

Project Sprint #1

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Sprint #1 Requirements

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**.



Figure 1. GUI Layout

I. User Stories

- **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 be able to choose the board size, so that I can play SOS on different board sizes	2	1
2	Choose the game mode	As a player, I want to be able to choose the game mode, so that I can play SOS in different game modes	3	1
3	Start a new game	As a player, I want to be able to start a new game, so that I can play a new game	4	2
4	Make a move	As a player, I want to be able to make a move, so that I can progress in the game	6	2
5	A simple game is over	As a player, I want to be able to know when a simple game is over, so that I do not waste time in the game	7	2
6	A general game is over	As a player, I want to be able to know when a general game is over, so that I do not waste time in the game	8	2
7	Game replay	As a player, I want to be able to replay the previous game, so I can analyze my performance	8	2
8	Move selection	As a player, I want to be able to select S or O, so I can play the SOS game the way it is designed to play	5	1

II. Acceptance Criteria (AC)

Expectation | Exception

ID	User Story Name	ID & Description of Acceptance Criterion	Notes	Status (completed, toDo, inProgress)
1	Choose a board size	AC 1.1 User attempts to select an invalid board size - Given a SOS application - When the user attempts to select an invalid board size - Then the board size will stay the same	No invalid board sizes will be accessible in the GUI to the user	completed
		AC 1.2 User attempts to select a board size within a game - Given a SOS application that is in a game - When the user attempts to select a board size - Then the board size will stay the same	Board size selection will be inaccessible to the user in the GUI during a game	completed
		AC 1.3 User does not select a board size - Given a SOS application - When the user does not select a board size - Then the board size will be set to 8	Board size will have a default value of 8 in case the user does not manually select a board size	
		AC 1.4 User selects a valid board size outside of a game - Given a SOS application that is not in a game - When the user selects a valid board size - Then the SOS board will be rendered with the correct size And the new board size will be visible in the board size selection		toDo
2	Choose the game mode	AC 2.1 User attempts to select an invalid game mode - Given a SOS application that is not in a game - When the user attempts to select an invalid game mode - Then the game mode will stay the same	No invalid game modes will be directly accessible to the user in the GUI	completed

		<p>AC 2.2 User attempts to select a game mode inside of a game</p> <ul style="list-style-type: none"> - Given a SOS application that is in a game - When the user attempts to select a game mode - Then the game mode will stay the same 	<p>Game mode selection will be inaccessible to the user during a game in the GUI</p>	ToDo
		<p>AC 2.3 User does not select a game mode</p> <ul style="list-style-type: none"> - Given a SOS application - When the user does not select a game mode - Then the game mode will be set to simple game 	<p>The game mode will default to simple game if the user does not select a game mode</p>	
		<p>AC 2.4 User selects a valid game mode outside of a game</p> <ul style="list-style-type: none"> - Given a SOS application that is not in a game - When the user selects a valid game mode - Then the new selected game mode will be checked in the game mode selection 		ToDo
3	Start a new game	<p>AC 3.1 User starts a new game during a game</p> <ul style="list-style-type: none"> - Given a SOS application that is in a game - When the user starts a new game - Then the user will be prompted if they want to start a new game <ul style="list-style-type: none"> And a new game will start if they say yes else a new game will not start And the new game prompt will close after the user answers 		ToDo
		<p>AC 3.2 User starts a new game outside of a game</p> <ul style="list-style-type: none"> - Given a SOS application that is outside of a game - When the user starts a new game - Then a new game will start 		

4	Make a move	<p>AC 4.1 User places a S or O on a square containing a S or O</p> <ul style="list-style-type: none"> - Given an SOS application during a game - When a user places a S or O on a square already containing an S or O - Then the corresponding square will remain unchanged <p>And the player's turn will not change</p>	ToDo
		<p>AC 4.2 User attempts to place a S or O outside of the game board</p> <ul style="list-style-type: none"> - Given an SOS application - When a user attempts to place an S or O outside of the game board - Then no S or O will be placed on the board or application window <p>And the player's turn will not change</p>	completed
		<p>AC 4.3 User places a S or O on a square that is empty during a game</p> <ul style="list-style-type: none"> - Given SOS application during a game - When the user places a S or O on a square that is empty - Then fill the square with the corresponding S or O <p>And mark an SOS on the board with the color of the current player if it completes a SOS</p>	ToDo
5	A simple game is over	<p>AC 5.1 User makes move that wins a simple game</p> <ul style="list-style-type: none"> - Given a SOS application inside a simple game - When the user makes a move that completes an SOS - Then tell the user that they won the game <p>And end the game</p>	<p>A player wins a simple game by completing the first SOS</p> <p>ToDo</p>

