

# Bug Tests

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<b>Test Case ID:</b>	1
<b>Owner of test case:</b>	Adam Curley
<b>Test name:</b>	Leaderboard Module
<b>Date test run and tester:</b>	??/??/19, Adam Curley
<b>Bug Description:</b>	When the button to access the leaderboard (located on the main menu) is clicked the game freezes and a restart is required.
<b>Test objective:</b>	Verify that the Leaderboard opens and displays the Top 10 (highest to lowest) scores recorded by the game along with the player's name.
<b>Test setup:</b>	Click the Leaderboard button on the main menu.

Test Procedure				
Step	Action	Expected Result	Pass/Fail	Comments
1	Click leaderboard button on the main menu.	Opens leaderboard module/window.		
2	Play game until defeated.	Name of player is recorded along with score.		
3	Click leaderboard button on the main menu.	Opens leaderboard with updated score list.		

<b>Test Case ID:</b>	2
<b>Owner of test case:</b>	Lauren Atkinson
<b>Test name:</b>	Lag Issues
<b>Date test run and tester:</b>	09/20/2019, Lauren Atkinson
<b>Bug Description:</b>	When the game initially starts up, there is a major lag with the waves on screen.
<b>Test objective:</b>	Verify and ensure that the game is running at approximately 60 fps (frame per second).
<b>Test setup:</b>	Check the fps when the game first starts up.

Test Procedure				
Step	Action	Expected Result	Pass/Fail	Comments
1	Click easy mode	Game opens	P	N/A
2	Record fps while in easy mode	Ensure that the game is running below 60 fps	F	When running Easy Mode, fps is fluctuating between 12 fps and 158 fps.

<b>Test Case ID:</b>	3
<b>Owner of test case:</b>	Ania Lighty
<b>Test name:</b>	Easy Mode
<b>Date test run and tester:</b>	??/??/29, Ania Lighty
<b>Bug Description:</b>	When the easy mode button is clicked on it freezes the player's sprite and crashes the game.
<b>Test objective:</b>	To revamp Easy Mody so it functions as a tutorial mode for the game
<b>Test setup:</b>	Click the Easy Mode button on the main menu

Test Procedure				
Step	Action	Expected Result	Pass/Fail	Comments
1	Click Easy Mode button on the main menu.	Opens the Easy Mode level.		
2	Play until the end of level.	The player should know how to play the game.		

<b>Test Case ID:</b>	4
<b>Owner of test case:</b>	Jenna Saleh
<b>Test name:</b>	Help in Pause Menu
<b>Date test run and tester:</b>	9/22/19, Jenna Saleh
<b>Enhancement Description:</b>	To redesign the help menu to be legible and show how to play the game
<b>Test objective:</b>	Verify that the help menu is legible and functionable
<b>Test setup:</b>	Execute the help menu

<b>Test Procedure</b>				
<b>Step</b>	<b>Action</b>	<b>Expected Result</b>	<b>Pass/Fail</b>	<b>Comments</b>
1	Click Wave game mode and pause game	To open the game and its pause menu to see the help menu		
2	Click Help menu while it is paused	Clicking the help menu will open help		

<b>Test Case ID:</b>	5
<b>Owner of test case:</b>	Bao Hoang
<b>Test name:</b>	Bug: Score carry over
<b>Date test run and tester:</b>	
<b>Enhancement Description:</b>	After playing and losing the game the score does not reset and subsequence game starts with the score from the previous game.
<b>Test objective:</b>	Verify that the score reset to 0 for each new game
<b>Test setup:</b>	Execute the Waves game main class to start the game

<b>Test Procedure</b>				
<b>Step</b>	<b>Action</b>	<b>Expected Result</b>	<b>Pass/Fail</b>	<b>Comments</b>
1	Play until game over	Player's score increase while playing and final score are given when game over		
2	Start new game	The starting score should be 0		
3	Repeat for 2 more new games	The starting score should be 0		

## Enhancement Tests

<b>Test Case ID:</b>	6
<b>Owner of test case:</b>	Adam Curley
<b>Test name:</b>	Multiple Saved Games
<b>Date test run and tester:</b>	??/??/19, Adam Curley
<b>Enhancement Description:</b>	Currently only one game can be saved as of right now and there is no way to start a new game without first resolving that saved game. The goal is to allow the player to save multiple games and pick and choose which game they would like to continue or start a new one.
<b>Test objective:</b>	Verify that the game will allow the player to save up to four games, be able to select which game they want to play and start a new game without overwriting other saves.
<b>Test setup:</b>	Press the Save button in the Pause menu.

