

CWRK1.2 – XNA Game Testing Report

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Test Case ID: TC-1

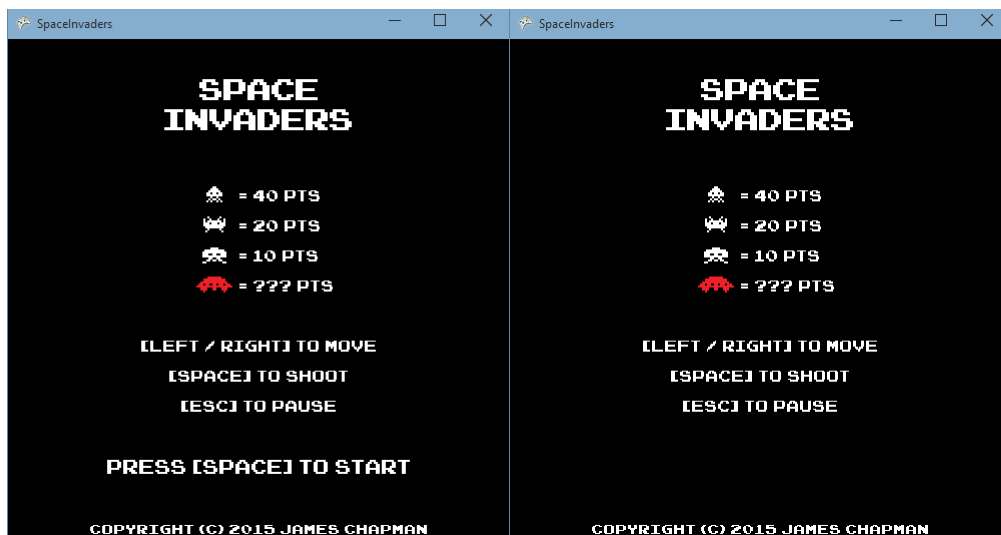
Tested Game Feature: Start screen.

Specification:

The game should display the start screen when first run. The text *"Press [Space] to Start"* should be flashing. When the space key is pressed, the main game should be displayed.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-2

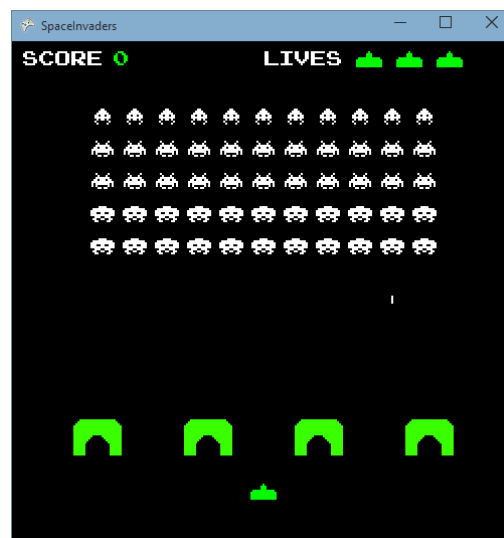
Tested Game Feature: Initial game state.

Specification:

When the main game is started, the player launcher should be positioned at the bottom centre of the screen and start with three lives. Four defences should be displayed evenly spread across the bottom of the screen slightly above the player, showing no signs of damage. The first wave of invaders should be positioned at the top centre of the screen as five rows by eleven columns of space invaders. The score should display zero.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-3

Tested Game Feature: Pause screen.

Specification:

During the main game loop, when the escape key is pressed the pause screen should be displayed. The text *“Paused”* should be flashing. Pressing the escape key again should resume the game.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-4

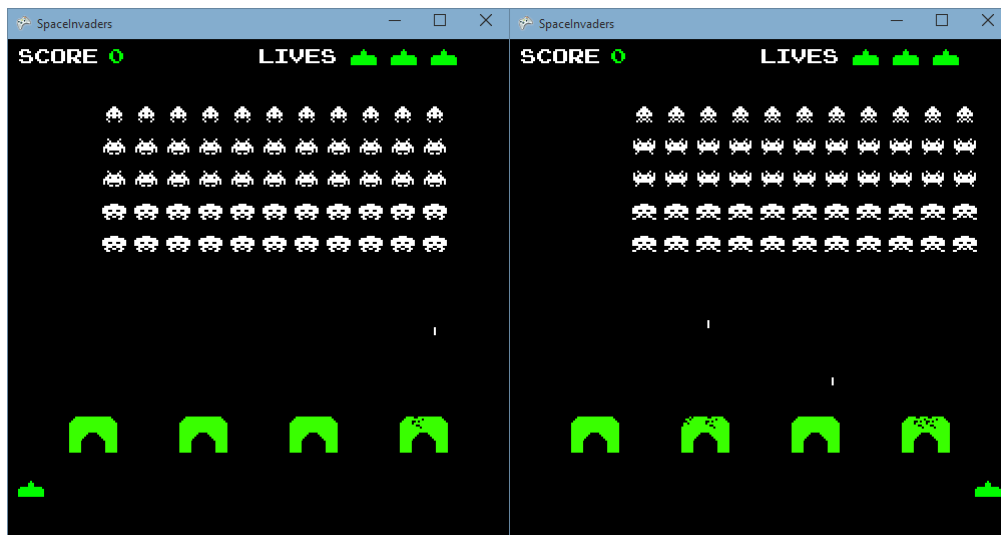
Tested Game Feature: Movement of the launcher.

