

Senior Design: Static Analysis

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About JSLint:

- <http://www.jshint.com/>
 - “JSLint is a JavaScript program that looks for problems in JavaScript programs. It is a code quality tool”
- Due to JS being a dynamic/untyped programming language, static analysis can be somewhat limited - JSLint can still be pretty helpful with stylistic issues or other minor errors the console won't report
- Numerous JSLint/JSHint plugins exist for various IDEs. I used a Notepad++ JSLint plugin

Initial Analysis - scrollgame.js

- First run of JSLint on scrollgame.js reported a LOT of whitespace related warnings - so many so that it stopped reporting warnings after about 50 of them.
- After disabling whitespace warnings and re-running, only 7 warnings were returned

Errors (7)		Unused		
	Reason	File	Line	Colu...
1	Expected 'use strict' before 'timestamp'.	scrollgame.js	9	2
2	Expected ';' and instead saw 'var'.	scrollgame.js	46	6
3	Expected ';' and instead saw 'canvas'.	scrollgame.js	53	6
4	Expected ';' and instead saw 'var'.	scrollgame.js	99	30
5	Redefinition of 'anim_contain' from line 109.	scrollgame.js	150	7
6	Unexpected 'for'.	scrollgame.js	155	9
7	Unexpected 'var'.	scrollgame.js	155	14

Fixes

- The first warning suggests that the statement “use strict;” be used at the start of the main eventScrollGame function - unfortunately this causes a lot of issues as the game relies on global functions/variables outside of the scrollgame.js file - though this might be something to look into more in the future
- The next few warnings were about missing semicolons in the code which were pretty easy to fix, as well as accidental redeclaring/defining of a variable
- The last two errors are JSLint disliking the use of for loops in javaScript despite the loop working fine - also left alone

Final Thoughts:

- JSLint is a pretty handy tool for some basic static analysis of code, though one downside is that if it detects too many “issues” with the code, it will stop reporting further warnings.
- Another possible issue is how picky JSLint can be about whitespace formatting and other stylistic issues
- Of course, due to the nature of JavaScript’s dynamic typing and memory management, JSLint doesn’t have much else to analyze and return error messages for.