Test Procedure				
Step	Action	Expected Result	Pass/Fail	Comments
1	Play Levels 1-3 and click save game in pause menu.	Game is saved.		
2	Exit to main menu and click the Waves mode.	The game resumes play from where it was saved.		
3	Play Levels 4-6 and click save game in pause menu.	Game is saved.		
4	Click on waves mode and click new game.	A new game starts and not a continuation of the saved game.		

<b>Test Case ID:</b>	7
<b>Owner of test case:</b>	Lauren Atkinson
<b>Test name:</b>	Shop Enhancement
<b>Date test run and tester:</b>	09/20/2019, Lauren Atkinson
<b>Enhancement Description:</b>	To be able to know and understand the purpose of each powerup and what it does for the user during the game.
<b>Test objective:</b>	Verify that each powerup is useful to the player and that there is a short description displayed without having to hover over a specific part of the powerup selection box.
<b>Test setup:</b>	Try to buy a powerup and see if the description shows when clicking on powerup.

<b>Test Procedure</b>				
<b>Step</b>	<b>Action</b>	<b>Expected Result</b>	<b>Pass/Fail</b>	<b>Comments</b>
1	Run the game.	Game ran.	P	N/A
2	Locate the shop.	Shop is found.	F	The shop is hard to get to. The shop is located on the pause menu.
3	Choose a powerup, and be able to know what the power does.	Powerup has been bought.	F	There is no description for the powerup. It is not user intuitive.

<b>Test Case ID:</b>	8
<b>Owner of test case:</b>	Ania Lighty
<b>Test name:</b>	Character Customization
<b>Date test run and tester:</b>	??/??/19, Ania Lighty
<b>Bug Description:</b>	The player sprite is current set as a white square.The team aims to allow the player to change the look of the character.
<b>Test objective:</b>	Verify that the player can change the look of their sprite.
<b>Test setup:</b>	There is a button for the player to click on to access character customization.

Test Procedure				
Step	Action	Expected Result	Pass/Fail	Comments
1	Click the character customization button on the main menu.	The player should be brought to a screen where they can change their character.		
2	Clicking on a sprite option changes the player sprite.	The players sprite should change from the default.		
2	Opening and playing in either game mode.	The players sprite should be the one they picked.		



<b>Test Case ID:</b>	9
<b>Owner of test case:</b>	Jenna Saleh
<b>Test name:</b>	Help Menu Rework
<b>Date test run and tester:</b>	9/22/19, Jenna Saleh
<b>Enhancement Description:</b>	To redesign the help menu to be legible and show how to play the game
<b>Test objective:</b>	Verify that the help menu is legible and functionable
<b>Test setup:</b>	Execute the help menu

<b>Test Procedure</b>				
<b>Step</b>	<b>Action</b>	<b>Expected Result</b>	<b>Pass/Fail</b>	<b>Comments</b>
1	Click on the Help menu at the title screen	The Player should be brought to a legible and clear help menu.		
2				

<b>Test Case ID:</b>	10
<b>Owner of test case:</b>	Bao Hoang
<b>Test name:</b>	Enhancement: Trial Animation
<b>Date test run and tester:</b>	
<b>Enhancement Description:</b>	Current trail animation is the same shape/color/transparency as its object. This creates too much visual confusion.
<b>Test objective:</b>	Verify that the new trail animation is clean enough that the player won't get confused.
<b>Test setup:</b>	Execute the Waves game main class to start the game

<b>Test Procedure</b>				
<b>Step</b>	<b>Action</b>	<b>Expected Result</b>	<b>Pass/Fail</b>	<b>Comments</b>
1	Play a game to see trail animations of character, enemies, and enemies' bullets.	New trail animation is applied for player character.		
2		New trail animation is applied enemies.		
3		New trail animation is applied for enemies' bullets.		