# Black Box Testing

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| ID | Feature | Test | Expected | Actual | Solution |
| 1 | Collision | Player hits object | Object moves away in opposite direction. | Player moved inside of object. | Stop adding the camera move vector when collided. |
| 1 – Retest 1 |  | Player hits object | Object moves away in opposite direction. | Object moved in same direction as player not the direction it hit | Work out the direction between the camera and the object and multiply it by the move speed. |
| 1 – Retest 2 |  | Player hits object | Object moves away in opposite direction. | Object moves away in opposite direction. |  |
| 2 | Collision | Object to object collision | Objects bump into other objects and then slow down themselves or stop depending on whether the other object is moveable. | When one object collides with another object, they just get stuck inside each other. | Direction vector being calculated wrong. |
| 2 – Retest 1 |  | Object to object collision | Objects bump into other objects and then slow down themselves or stop depending on whether the other object is moveable. | When one object collided with another, it would push it away but the further away the object would move the velocity of the first object would exponentially get higher. | Normalise direction vector. |
| 2 – Retest 2 |  | Object to object collision | Objects bump into other objects and then slow down themselves or stop depending on whether the other object is moveable. | Objects work in the positive axes but move positively in the negative axes. | Removed direction vector as it was a negative multiple as well, making it become a positive. |
| 2 – Retest 3 |  | Object to object collision | Objects bump into other objects and then slow down themselves or stop depending on whether the other object is moveable. | Objects collide and move right speed, but they only move in the same direction as the original object not the direction. | Unfixed, future games consider using elastic collision |
| 3 | Sounds | When shooting, a sound is played | Laser sound plays | Laser sound plays only once and then not again. | When it is needed to play again Stop playing the old sound, flush the buffers and then play from the beginning. |
| 3 – Retest 1 |  | When shooting, a sound is played | Laser sound plays | Laser sound plays |  |
| 4 | Sounds | When laser collides with any object, a sound is played | Explosion sound plays | Explosion sound plays |  |
| 5 | Sounds | When game starts music plays | Music track plays and loops | Music track plays but, not loops | Change loop count to infinite. |
| 5 – Retest 1 |  | When game starts music plays | Music track plays and loops | Music track plays and loops |  |
| 6 | Controller | Collide with objects | Controller vibrates | Controller vibrates |  |
| 7 | Enemy Chasing | Chase player when in range | Chases Player when in range | Chases Player when in range |  |
| 8 | Enemy Fleeing | Flees when low on health | Moves in opposite direction of player | Moves to random location not opposite direction | Calculating look at vector wrong. Calculate by taking its position and minus players position minus its position. |
| 8 – Retest 1 |  | Flees when low on health | Moves in opposite direction of player | Moves in opposite direction of player |  |
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# White Box Testing

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| ID | Test | Evidence |
| 1 | Make sure Laser removes itself correctly from player |  |
| 1 - works | Make sure Laser removes itself correctly from player |  |
| 2 | Test to make sure health works currently and subtracts when bullet collides |  |
| 2 - works | Test to make sure health works currently and subtracts when bullet collides |  |
| 3 | Make sure Laser correctly adds itself back to the object pool. |  |
| 3 - works | Make sure Laser correctly adds itself back to the object pool. |  |