

## 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.

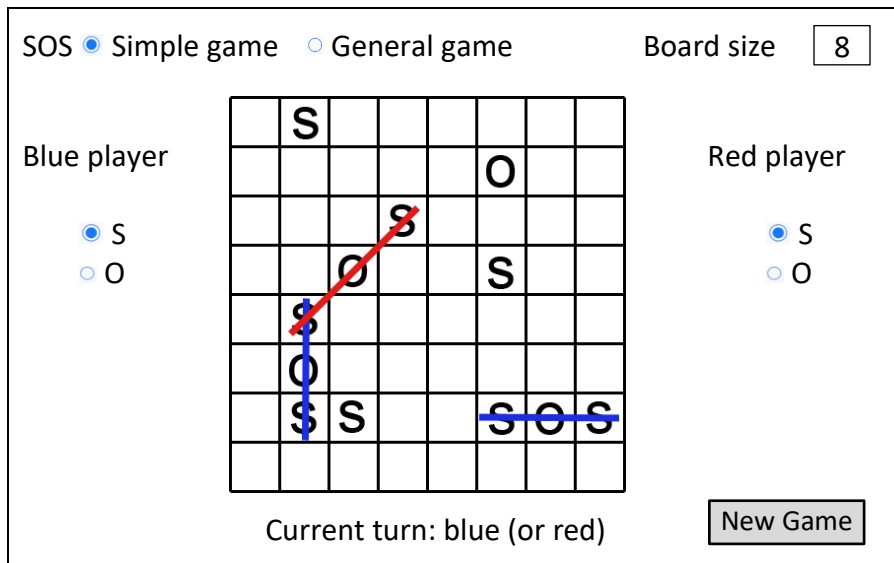


Figure 1. Sample GUI layout of the first working program by the end of Sprint 3

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 new SOS player, I want an empty board of n*n so that I can start a game.	1	2
2	Choose the game mode of a chosen board	As a new SOS player, I want to choose the game mode (simple/general) so I can start a game.	1	2
3	Start a new game of the chosen board size and game mode	As a new SOS player, I want to start a new game of chosen board size and game mode so I can start making moves	1	2
4	Make a move in a simple game	As a simple S/O player, I want to place my S/O on an empty cell so I can make a move in a simple game.	2	3
5	A simple game is over	As an S/O simple game player, want to know if a simple game is over after each move.	3	2.5
6	Make a move in a general game	As a general S/O player, I want to place my S/O on an empty cell so I can make a move in a general game.	2	3
7	A general game is over	As an S/O general game player, want to know if a general game is over after each move.	3	2.5

## 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	<b>AC 1.1</b> Empty $n \times n$ board. <b>Given</b> The SOS GUI is displayed. <b>When</b> An SOS player chooses board size. <b>Then</b> An empty $n \times n$ board is created	toDo
	1.2	<b>AC 1.2</b> Board size is too large <b>Given</b> The SOS GUI is displayed. <b>When</b> An SOS player chooses a board size too large <b>Then</b> A board is not created <b>And</b> An error message is displayed to player	toDo
	1.3	<b>AC 1.3</b> A board size is not chosen. <b>Given</b> The SOS GUI is displayed. <b>When</b> An SOS player fails to choose a board size <b>Then</b> A board of default size is created.	toDo
2. Choose the game mode of a chosen board	2.1	<b>AC 2.1</b> A simple SOS game is chosen. <b>Given</b> A new game is started. <b>When</b> An SOS player chooses simple game mode <b>Then</b> An SOS game is in simple mode.	toDo
	2.2	<b>AC 2.2</b> A general SOS game is chosen. <b>Given</b> A new game is started. <b>When</b> An SOS player chooses general game mode <b>Then</b> An SOS game is in general mode.	toDo
	2.3	<b>AC 2.3</b> An SOS game mode is not chosen. <b>Given</b> A new game is started. <b>When</b> An SOS player fails to choose a game mode <b>Then</b> An SOS game is by default in simple mode.	toDo
3. Start a new game of the chosen board size and game mode	3.1	<b>AC 3.1</b> A new simple game is started. <b>Given</b> A simple game mode and valid board size are chosen. <b>When</b> An SOS player clicks 'New Game' button. <b>Then</b> A new simple game with $n \times n$ board is started. <b>And</b> It is S's turn	toDo
	3.2	<b>AC 3.2</b> A new general game is started. <b>Given</b> A general game mode and valid board size are chosen. <b>When</b> An SOS player clicks 'New Game' button. <b>Then</b> A new general game with $n \times n$ board is started. <b>And</b> It is S's turn	toDo
4. Make a move in a simple game	4.1	<b>AC 4.1</b> A valid S move in simple game. <b>Given</b> An ongoing simple game with S's turn. <b>When</b> Player S make a valid move. <b>Then</b> An S is placed in the cell <b>And</b> The turn is changed to O.	toDo
	4.2	<b>AC 4.2</b> An invalid S move on occupied cell in simple game. <b>Given</b> An ongoing simple game with S's turn. <b>When</b> Player S make a invalid move on occupied cell. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	4.3	<b>AC 4.3</b> An invalid S move outside of the board in simple game. <b>Given</b> An ongoing simple game with S's turn. <b>When</b> Player S make a invalid move outside of the board. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	4.4	<b>AC 4.4</b> A valid O move in simple game. <b>Given</b> An ongoing simple game with O's turn. <b>When</b> Player O make a valid move. <b>Then</b> An O is placed in the cell	toDo

