**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 of the SOS game, I want to be able to choose the size of the game board, so that I can tailor the game to my preferences and skill level. | My priority is to present an option to choose the size of the game board | Less than 1 hours |
| 2 | Choose the game mode of a chosen board | As a player, I want to be able to choose the game mode for a specific board, so that I can change the rules and add variation to my gameplay. | My priority is to specify the game mode available which are simple mode and general mode. | Less than 1 hour |
| 3 | Start a new game of the chosen board size and game mode | As a player, I want to be able to start a new game with the same board size and game mode that I previously selected, so that I can quickly and easily begin a new round of gameplay. | My priority is to maintain the board size and game mode if the player want to replay another round with the same settings. | 1 hour |
| 4 | Make a move in a simple game | As a player, I want to be able to make a move on the game board, so that I can try to score points and win the game. | My priority is to provide in the game menu or setting, a possibility of the player to undo or redo a move. | 1 hour |
| 5 | A simple game is over | As a player, I want to be notified when a simple game mode is over so that I can see the final score and decide whether to pay again. | My priority is to stop the game and output a message with the final score when there’s no move left. | 1 hour 30 min |
| 6 | Make a move in a general game | As a player, I want to be able to make a move on the game board in a general mode, so that I can try to score points and win the game with the chosen objectives and rules. | My priority is to allow the player to select an available space on the game board to make a move and indicate the current player’s turn. | 1 hour 30 min |
| 7 | A general game is over | As a player, I want to be notified when a general game mode is over, so that I can see the final score and decide whether to play again or choose a different game mode. | My priority is to display a notification to the player indicating that the game is over and to present options to the player to start a new game with different settings or replay the game with the same settings. | 3 hours 30 mins |

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 | AC 1.1 Selecting board size  Given that the player has started the SOS game and is presented with the initial game menu.  When the player selects the “Choose board size” option from the menu  Then the player should be presented with a screen that displays a range of available board sizes, with the smallest and largest sizes clearly labeled and highlighted. | TO-DO |
| 1.2 | AC 1.2 Changing board size during the game  Given that the player has selected a board size and begun a game.  When the player attempts to switch to a different board size during the game  Then the game should display a confirmation dialog or prompt, informing the player that their progress will be lost if they switch to a new board size, and asking them to confirm their choice before proceeding. | TO-DO |
| 2. Choose the game mode of a chosen board | 2.1 | AC 2.1 Selecting the game mode of a chosen board  Given a player has selected a board for the game  When the player is prompted to choose a game mode,  Then the player must be presented with 2 options: simple game, and general game. The player must be able to select one of these options, and the game must proceed accordingly based on the mode selected. | TO-DO |
| 3. Start a new game of the chosen board size and game mode | 3.1 | AC 3.1 Start a new game with the chosen settings  Given a player has selected a board size and game mode  When the player chooses to start a new game  Then the game must implement the rules specified for the mode chosen such as time limit, or reduced lives for incorrect moves. | TO-DO |
| 4. Make a move in a simple game | 4.1 | AC 4.1 Valid move in a simple game.  Given a player is in an SOS game,  When the player attempts to make a valid move which is placing “S” or “O” in an unoccupied cell,  Then the game board should be updated accordingly, and the turn should be passed to the next player. | TO-DO |
| 4.2 | AC 4.1 Invalid move in a simple game.  Given a player is in a SOS game,  When the player attempts to make an invalid move like trying to place “S” or “O” in an occupied cell,  Then the game board should not be updated, and the player should be prompted to make a valid move. The turn should remain with the same player until a valid move is made. |  |
| 5. A simple game is over | 5.1 | AC 5.1 Simple game is over in a tie  Given that all cells on the game board of a simple SOS game are occupied with letters,  When there’s no player who has formed an “SOS” sequence,  Then the game should end in a tie, and the players should be notified of the tie. | TO-DO |
| 5.2 | AC 5.2 Simple game is over with a Win.  Given that a player has formed an “SOS” sequence in a simple game mode,  When there are no more empty cells on the game board,  Then the game should end, and the player who has formed the “SOS” should be declared the winner. |  |
| 6. Make a move in a general game | 6.1 | AC 6.1 Valid move in a general game  Given a player is in a general SOS game.  When the player makes a move by placing either an “S” or an “O” in an empty cell.  Then the game should correctly update the grid with the player’s move, and the turn should be passed to the next player. | TO-DO |
| 6.2 | AC 6.2 Invalid move in a general game  Given a player is in a general SOS game,  When the player attempts to make an invalid move, such as placing a letter in a cell that is already occupied or attempting to place a letter outside the bounds of the game board,  Then the game board shouldn’t be updated, and the player should be prompted to make a valid move. The turn should remain with the same player until a valid move is made. |  |
| 6.3 |  |  |
| 7. A general game is over | 7.1 | AC 7.1 General game is over in a tie  Given that all cells on the game board of a general SOS game are occupied with letters,  When there’s no player who has formed an “SOS” sequence,  Then the game should end in a tie, and the players should be notified of the tie. | TO-DO |
| 7.2 | AC 7.2 General game is over with a Win  Given that a player has formed an “SOS” sequence in a general game mode,  When there are no more empty cells on the game board,  Then the game should end, and the player who has formed the most “SOS” sequences should be declared the winner. |  |
| 7.3 | AC 7.1 General game is over with same amount of “SOS” sequence.  Given that all cells on the game board of a general SOS game are occupied with letters,  When both players have formed the same number of “SOS” sequences,  Then the game should end in a tie, and the players should be notified of the tie. |  |