Game Test Cases

Timer Testing

Test Case ID: 1	Steps to reproduce	Test Data Input	Expected Outcome	Actual Outcome
1.1) Timer is started on page load and starts counting down automatically from 4 minutes	1) Refresh/Run website 2) Click on Play Game in the navigation	Null	Timer countdown from 4 minutes to 0 seconds.	Expected outcome.
1.2) Set another timer	1) Change time in dropdown 2) Click set time button	1 minute	Timer starts the countdown from 1 minute down to 0 seconds.	Expected outcome.
1.3) Run without timer	1) Let the game run. 2) Click the button run without timer	Null	The timing should indicate, "Timer is turned off". The game over container should not be shown.	Expected outcome.
1.4) Interval time determined by range slider	1) Let the game run 2) Change the interval time using the range slider	Null	The traversal of each bug should be 6 seconds from bottom to top. When the interval timing is changed, it should not affect the staying down of bugs for 4 seconds or the colour change of bugs.	Expected outcome.

Restart Button Testing

Test Case ID: 2	Steps to reproduce	Test Data Input	Expected Outcome	Actual Outcome
2.1) Restart game when game is running	1) Let the game run. 2) Click the restart button.	Null	Timing is reset to the last selected time; If the game is running without a timer then timing will be set to default 4 minutes.	Expected outcome.
2.2) Click the restart button when game is over	1) Let the game timing finish. 2) When game over div is shown click restart button	Null	Timing is reset to the last selected time; If the game is running without a timer then timing will be set to default 4 minutes.	Expected outcome.
2.3) Restart can be pressed anytime	1) Click restart button anytime.	Null	The game resets time and restarts.	Expected outcome.

Game Over (countdown timer finished) Testing

Test Case ID: 3	Steps to reproduce	Test Data Input	Expected Outcome	Actual Outcome
3.1) Bugs/circles disappear on game over.	1) Let the game timing finish and the game over div will be shown	Null	Bugs all disappear, and no new bugs appear.	Expected outcome.
3.2) Game score is shown in the game over div	1) Let the game timing finish and the game score will be shown	Null	Game score will be shown on the game over div relative and with the score shown in the corner when of the game container.	Expected outcome.
3.3) Play again button is pressed	1) Let the game finish and the game over container will be shown 2) Click the play again button	Null	Timing is reset to the last selected time; If the game is running without a timer then timing will be set to default 4 minutes. The bugs lifecycle begins again.	Expected outcome.
3.4) The user changes the range slider when there are no bugs left on screen	1) Let the game finish 2) When the game timer is over increase and decrease the interval time of refresh by dragging the range slider	Null	No errors should be shown. The sliding of the range slider when the game is over should not cause any programmatic problems that may occur.	Expected outcome.
3.5) When game over, game score stops counting	1) Let the game finish and try to catch bugs after timer is over and bugs are finishing their cycle.	Null	Game score is not counted when the game is over, and bugs are finishing the cycle of floating up	Expected outcome.

Collision Detection Testing

Test Case ID: 4	Steps to reproduce	Test Data Input	Expected Outcome	Actual Outcome
4.1) Bug/circle hits the net	1) Let the game run 2) Manoeuvre the character and net using the arrow keys	Null	The game score is added by one and a game sound is played.	Expected outcome.
4.2) Bug/circle hits the character	1) Let the game run 3) Manoeuvre the character	Null	The game score is reduced by one and a game sound is played.	Expected outcome.

4.3) The bug/ circle reaches the top of the game.	1) Let the game run 2) Avoid contact with the bug so it can traverse up	Null	The bug disappears.	Expected outcome.
4.4) Ensure that the character or net does not run of the game div.	1) Let the game run 2) Manoeuvre the character and net using the arrow keys to all sides of the game	Null	The character and net should always stay in the game regardless of any side it collides with.	Expected outcome.