

## 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.

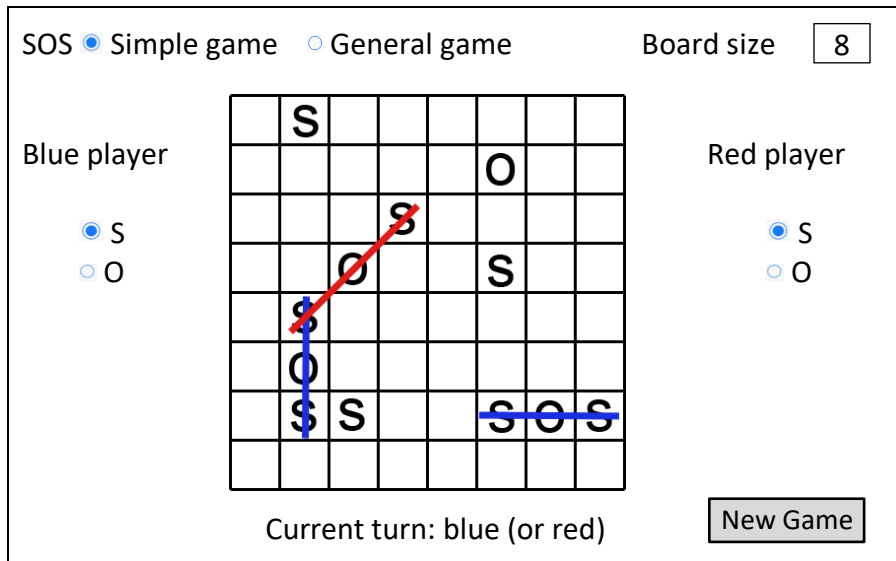


Figure 1. Sample GUI layout of the first working program by the end of Sprint 3

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

### I. 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 need an empty board of 8*8 grids so that I can start the game or allow the user to enter a valid user input	1	0.3h
2	Choose the game mode of a chosen board	As a player, I need a simple/ general game mode, so I can start the game.	2	0.5h
3	Start a new game of the chosen board size and game mode	As a blue player, I need to place an S or O in a valid empty cell, so I can make a move.	3	0.5h
4	Make a move in a simple game	As a red player, I need to place S or O in an empty cell, so I can make a move.	4	3h
5	A simple game is over	As a red/blue player, I need to form an SOS word, so I can win the game and end the game. As a player, when there is no empty cell, so the game is over	5	1h
6	Make a move in a general game	As a red player, I need to place S or O in an empty cell, so I can make a move.	4	4h
7	A general game is over	As a player, I need to know if the board is full, and the game is over.	5	1h

## II. Acceptance Criteria (AC) (12 points): Add/delete rows as needed.

User Story ID and Name	AC ID	Description of Acceptance Criterion	Status (completed, toDo, inProgress)
1. Choose a board size	1.1	AC 1.1 <Empty board> When a new game is started Then there will be an empty 8 *8 board	inProgress
	1.2	AC 1.2<valid input size> Given the player an option to choose a valid board size When a player input a board size >=3 Then there will be an empty board of the size chosen by the player	inProgress
	1.3	AC 1.3 < invalid input size> Given the player an option to choose the board size When a player enter a board size <3 Then the input size is invalid And display an error message	
2. Choose the game mode of a chosen board	2.1	AC 2.1 <choose between simple and general game> Given an empty board When a new game is started Then there will be an option to choose between simple or general game And it is the blue player's turn	inProgress
3. Start a new game of the chosen board size and game mode	3.1	AC 3.1 < invalid row index> Given an SOS board When a cell is referenced by a row index >7 or row index> player's size input Then the cell reference is invalid	inProgress
	3.2	AC 3.2 <invalid column index> Given an SOS board When a cell is referenced by a column index >7 or column index > player's size input Then the cell reference is invalid	
4. Make a move in a simple game (blue player then red player)	4.1	AC4.1 < a valid blue player's move > Given an ongoing game with blue player's turn When the blue player makes a valid move by placing S or O Then the S or O is placed in the cell And the turn is changed to red player	inProgress
	4.2	AC 4.2 < an illegal blue player move on an occupied cell > Given an ongoing game with blue player's turn When the blue player makes an illegal move within the board Then the cell is not changed And the turn is not changed	
	4.3	AC 4.3 < an illegal blue player move outside the board > Given an ongoing game with blue player's turn When the blue player makes an illegal move outside the board Then the turn is not changed	
	4.4	AC 4.4 <a continuing game after a blue player move > Given an ongoing game without SOS And it's blue player's turn When the blue player makes a valid move that does not form SOS Then the game continues And it becomes red player's turn	
	4.5	AC 4.5 < a valid red player's move> similar to AC 4.1	

	4.6	AC 4.6 < an illegal red player move on an occupied cell> similar to AC 4.2	
	4.7	AC 4.7 <an illegal red player move outside the board> similar to AC 4.3	
	4.8	AC 4.8< a continuing game after a red player move > similar to AC 4.4	
5. A simple game is over	5.1	AC 5.1 < a win by blue player > Given an ongoing game without SOS And it's blue player's turn When the blue player makes a valid move to form SOS Then the game is over And blue player has won	toDo
	5.3	AC 5.2 <a win by red player > Given an ongoing game without SOS And it's red player's turn When the red player makes a valid move to form SOS Then the game is over And the red player won	
	5.5	AC 5.3 < a draw game> Given an ongoing game without SOS And there is only one empty cell When a player makes a valid move And there is no SOS Then the game is over And it is a draw	
6. make a move in a general game	6.1	AC6.1 < a valid blue player's move > similar to 4.1	toDo
	6.2	AC 6.2 < an illegal blue player move on an occupied cell > similar to 4.2	
	6.3	AC 6.3 < an illegal blue player move outside the board > similar to 4.3	
	6.4	AC 6.4 <a continuing game after a blue player move > Given an ongoing game with or without SOS And the number of empty cells is greater than 1 And it's the blue player's turn When the blue player makes a valid move that does form SOS or not Then the game continues And it becomes red player's turn	
	6.5	AC6.5 < a valid red player's move > similar to 4.1	
	6.6	AC 6.6 < an illegal red player move on an occupied cell > similar to 4.2	
	6.7	AC 6.3 < an illegal red player move outside the board > similar to 4.7	
	6.8	AC 6.8< a continuing game after a red player move > Given an ongoing game with or without SOS And it's the red player's turn And the number of empty cells is greater than 1 When the red player makes a valid move that does form SOS or not Then the game continues And it becomes blue player's turn	
7. A general game is over	7.1	AC7.1<a win by blue player> Given an ongoing game with or without SOS And there is only one empty cell And it's blue player's turn When the blue player makes a valid move and the quantity of SOS formed by the blue player is greater than the quantity of SOS formed by the red player	toDo

		Then the blue player has won And the game is over	
	7.2	AC7.2<a win by the red player> Given an ongoing game with or without SOS And there is only one empty cell And it's the red player's turn When the red player makes a valid move and the quantity of SOS formed by the red player is greater the quantity of SOS formed by the blue player Then the red player has won And the game is over	
	7.3	AC7.3<a draw game without SOS> Given an ongoing game without SOS And there is only one empty cell When a player makes a valid move And there is no SOS Then the game is over And it is a draw	
	7.4	AC7.4<a draw game with equal SOS> Given an ongoing game with SOS And there is only one empty cell When a player makes a valid move And the quantity of SOS made by the blue player is equal to the quantity of SOS made by the red player Then the game is over And it is a draw	