

Test Cases

New tests for assessment 4 are highlighted orange

ID T.U.XXX (User) T.F.XXX (Func) T.N.XXX (Non-F)	Description	Test Category	Relevant Requirements	Test Author	Input Data	Expected Outcome	Actual Outcome	Status	Severity 1 - No concern 9 - Severe	Update Comments
T.U.001	Test fire trucks can have their direction controlled by the user.	Smoke/end-to-end	CONTROL_TRUCK	JL	Use arrow keys (UP, LEFT, RIGHT, DOWN) when in-game.	Firetruck rotates according the the selected arrow key direction, and accelerates in that given direction.	Firetrucks rotate and accelerate in given direction	Pass	7	
T.U.002	Test the fire truck spray can have its direction controlled.	Smoke/end-to-end	CONTROL_SPRAY	JL / DB	Use arrow keys (UP, LEFT, RIGHT, DOWN) when in-game to rotate the fire engine. Left click to enable water spray.	Water spray direction changes when truck rotated.	Water spray direction changes when truck rotated.	Pass	7	Spray is now enabled with mouse button
T.U.003	Test fire trucks can be returned to the fire station.	Smoke/end-to-end	RETURN_HOME, CONTROL_TRUCK	JL	Use arrow keys (UP, LEFT, RIGHT, DOWN) when in-game to move each firetruck to the fire station.	Firetruck can navigate to the station by manual user control.	Firetruck can navigate to the station by manual user control.	Pass	5	
T.U.004	Test fire trucks can be repaired.	Smoke/end-to-end	RETURN_HOME, CONTROL_TRUCK	JL	Damage the firetruck (either by driving into walls, or being attacked by an ET fortress), then return to the fire station.	Firetruck health bar replenishes to full, and turns green.	Firetruck health bar replenishes and turns green.	Pass	4	
T.U.005	Test fire trucks can be refilled.	Smoke/end-to-end	RETURN_HOME, DESTROY_ENTITIES, CONTROL_TRUCK, CONTROL_SPRAY	JL	Use water cannon on ET fortress, then return to fire station.	Firetruck water tank bar replenishes to full.	Firetruck water tank bar replenishes to full.	Pass	4	
T.U.006a	Test user can switch between fire trucks.	Unit test	VARIED_TRUCKS	DB	Active fire truck: firetruck1 Parked fire trucks: firetruck2, firetruck3 Want to set active fire truck to firetruck2	firetruck1 should be moved into the index of firetruck2 (0), and firetruck2 should become the active firetruck	Active fire truck: firetruck2 Parked fire trucks: firetruck1, firetruck3	Pass	4	JUnit test added to show it working in action
T.U.006b		Smoke/end-to-end	VARIED_TRUCKS	JL / DB	Enter a car park and select an unlocked truck	The fire truck being controlled is now the one selected in the menu	The fire truck being controlled is now the one selected in the menu	Pass		This test has been edited for the new truck management system in place
T.U.007	Test income counter increments.	Smoke/end-to-end	GAIN_INCOME, DESTROY_ENTITIES	JL / DB	Destroy an ET fortress using the water cannon of the firetruck.	Income counter increments.	Income counter increments.	Pass	2	Changed this to an end-to-end test
T.U.008	Test income is generated from destroying aliens.	Smoke/end-to-end	GAIN_INCOME, DESTROY_ENTITIES	JL / DB	Destroy an alien/alien patrol using the water cannon of the firetruck.	Income counter increments.	Score label is increased on the screen	Pass	2	Aliens have now been added
T.U.009	Test the game can be won once all fortresses are destroyed.	Smoke/end-to-end	WIN_GAME, DESTROY_ENTITIES	JL	Destroy all ET fortresses in the game using the water cannon of the firetruck.	Game ends.	Game ends.	Pass	7	
T.U.010	Test the user can explore the game map.	Smoke/end-to-end	CREATE_MAP, CONTROL_TRUCK	JL	Use arrow keys (UP, LEFT, RIGHT, DOWN) when in-game to move each firetruck around the map.	The camera view follows the firetruck, and the map can be explored.	The camera view follows the firetruck, and the map can be viewed. The camera zoom can be controlled by the player using the scroll wheel	Pass	8	We changed the way the zoom works
T.U.011	Test the user encounters alient patrols throughout the map.	Smoke/end-to-end	CREATE_ENTITIES, CONTROL_TRUCK	JL / DB	Use arrow keys (UP, LEFT, RIGHT, DOWN) when in-game to move a firetruck around the map for a two-minute period.	At least one alien patrol should be encountered.	An alien patrol was encountered	Pass	6	Aliens have now been added
T.U.012	Test there is no graphic violence in the game.	Smoke/end-to-end	NO_VIOLENCE	JL / DB	Use water cannon on an alien patrol, and drive firetruck into alien patrol.	No graphic violence is given. Aliens fade away when struck by cannon/truck.	There is no graphic violence with the patrols	Pass	6	Aliens have now been added
T.U.013	Test there is a menu to access the game, how to play screen and the ability to Quit the game	Smoke/end-to-end	MENU	JL / DB	Run the Kroy program.	Menu is displayed with Play Game, How to Play and Quit	Menu is displayed with Play Game, How to Play and Quit	Pass	4	Decided against leaderboard and edit settings screens. Instead added how to play screen, and Minigame is added from within the main game
T.U.014a	Test that users can see fire truck prices	Unit test	OPEN_SHOP	DB	N/A	isMenuOpen should be true and the water hose should be off	isMenuOpen is true and isSpraying is false	Pass	4	Carpark menu opens when the fire truck drives into a collision tile
T.U.014b		Unit test	OPEN_SHOP	DB	Respawn location is Main1 (fire station)	isMenuOpen should be false and the active truck should respawn in the correct location	isMenuOpen is true and isSpraying is false	Pass		Carpark menu closes when close button is pressed, and the fire truck should be in the respawn position of that car park
T.U.014c		Smoke/end-to-end	OPEN_SHOP	DB	Drive truck into any car park	Car park screen is displayed and the player can see the fire truck prices	Can view fire truck prices in the car park screen	Pass		Added to show car park menu functionality
T.U.015a		Unit test	BUY_ITEM	DB	N/A	firetruck.isBought() returns true	firetruck.isBought() returns true	Pass		Added unit test

