Requirement Number	Requirement ID	Requirement description
18.0	UR_SPEND_MONEY	The user shall spend the money earned
19.0	UR_POWERUPS	The user shall have 5 powerups to use
20.0	UR_SAVELOAD	The user shall have the abiltiy to save and load the game
21.0	UR_DIFFICULTY	The user shall have the ability to select a difficulty
22.0	UR_QUIT	The user shall have the ability to quit the game
23.0	FR_XP_TRACKING	The game shall keep track of a player's XP
23.1	FR_XP_UPDATE	The game shall give XP on successful combat encounters completed
24.0	FR_QUEST_RANDOMISE	The game shall randomise user's objectives between different playthroughs
25.0	FR_BOSS_UNLOCK_TRACKING	The game shall monitor quest progression status prior to unlocking final objective
25.1	FR_BOSS_SPAWN	The game shall spawn boss upon final objective ready status
25.2	FR_GAME_WIN	The game shall display game stats upon successful completion of boss encounter
26.0	FR_PLAYER_DEFEAT	The game shall display game stats upon player defeat
26.1	FR_SCENARIO_FAIL	The game shall display game stats upon game over scenario completion

Test	Require	Description	Author	Input	Expected outcome	Actual outcome	Status	Comment
		These are some tests that were failed / needed to test again after some functionalities are fully implemented in the previous test and need to be retested. Tests that were passed in the previous test will not be tested a second time. For the numbering of requirements, please see page 1 of the table 01. Anything that has changed from table 01 will be marked in red.						
5.0.0	5.0	Try to forget about the code we have written for a while, follow the game's instructions exactly to complete the game and start timing the moment the game starts in 3 different difficulties.	Logan	Keyboard Input	Good instructions	Same as expeted	Pass	5:14 is relatively acceptable
	6.0				Complete game within 5min	Easy: 3:19, 0 failure Normal: 3:52, 0 failure Hard: 5:14, 1 failure		
8.0.0	8.0	Proactively approach ships identified as friendly and try to bump them, move away from them, and fire bullets at them to see how they react	Logan	Keyboard Input	Follow the player's ship but do not attack the player, AI response time <200ms	All other ships with a different color attack the player in intention	Fail	Failed to implement, see testing report for causes
	8.1				Attack enemy ships/buildings with player's ships	No reactions to enemy colleges	Fail	
9.0.0	9.0	Proactively approach ships identified as hostile and try to bump them, move away from them, and fire bullets at them to see how they react	Logan	Keyboard Input	Follow the player's ship and attack the player and his/her allies, AI response time <200ms	Same as expeted	Pass	All other college's ships are hostile
	9.1				Attack player/ player's allies' ships/buildings			
	9.2				Collision would cause health damage or just like 'pushing' the ships the player get bumped with			
12.0.0	12.0	Try to use player's ship to approach the buildings identified as friendly and observe the reaction of the buildings	Logan	Arrow Keys	Nothing happens	All other colleges' buildings are hostile	Fail	Failed to implement, see testing report for causes
13.0.0	13.0	Try to use player's ship to approach the buildings identified as enemy and observe the reaction of the buildings	Logan	Arrow Keys	Buildings on the island fire tracking bullets at the player, cause damage to the player	Same as expeted	Pass	
14.0.0	14.0	After completing the task of killing the assigned collage according to the "Kill Requests" assigned to the player, observe the difference in the reaction of the ships of the collage they belong to that have already been totally killed	Logan	Arrow Keys	The remaining ships of the destroyed enemy collage become allies of your own	All the other colleges are hostile, and they never change their faction	Fail	

16.1.1	16.1	Test whether it will be judged as quest completed when the player's ship touches the chest box	Logan	Player's ship collide with edge of the chest sprite	Get award, prompt for game win or update a new quest	The player is regarded as have touched the chest before his ship has touched it	Pass	We are not going to fix this issue, see test report for reasons
		New tests in the 2nd phase						
18.0.0	18.0	When coins > 90, buy each of the five Powerups in the shop and activate them to test their functionality	Logan	Keyboard Input & Mouse click	Successfully buy all 5 Powerups and all worked properly			
	19.0							
20.0.0	20.0	At the very beginning of the game, enter the game, press Esc, save the progress archive, exit the game and re-enter the game and load the progress archive. Continue the game until only one quest left to complete, press Esc, save progress archive, exit the game. Re-enter the game and load the second progress archive to check the feasibility of saving the game at two different game progressions.		Keyboard Input , Mouse click, progress archive files	Successfully saved and exited the game, both 2 progress archives can be successfully reloaded in a new game	Same as expeted	Pass	
	22.0							
5.0.0	21.0	(Same as 5.0.0 above)		Keyboard Input & Mouse click	The difficulty can be selected in the start menu, and the difficulty of completing the game will be different after different options are selected			
23.0.0	23.0	(White box testing)		(See JUnit docs)	(See JUnit docs)	(See JUnit docs)	Pass	
	23.1							

24.0.0	24.0	Enter the game four times in a row, exit immediately after entering the game by recording the first quest assigned and then re-enter	Keyboard Input	At least one quest is different from the other three	Quest recorded 1: Kill Langwith Quest recorded 2: Find a chest South West Quest recorded 3: Find a chest South West Quest recorded 4: Kill Derwent	Pass	
25.0.0	25.0	When the exp reach the criteria, a high hp and high attack boss will appear on the map for the player to attack, after killing the boss it will jump to the game completed screen with the character's current status and achievement	Keyboard Input	Bosses appear when the exp reaches criteria, player can attack the boss and jump to the game completed screen when the boss dies	The game ends when the player reaches the exp criteria and jumps to the game completed screen	Fail	Failed to implement, see testing report for causes
	25.1						
	25.2						
26.0.0	26.0	Deliberately ram into the boss in a boss fight and jump to the failure screen after losing all hp	Keyboard Input	Jump to failure screen after player killed by the boss	No boss appeared	Fail	
	26.1						

Requirements Traceability		Requirements												
		18.0	19.0	20.0	21.0	22.0	23.0	23.1	24.0	25.0	25.1	25.2	26.0	26.1
Test cases	18.0.0	x	x											
	20.0.0			x		x								
	5.0.0				x									
	23.0.0						x	x						
	24.0.0								x					
	25.0.0									x	x	x		
	26.0.0												x	x

For 5.0.0, please see the first page of table 1