Specification:

The launcher should move horizontally left or right from its current position when the left or right arrow key is pressed, respectively. The launcher should not move outside the edges of the screen.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-5

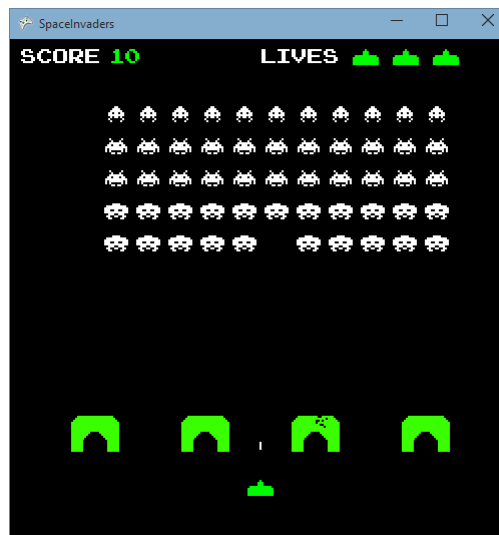
Tested Game Feature: Firing of player projectile.

Specification:

When the space key is pressed, a projectile should be spawned just above the launcher and travel towards the top of the screen, provided that another player projectile isn't already on screen. A shooting sound should also be played.

Test Result:

Passed. Observed output as expected.

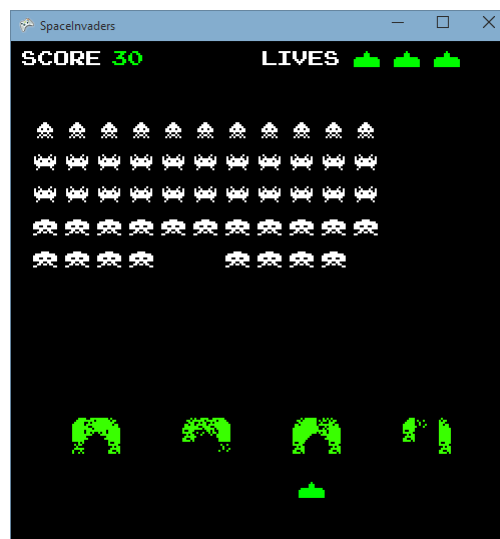


Test Case ID: TC-6**Tested Game Feature:** Destruction of defences.**Specification:**

The four defences on screen are composed of 'blocks' which should initially appear in an undamaged state. When shot, these blocks should change between three states of increased damage. On the fourth shot they should disappear entirely, allowing any further shots to pass through.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-7

Tested Game Feature: Invader movement.

Specification:

Invaders should move together as a wave, maintaining their positions within the grid. They should move by 'jumping' or 'teleporting' (i.e.: not in a smooth, continuous motion) a few pixels at a time, initially left to right. When the leftmost or rightmost invader reaches the edge of the screen, the wave should move downwards once, then travel back across the screen in the opposite direction. Each jump, the invaders should alternate between two sprites and a sound from a loop of four sounds should be played. The speed at which the invader jumps occur should increase as more invaders are destroyed.

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-8

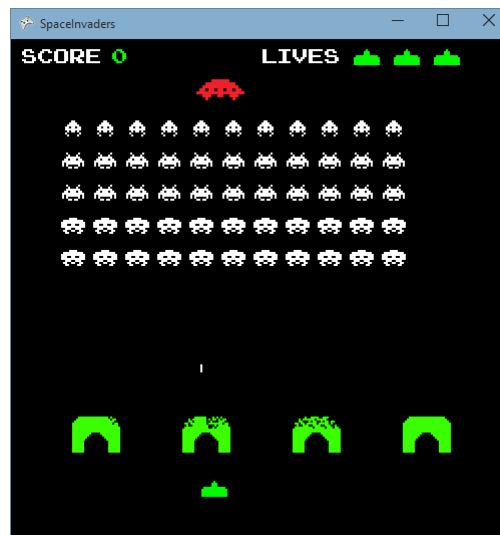
Tested Game Feature: UFO movement.

Specification:

At random intervals, the UFO should travel across the screen either left to right or right to left. While it is visible a looping sound should play.

Test Result:

Passed. Observed output as expected.