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T.U.015b	Test that users can buy a fire truck	Smoke/end-to-end	BUY_ITEM	DB	Earn enough score to buy a new fire truck, then drive to a car park and purchase a new fire truck	User should be able to select that fire truck as their active fire truck	User can buy fire truck and drive it around	Pass	4	Added to show car park shop functionality
T.U.016	Test that user can access the mini game	Smoke/end-to-end	MINI_GAME_ACCESS, MINI_GAME	DB	Drive over a mini game sprite	Minigame screen should appear and the minigame should start	Minigame appears and counter starts going down	Pass	8	Minigame has now been added
T.U.017	Test that the minigame ends	Smoke/end-to-end	MINI_GAME	DB	Enter minigame and wait 30 seconds	Player should return to the game screen	After 30 seconds the minigame closes and user returned to main game	Pass	7	Minigame has now been added
T.U.018	Test user can access how to play screen	Smoke/end-to-end	MENU_GAME_DOCUMENTATION	DB	Run Kroy program, click the How to Play button	The How to play screen should appear	How to play screen appears with information about how to play the game	Pass	3	How to play screen has been added
T.U.019	Test that aliens in the minigame spawn	Unit test	MINI_GAME	DB	Set screen dimensions	Size of alien list after should be greater than size of alien list before spawning a new alien	List is greater after the alien has spawned	Pass	5	Added Minigame
T.U.020	Test that aliens in the minigame are of one of three types	Unit test	MINI_GAME	DB	Create list containing all 3 types	Check that a list with the 3 types in it contains the type generated	Generated type is within the list of possible types	Pass	2	Added Minigame
T.U.021	Test that score from the minigame are added to the main game	Smoke/end-to-end	MINI_GAME	DB	Enter minigame, earn score, wait until game finishes	Score earned in the minigame should be transferred into the main game	Earned 230 score in the minigame which was added to score in main game	Pass	3	Added Minigame
T.U.022a	Test that when a player hits on a certain alien, it gives the correct score	Unit test	MINI_GAME_GAIN_INCOME	DB	Enter minigame, click green alien	Score should be increased by 10	Score increased from 0 to 10	Pass	4	Added Minigame
T.U.022b		Unit test	MINI_GAME_GAIN_INCOME	DB	Enter minigame, click red alien	Score should be increased by 20	Score increased from 0 to 20	Pass	4	Added Minigame
T.U.022c		Unit test	MINI_GAME_GAIN_INCOME	DB	Enter minigame, click blue alien	Score should be increased by 50	Score increased from 0 to 50	Pass	4	Added Minigame
T.U.023a	Test that you can only repair at the fire station	Unit test	RETURN_HOME	DB	Take health from firetruck, set car park to 3, which is Upper1 (not fire station)	Health of firetruck after trying to repair should be the same as before trying to repair	Health of active firetruck does not increase	Pass	6	Added carparks, so must make sure they can still only repair at the fire station
T.U.023b		Unit test	RETURN_HOME	DB	Take health from firetruck, set car park to 0, which is Main1 (is the fire station)	Health of firetruck should increase after repairing	Health of fire truck increases	Pass	6	Added carparks, so must make sure they can still only repair at the fire station
