Code Review Report (2026-02-03)

Reviewer: Antigravity (AI Assistant)   **Date**: 2026-02-03
Project: web-casual-games

Summary

A comprehensive code review was performed on the project, focusing on Code Quality, Performance, Responsiveness, and Bugs. Critical issues identified in and have been directly fixed and committed.

Fixes Implemented

1. Space Invaders ()

Responsiveness Fixed: Changed the main container from a fixed width to . This ensures the game fits on mobile screens without overflowing.

Missing Variables Defined: Added definitions for and , which were previously referenced but undefined, causing potential errors in the render loop.

Collision Logic Corrected: Replaced inconsistent hardcoded values () in collision detection and drawing with dynamic and constants. This resolves visual/logical discrepancies.

2. Neon Snake 2077 ()

Recursion Risk Removed: Refactored the function. It previously used recursion when food spawned on the snake, which could cause a stack overflow in late-game scenarios (when the snake fills most of the screen). It now uses a safe loop.

Suggestions for Improvement

Code Quality

Separation of Concerns: Currently, all games use a "Single File Component" style (HTML + embedded CSS/JS). While convenient for prototyping, separating logic into and styling into would improve maintainability and readability.

Don't Repeat Yourself (DRY): Common utility functions (like , ,) could be moved to a shared file in the root folder to be used across all games.

Performance

Cat Café Optimization: The function calls , which completely destroys and rebuilds the shop DOM buttons.

Recommendation: Update only the text content (Level/Price) of existing elements instead of rebuilding the list. This prevents potential touch event interruptions and layout thrashing.

Canvas Rendering: In , the grid is redrawn every frame.

Recommendation: Cache the static background grid to an off-screen canvas and draw that image, rather than looping through grid lines every frame.

User Experience (UX)

Mobile Controls for Space Invaders: While responsive, currently relies on small HTML buttons. Implementing an on-screen D-Pad (similar to) or larger touch zones would significantly improve the mobile experience.

Asset Preloading: Add a loading screen that ensures all images and audio are fully loaded before the game loop starts. Currently, games might start before assets are ready, leading to "pop-in" or missing sprites.