		<p>AC 5.2 User makes move that does not win a simple game</p> <ul style="list-style-type: none"> - Given a SOS application inside a simple game - When the user makes a move that does not complete an SOS - Then switch turns between players And do not end the game 		ToDo
6	A general game is over	<p>AC 6.1 User makes move that wins a general game</p> <ul style="list-style-type: none"> - Given a SOS application inside a general game - When the user makes a move on the last empty square And they have more completed SOSs than their opponent - Then tell the user which player won the game And end the game 	<p>A general game ends when all the squares are filled with S or O. A user wins a general game by having more completed SOSs than their opponent.</p>	ToDo
		<p>AC 6.2 User makes move that does not win a general game, but completes a SOS</p> <ul style="list-style-type: none"> - Given a SOS application during a general game - When the user makes a move on an empty square that is not the last empty square And their move completes an SOS - Then do not switch turns between players And do not end the game 		ToDo
		<p>AC 6.3 User makes move that does not win a general game and does not complete a SOS</p> <ul style="list-style-type: none"> - Given a SOS application during a general game - When the user makes a move on an empty square that is not the last empty square And their move does not complete a SOS - Then switch turns between players And do not end the game 		

		<p>AC 6.4 User makes move that ends general game in a draw</p> <ul style="list-style-type: none"> - Given a SOS application during a general game - When the user makes a move that fills up all the squares <ul style="list-style-type: none"> And the number of completed SOSs by each player are the same - Then tell the user that there is a draw <ul style="list-style-type: none"> And end the game 	<p>A general game results in a draw if both players end up with an equal number of completed SOSs</p>	<p>ToDo</p>
7	Game replay	<p>AC 7.1 User attempts to replay previous game while playing a game</p> <ul style="list-style-type: none"> - Given a SOS application during a game - When the user replays the previous game - Then the previous game will not be replayed 	<p>The user may not watch a replay if they are currently playing a game. The replay button will be directly inaccessible in the GUI during a game.</p>	<p>ToDo</p>
		<p>AC 7.2 User replays game outside of a game with no previous game played</p> <ul style="list-style-type: none"> - Given a SOS application outside of a game with no previous game played - When the user attempts to replay the non-existent previous game - Then the non-existent previous game does not replay 	<p>The user may not watch a replay of a previous game if it does not exist. The replay button will be directly inaccessible in the GUI if no previous game exists.</p>	<p>ToDo</p>
		<p>AC 7.3 User replays game outside of a game with previous game played</p> <ul style="list-style-type: none"> - Given a SOS application outside of a game with a previous game played - When the user replays the previous game - Then the previous game will replay from start to finish on the game board with constant time steps for each turn 	<p>The user may watch a replay of the previous game if they are not currently playing a game</p>	<p>ToDo</p>

8	Move selection	<p>AC 8.1 User attempts to select another move option besides S or O</p> <ul style="list-style-type: none"> - Given an SOS application - When the user attempts to select another move option besides an S or O - Then the user's move option will stay the same 	<p>Move selection will be limited to the values S and O</p>	ToDo
		<p>AC 8.2 User does not select a move option</p> <ul style="list-style-type: none"> - Given an SOS application - When the user does not select a move option - Then the user's move option will be set to "S" 	<p>Move selection will default to "S" when the user does not manually select</p>	ToDo
		<p>AC 8.3 User selects a move option with the values S or O</p> <ul style="list-style-type: none"> - Given an SOS application - When the user selects S or O - Then the user's move option will update to their desired selection 		ToDo