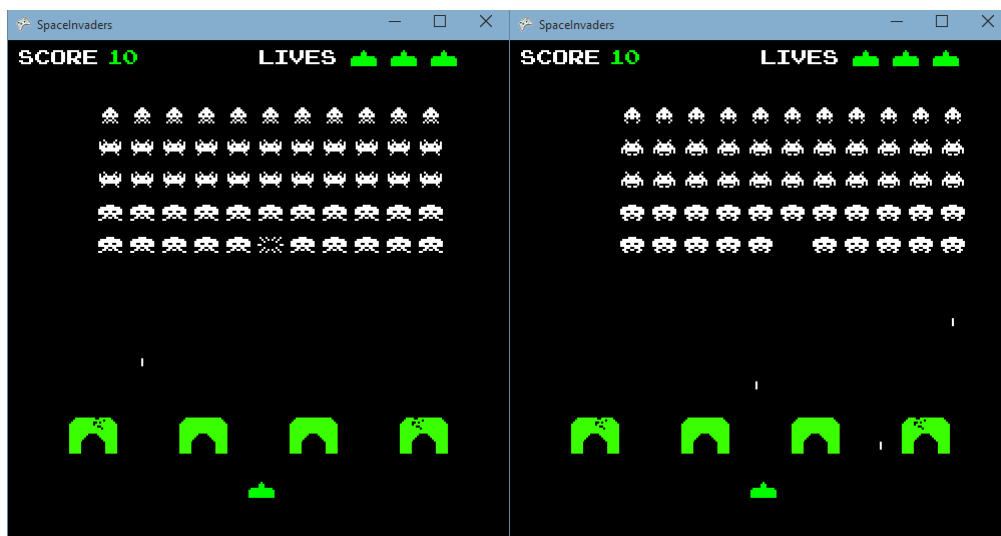


Test Case ID: TC-9**Tested Game Feature:** Invader destruction.**Specification:**

When shot by the player, an invader should change to a 'destroyed' sprite and play a sound. When the wave of invaders next moves, the invader should then disappear. The score should be increased by ten for invaders in the bottom two rows, by 20 for invaders in the middle two rows and by 40 for invaders in the top row. Active projectiles fired by the destroyed invader should be allowed to carry on until they move off the screen or collide with something.

Test Result:

Mostly successful. Observed output as expected, except for occasional issue with some projectiles getting 'stuck' if in motion when the invader which shot them is destroyed.



Test Case ID: TC-10

Tested Game Feature: UFO destruction.

Specification:

When shot by the player, the UFO should disappear and the sound should stop playing. A score should be randomly decided in the range 100 – 500 and to the nearest 50. This score should be displayed flashing at the position of the UFO before it's destruction for a few moments. The total player score should also be increased by this amount.

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-11

Tested Game Feature: Invaders shooting.

Specification:

The invaders at the bottom of each column should be able to shoot a projectile at random intervals, provided that another projectile fired by that invader isn't already on screen.

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-12

Tested Game Feature: Projectile collisions.

Specification:

If a projectile fired by the player collides with a projectile fired by an invader, both projectiles should be destroyed.

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-13

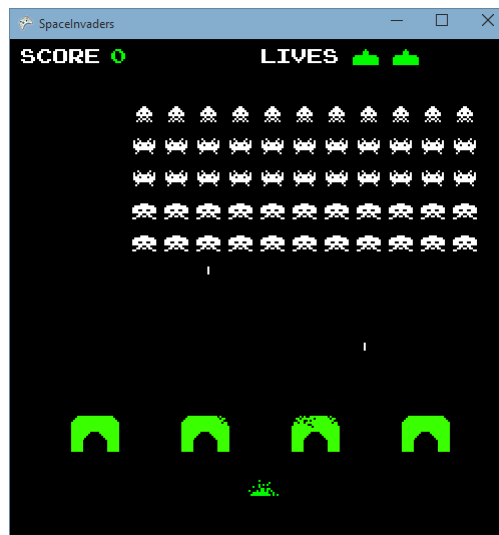
Tested Game Feature: Player launcher destruction.

Specification:

If the player launcher is shot by an invader, the launcher should display a 'destroyed' sprite and play a sound. After a short pause the player sprite and position should be reset and the game resumed. The number of lives should be decremented by one.

Test Result:

Passed. Observed output as expected.



Test Case ID: TC-14

Tested Game Feature: Invader wave completion.

Specification:

When all the invaders in a wave have been shot by the player, a new wave should spawn at the top centre of the screen and the number of player lives should be incremented by one. The score and damage condition of the defences should not be reset.

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-15

Tested Game Feature: Life count display.

Specification:

The number of lives should be displayed in the top right corner of the screen as two rows of 4 launchers (when the maximum number of lives has been obtained) next to the text "*Lives*".

Test Result:

Passed. Observed output as expected.

Test Case ID: TC-16

Tested Game Feature: Game over screen.

Specification:

When the player runs out of lives or the wave of invaders reaches the same vertical position as the launcher, the game over screen should be displayed. The text “*Game Over*” should appear one letter at a time. When the escape key is pressed, the start screen should be displayed.

Test Result:

Passed. Observed output as expected.

