Testing Cases

Test Case	Description	Type	Input Data	Expected Result	Actual Result	Related Requirement/ Component	Owner	Status	Comments
1.1	Tests if the timer is accurate in keeping track of the time elapsed for each leg.	Automatic	2	2	2	FR_TIMER	Omar Omar	Passed	The test checked if the progress bar is able to increment time correctly.
1.2	Tests if the game recognises when the user's boat crosses the finish line and calculates the time taken.	Automatic	Player has finished the lap. Player's Total lap time: 10.0	Player's Fastest Lap Time: 10.0	Player's Fastest Lap Time: 10.0	FR_FINISH	Omar Omar	Passed	The function had to be made static to allow this test to run.
1.3	Tests that leaderboard returns the boats in the correct order.	Automatic	Player, opponent list	Player as first, Bot1 as second, Bot2 as third	Player as first, Bot1 as second, Bot2 as third	UR_FINAL_PLACE	Omar Da Silva	Passed	
1.4	Tests if a boat's robustness and speed will decrease after a collision with an obstacle.	Automatic	Durability: 15, Current Speed: 3, Robustness: 5	Durability: 13, Current Speed < 3	Durability: 13, Current Speed: 2.7	FR_COLLISIONS	Omar Omar, Omar Da Silva	Passed	

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1.5	Tests if the animations run smoothly.	Manual	Animation Textures	Textures to change frequently	Textures changed frequently	FR_ANIMATIONS	Omar Omar	Passed	The test had to be manual to verify that the textures change in a frequent manner and with the correct order.
1.6	Tests to see if each boat has unique statistics	Automatic	HaspMap containing all boats stats as keys, size of hashmap == 7	TRUE	TRUE	FR_UNIQUE-BOATS	Omar Da Silva	Passed	Put all four boats into a hashmap as it does not allow duplicate keys and checked to see the size of the hashmaps equals the number of unique boats
1.7	Tests if the user can increase the speed of their boat using W key.	Automatic	Current Speed: 0, W key is pressed	An increase in the current speed	Current speed > 0	FR_SPEED-CONTROL	Omar Da Silva	Passed	
1.8	Tests that the boat can't leave the left boundary of the course	Automatic	Player's x position: 0, Course boundary(0,1080), Player steers left	X position: 0	X position: 0	FR_COURSE-BOUNDARIES	Omar Omar	Passed	

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1.9	Tests whether the boat can change its direction and speed when beside and obstacle.	Automatic	Boat's X position: 100, Speed: 10	Boat's X position < 100, Speed > 10	Boat's X position < 100, Speed > 10	FR_AI	Omar Omar	Passed	
2	Tests if the game has music	Automatic		Game.music is not null	Game.music is not null	FR_MUSIC	Omar Omar	Passed	
2.1	Tests if the game responds to user inputs in less than 50ms when a boat is out of its lane	Automatic	Player clicks W.	A change in the player's current speed in less than 50ms.	A change in the player's current speed in less than 50ms.	NFR_RESPONSIVE, FR_LANE_WARNING	Omar Omar	Passed	
2.2	Tests if the game can accept a minimum of four boats	Automatic	Four boat and lane instances	Game should have four boats and lanes	Four boats and lanes	UR_MIN_BOATS	Omar Da Silva	Passed	Set four boats as the starting number of boats and checked to see if Game accepted it
2.3	Tests if the number of obstacles can be increased	Automatic	List: Lane.getobstacles, and obstacle count	List is not null and obstacleCountFInish > obstacle start	List is not null and obstacle finished count is greater	FR_OBSTACLE_INCREASE	Omar Da Silva	Passed	Added obstacles to a lane and see if it can be increased

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2.4	Test to see if boat tiredness increases or decreases and carries over.	Automatic	Boat.getTiredness()	0, 5.75, 0	0, 5.75, 0	FR_TIREDNESS	Omar Da Silva	Passed	
2.5	Tests to see if game can be completed in under 6 minutes	Manual	Game	Win or lose screen	Win screen	NFR_GAME-LENGTH	Omar Da Silva	Passed	Tests had to be manual to see if game can be completed in under 6 minutes
2.6	Tests to see if the title screen is shown and can be interacted with	Manual	Start game	Title screen	Title screen	FR_TITLE_SCREEN	Omar Da Silva	Passed	Test had to be manual to see if Title screen works in game
2.7	Tests to see if Pause screen works	Manual	Escape key	Pause Screen	Pause Screen	FR_PAUSE_SCREEN	Omar Da Silva	Passed	The test had to be manual to see if Pause screen works in game
2.8	Tests to see if all power ups are applied to boats and stored in powerup slot	Automatic	Boat1: Maneuverability, durability, timereduction, invincible?	2.0, 50, 8.0, 5.0, true	2.0, 50, 8.0, 5.0, true	FR_UNIQUE_POWER_UPS, UR_POWER_UPS_COUNT	Omar Da Silva	Passed	Test checked when power ups are applied have the boats stats changed

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2.9	Tests UI changes/ alerts happen within <0.5 seconds of the trigger event and tests that the game displays a warning when boats are outside their lanes.	Manual	Player's x position outside lane boundaries	A text warning displayed in less than 0.5 seconds	A text warning displayed in less than 0.5 seconds	NFR_INFORMATION_TIME	Omar Omar	Passed	
3	Tests different difficulty levels of the game	Manual	Game	Variations of difficulty in each mode	Each mode varies in difficulty	FR_GAME_MODES	Omar Da Silva	Passed	The test had to be manual to verify that different game modes work correctly
3.1	Tests if the game ends when the player has zero robustness	Manual	Player Durability: 0	Game displays game over screen	Game displays game over screen	UR_LOSS	Omar Omar	Passed	The test had to be manual to verify that the correct information is displayed
3.2	Tests if the game ends when the player does not qualify for the final	Manual	Player not in the top 3 at the end of the third lap	Game displays game over screen	Game displays game over screen	UR_LOSS	Omar Omar	Passed	The test had to be manual to verify that the correct information is displayed

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3.3	Tests if penalties can be applied to a boat	Automatic	Penalties: 3, 10, 4 6	3, 10, 4, 6	3, 10, 4, 6	FR_PENALTY	Omar Da Silva	Passed	Applied penalties to boat and checked to see if have been applied
3.4	Tests if the user can decrease the speed of their boat using input.	Automatic	Current Speed: 2, S key is pressed	A decrease in the current speed	Current speed < 2	FR_SPEED-CONTROL	Omar Da Silva	Passed	Decreases the speed of the boat when S key is pressed
3.5	Tests that the boat can't leave the right boundary of the course	Automatic	Player's x position: 1080, Course boundary(0,1080),Player steers right	X position: 1080	X position: 1080	FR_COURSE-BOUNDARIES	Omar Omar	Passed	