Lucid Reverie VR QA Test Plan

OBJECT INTERACTION

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| TEST DESCRIPTION/STEPS: | * Choose a clutter object and pick it up * **If using attach ease-in,** is the speed at which the object attaches to your hand appropriate? * Rotate your hand around and note the way the object pivots – Does it seem natural? * Note the location the object is attaching to your hand – Does it seem like a logical point to grab the object? * Note the pose of the hand when holding the object – Is the hand’s pose relatively natural for the object? * Try to pass the object through some others – Does it properly move objects out of the way? Do the colliders seem logical? * Throw the object – Does it behave how you would expect? (ie heavy objects should move little after hitting the floor while light objects would bounce more, etc) |
| TEST COMMENTS: | * Note that 3rd party clutter objects are too numerous to realistically fix all their pivots, so they will likely rotate around either the centre or the bottom of the object – This is intentional |
| EXPECTED RESULT: | * The object should rotate around a logical position and attach to the hand at a logical location * The pose of the hand should be (relatively) natural for grabbing the object * Object should move other objects out of the way when pushed through them, and the colliders should match the object’s size and shape. * Throwing the object should reset its physics material values to what they were before you picked it up, and it should behave realistically upon colliding with other objects – Heavy objects should scatter lighter ones when thrown into them, and bounce little when hitting the floor, while light objects should do the opposite. |
| TESTER RESULT: | * Some first party assets had broken pivots * Clutter was jittering inside furniture when held * Objects knocked others out of the way correctly but phased through some furniture * Object physics behaved correctly, items on dining table slid off |
| TESTER COMMENTS: | * Cushion pivots were fixed by making them children of empty game objects and positioning the parent to the correct location * Updated PhysicsMaterialController.cs to fix object jitter by altering the furniture bounciness when colliding with a held object – This also fixed objects phasing through furniture. * Objects on dining table sliding was fixed by making the table Kinematic * Objects bounced correctly when thrown, so their physics material values were correctly reset |

PUZZLE OBJECT RETURNING TO ORIGIN

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| TEST DESCRIPTION/STEPS: | * Pick up a puzzle object such as the teacup * Throw it far enough away to reset its position – Does it properly return to its origin or does it find a new location nearby? Repeat this multiple times. * Fill the origin location of the object with other clutter or a significantly larger object then repeat above test. – Observe the results. |
| TEST COMMENTS: | * The console will contain debug messages about what happened to an object when it returns – Note these. |
| EXPECTED RESULT: | * When no other objects are in the spawn zone, the chosen object successfully returns to its spawn. * When the spawn zone is occupied, the chosen object spawns in a new location nearby. |
| TESTER RESULT: | * Teacups were not correctly returning to origin when it was empty, they were searching for a new location * When the space was occupied they would sometimes spawn in the air off of the table or underneath it * When a return location could not be found, the game froze temporarily |
| TESTER COMMENTS: | * The teacups were finding their origin blocked due to the size of the teapot collider – After adjusting this and the positions of the teacup they returned to origin correctly * Reducing the radius of the search area prevented the teacups from spawning underneath or off the table. * Game freezing was fixed by reducing the amount of times the ReturnToOrigin.cs script checked for a suitable location – Changed from 1000 to 100. |

LIGHT / OBJECT INTERACTION

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| TEST DESCRIPTION/STEPS: | * Pick up the pink cat lamp * Move the lamp around the area, rotate it, and check for frame drops * Turn towards the cup/dog bone area and throw the lamp – Note any frame drops * Take the lamp to the shelving near the dog bone desk, wave it around near the books and note any frame drops |
| TEST COMMENTS: | * This test should be run in tandem with the test below – Just ensure the FPS canvas is in the scene and the profiler is open |
| EXPECTED RESULT: | * No noticeable frame drops * No shadow clipping |
| TESTER RESULT: | * Some shadows and lights from the Cat Lamp were clipping through other objects * There were noticeable frame drops when the lamp was thrown from one side of the room to the other, and when turning around while holding it – Framerate dropped to around 50 for light recalculation. |
| TESTER COMMENTS: | * Shadow and Light clipping was fixed by adjusting Cat Lamp’s Near Plane value, however this still produces some clipping but this is decided value for compromise |

TRICOUNT / FPS / PROFILER OBSERVATIONS

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| TEST DESCRIPTION/STEPS: | * Make sure the FPS canvas is in the scene and working * Look around the room and monitor the tri count – Does it ever get close to 1.3 million? * Teleport to the dog bone desk and look toward the bunny clock, stand relatively still and observe the frame count * Teleport next to the couch and look toward the shelves near the dog bone desk, stand relatively still and observe the frame count * Teleport between the dog bone desk and the card shelves rapidly – observe frame count * After stopping, observe the profiler for where the spikes are occurring |
| TEST COMMENTS: | * If someone else is available, have them observe the profiler during tests to see spikes in real time * Frames will spike-drop down to ~50 when looking from one side of the room to the other - observe the average not the minimum. This occurs because of lighting recalculations. |
| EXPECTED RESULT: | * Highest expected tri-count should be below 1.3 million Tris * Tricount should be relatively high when looking at one side of the room from another * Framerate throughout the test should be as close to 90fps as possible – With the exception of light recalculation and rapid teleporting * Profiler spikes should also coincide with light recalculation and rapid teleporting |
| TESTER RESULT: | * Maximum tricount observed was around 1.1 million without any objects on the card puzzle shelf * Framerate was not steady, averaging between 70 and 80. |
| TESTER COMMENTS: | * Several assets were discovered to be too high-poly in relevance to its importance and were removed from the scene. These were:   + 3x Couch Cushions – 8300 tris each   + Wine Glass – 12000 tris   + Desk Lamp – 14000 tris   + Floor Lamp – 31000 tris   + Flower Vase – 18500 tris   + Sculpture – 7000 tries * Several other objects were also found to be too high-poly but were left in the scene because they WERE important. These were:   + Dog Bowl   + Cat Lamp   + Wicker Basket   + Desk Chair/Dining Chair |