

Setup

1. Open up the project in the Unity editor
2. Hit play

Menu Tests

Cat Animation Test

- **Test Subject:** cat sprite
 - **Expected State:** dance animation
 - **Game State:** main menu screen
 - **User Input:** open the game
-
- On starting the game, check that the cat sprite is animating

Menu Music Test

- **Test Subject:** menu music
 - **Expected State:** playing
 - **Game State:** main menu screen
 - **User Input:** open the game
-
- On starting the game, check that the menu music is playing

Leaderboard Button Test

- **Test Subject:** leaderboard button
 - **Expected State:** opens leaderboard window
 - **Game State:** main menu screen
 - **User Input:** tap or click the leaderboard button
-
- On tapping or clicking the leaderboard button, the leaderboard window should pop up

Leaderboard Back Button Test

- **Test Subject:** leaderboard back button
- **Expected State:** closes leaderboard window
- **Game State:** leaderboard window open
- **User Input:** tap or click the x button

- On tapping or clicking the leaderboard's x button, the leaderboard window should close and return to the main menu

Store Purchase Test

- **Test Subject:** store currencies
- **Expected State:** consumes currency on purchase if you have enough currency, otherwise does nothing
- **Game State:** store window open
- **User Input:** buy item
- In the Project window, go to Assets > Scripts > UI > Shop, and open up ShopUI.cs
- Modify the k_CheatCoins and k_CheatPremium values as needed for these tests
- You can click on the "Store" button here to add currency to your account
- To reset your currency, exit the store menu and click the Settings button, then click Delete Data and confirm the choice
 - Attempt to purchase each item while your currency is greater than the required amount, and check that the subtotal is correct
 - Attempt to purchase each item while your currency is exactly the required amount, and check that the subtotal is zero
 - Attempt to purchase each item while your currency is exactly one less than the required amount (checking for off by one error in logic), and check that the game does not allow the purchase
 - Attempt to purchase each item while your currency is much less than the required amount, and check that the game does not allow the purchase
- Perform the tests again with only one of the currencies (test both) meeting the test requirements, checking that the purchase is only allowed if both currency requirements are met

Gameplay Tests

Runner Bounds Test

- **Test Subject:** runner lane location
- **Expected State:** allowed left, middle, and right lanes
- **Game State:** in a run
- **User Input:** arrow keys, or swiping left and right
- While within a run in the game, attempt to move left while in the left lane, check to make sure the character cannot move further left
- Perform the same test with the right lane and moving right
- Perform the same tests, except move the opposite direction after attempting to move past the lane bounds more than two times, and check to see that the character moves into the lane properly (checking if the UI lane position matches the internal lane position)

Currency Collection Test

- **Test Subject:** fish bone currency
- **Expected State:** increments when character collides with fish bone pickups
- **Game State:** in a run
- **User Input:** collide with fish bone pickups
- While within a run in the game collide with fish bone pickups and check that the UI counter in the top right hand corner increments properly
- Reset your currency, then collect exactly enough fish bone to purchase a magnet (750), then exit the run. Check to see if you can purchase the magnet after asserting the **Store Purchase Test** passed. You should be able to purchase the magnet (checking to see if UI matches internal count of fish bone currency)
- Repeat the above test, but collect exactly one less than is enough to purchase a magnet (749), then exit the run. You should not be able to purchase the magnet

Invincibility Powerup Test

- **Test Subject:** invincibility powerup
- **Expected State:** the cat character doesn't trigger collisions while under the effects of the invincibility powerup
- **Game State:** in a run
- **User Input:** collide with the invincibility powerup, then collide with any other obstacle
- While within a run in the game collide with an invincibility powerup, then collide with obstacles to check that the character visually does not trigger collisions with obstacles
- Repeat the above test, and check output of the game to assert that the invincibility UI and effects match the game state (theoretically there would be a debug output for this from the console to help with this test)
- Test that the invincibility powerup lasts the correct amount of time

Life Decrement Test

- **Test Subject:** life counter
- **Expected State:** decrements when the character hits an obstacle
- **Game State:** in a run
- **User Input:** collide with obstacles in the run
- Collide with obstacles in the run, checking that the life hearts turn from red to black, from right to left along the top, one per obstacle collision
- Check that the game over screen engages and the run stops after the life hearts reach zero