T.U.024a	Test that patrols can be destroyed when their health reaches zero	Unit test	DESTROY_ENTITIES	DB	Take all health from patrol	Patrol's isDead boolean should be true	isDead is true	Pass	5	Aliens have now been added
T.U.024b		Unit test	DESTROY_ENTITIES	DB	Take all but one health point from patrol	Patrol's isDead boolean should be still be false	isDead is false	Pass	5	Aliens have now been added
T.U.025a	Test that patrols can detect when a position is within range of being attacked	Unit test	CREATE_ENTITIES	DB	Set vector position to 1 unit within the radius	isInRadius() should be true	isInRadius() is true	Pass	4	Aliens have now been added
T.U.025b		Unit test	CREATE_ENTITIES	DB	Set vector position to exactly on the radius	isInRadius() should be true	isInRadius() is true	Pass	4	Aliens have now been added
T.U.025c		Unit test	CREATE_ENTITIES	DB	Set vector position to 1 unit outside of the radius	isInRadius() should be false	isInRadius() is false	Pass	4	Aliens have now been added
T.U.026a	Test that patrols cannot shoot at a constant rate	Unit test	CREATE_ENTITIES	DB	Set patrol internal time to 0	canShootProjectile() should be true	canShootProjectile() is true	Pass	2	Aliens have now been added
T.U.026b		Unit test	CREATE_ENTITIES	DB	Set vector position to exactly on the radius	canShootProjectile() should be false	canShootProjectile() is false	Pass	2	Aliens have now been added
T.U.027a	Test that patrols follow the graph layout properly	Unit test	CREATE_ENTITIES	DB	Starting junction is same as target junction	Patrol's queue should only contain one junction	Patrol's queue only contains 1 node, therefore doesn't move	Pass	5	Aliens have now been added
T.U.027b		Unit test	CREATE_ENTITIES	DB	Starting junction and goal junction are connected with 1 road	Patrol queue should contain 2 junctions, the starting node followed by the end junction	Patrol queue only contains 2 junctions, the starting junction followed by the end junction	Pass	5	Aliens have now been added
T.U.027c		Unit test	CREATE_ENTITIES	DB	Starting junction and goal junction are different from previous test	Patrol path queue should go from zero to two, as it is quicker than going from zero to one to two	Patrol path contains two junctions, zero and two	Pass	5	Aliens have now been added
T.U.028	Test that a destination ("goal") can be set for patrols to find their way to.	Unit test	CREATE_ENTITIES	DB	Instantiated Junction is given to setGoal().	The same instance of the Junction "Goal" should be returned by patrolMovementSprite.	The same instance of the Junction "Goal" is indeed returned.	Pass	5	Aliens should be added.
T.U.029a	Test that the directional arrow points towards the nearest fortress.	Unit test	CREATE_MAP_CONTROL_TRUCK	EB	Truck is set to position (2,2) and Fortresses at (10,10) and (20,20)	Nearest fortress should be fortress 1 and rotation should be -45°.	The nearest fortress is indeed fortress 1 and rotation of the arrow is -45°.	Pass	2	Arrow has been added.
T.U.029b		Unit test	CREATE_MAP_CONTROL_TRUCK	EB	Truck is set to position (0,0) and Fortresses at (0,0) and (10,10)	Nearest fortress should be fortress 1 and rotation should be 0°.	The nearest fortress is indeed fortress 1 and rotation of the arrow is 0°.	Pass	2	Arrow has been added.

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