongoing  **general game**, when the board fills up, then the game ends and displays the final score. | toDo |