		<b>And</b> The turn is changed to S.	
	4.5	<b>AC 4.5</b> An invalid O move on occupied cell in simple game. <b>Given</b> An ongoing simple game with O's turn. <b>When</b> Player O make a invalid move on occupied cell. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	4.6	<b>AC 4.6</b> An invalid O move outside of the board in simple game. <b>Given</b> An ongoing simple game with O's turn. <b>When</b> Player O make a invalid move outside of the board. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
5. A simple game is over	5.1	<b>AC 5.1</b> A win by S of simple game. <b>Given</b> An ongoing simple game without an SOS. <b>And</b> It is S's turn <b>When</b> Player S make a valid move to form SOS. <b>Then</b> The simple game is over <b>And</b> Player S has won the simple game.	toDo
	5.2	<b>AC 5.2</b> A win by O of simple game. <b>Given</b> An ongoing simple game without an SOS. <b>And</b> It is O's turn <b>When</b> Player O make a valid move to form SOS. <b>Then</b> The simple game is over <b>And</b> Player O has won the simple game.	toDo
	5.3	<b>AC 5.3</b> A simple game draw. <b>Given</b> An ongoing simple game without an SOS. <b>And</b> There is only one empty cell. <b>When</b> An SOS player makes a valid move. <b>And</b> No SOS is formed. <b>Then</b> The game is over <b>And</b> It is a draw.	toDo
6. Make a move in a general game	6.1	<b>AC 6.1</b> A valid S move in general game. <b>Given</b> An ongoing general game with S's turn. <b>When</b> Player S make a valid move. <b>Then</b> An S is placed in the cell <b>And</b> The turn is changed to O.	toDo
	6.2	<b>AC 6.2</b> An invalid S move on occupied cell in general game. <b>Given</b> An ongoing general game with S's turn. <b>When</b> Player S make a invalid move on occupied cell. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	6.3	<b>AC 6.3</b> An invalid S move outside of the board in a general game. <b>Given</b> An ongoing general game with S's turn. <b>When</b> Player S make a invalid move outside of the board. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	6.4	<b>AC 6.4</b> A valid O move in general game. <b>Given</b> An ongoing general game with O's turn. <b>When</b> Player O make a valid move. <b>Then</b> An O is placed in the cell <b>And</b> The turn is changed to S.	toDo
	6.5	<b>AC 6.5</b> An invalid O move on occupied cell in general game. <b>Given</b> An ongoing general game with O's turn. <b>When</b> Player O make a invalid move on occupied cell. <b>Then</b> The cell is not changed <b>And</b> The turn is not changed.	toDo
	6.4	<b>AC 6.4</b> An invalid O move outside of the board in a general game. <b>Given</b> An ongoing general game with O's turn. <b>When</b> Player O make a invalid move outside of the board. <b>Then</b> The cell is not changed	toDo

		<b>And</b> The turn is not changed.	
7. A general game is over	7.1	<b>AC 7.1</b> A win by S of general game. <b>Given</b> An ongoing general game without an SOS. <b>And</b> It is S's turn <b>When</b> Player S make a valid move to form SOS. <b>Then</b> The general game is over <b>And</b> Player S has won the general game.	toDo
	7.2	<b>AC 7.2</b> A win by O of general game. <b>Given</b> An ongoing general game without an SOS. <b>And</b> It is O's turn <b>When</b> Player O make a valid move to form SOS. <b>Then</b> The general game is over <b>And</b> Player O has won the general game.	toDo
	7.2	<b>AC 7.3</b> A general game draw. <b>Given</b> An ongoing general game without an SOS. <b>And</b> There is only one empty cell. <b>When</b> An SOS player makes a valid move. <b>And</b> No SOS is formed. <b>Then</b> The game is over <b>And</b> It is a draw.	toDo