

Deliverable 5: Chapter 5

Breaking a few Eggs

We modified a few functions to make them fail the tests. This was simple enough to do; changing the indexes of warning levels, or making our rounding happen at the wrong stage during calculation. These all achieved the expected result; the tests failed and displayed as such nicely in the report.

Error 1: `language.js`

Injected a default language error, so that it no longer defaults to english. This error might never be discovered, as all ui elements default to english; but it may ask the translator to translate an element to the unknown default language, which now has invalid references.

Error 2: `levels.js`

Injected an indexing error, where an alert level is associated with the wrong numeric equivalent value. This error might represent a simple miscount, or an abandoned refactor of the error values that accidentally carried forward this change. It leads to urgent warnings mapping to-int and from-int differently, which could cause significant internal errors whenever a warnings level conversion occurs.

Error 3: `times.js`

Injected a mathematical error, where a `*` token is instead a `+` token. This is especially harmful to times because each time type has a custom set of functions, making this error specific to only one from-to conversion.

Error 4: `units.js`

Injected a rounding error, where without rounding the resulting output, converted values are left in un-rounded float, which may overflow the screen if there is only a small space in the ui to display the values.

Error 5: `levels.js`

Injected a non-key error, where a key not found now returns 'no alert' rather than 'unknown alert'. This is a stealthy error because it is not necessarily wrong in a vacuum, but because the method doesn't return what it is required/expected to do, it may lead to errors elsewhere.

With this deliverable complete, we are confident that our testing environment can accurately reflect the passing and failing of any valid test we could come up with. While this test framework offers only a drop in the bucket when compared to the functionality of other published testing frameworks, for this project we feel that it succeeds in its goal of unit testing based on imported files and hand-written test cases.

We are pleased with the outcomes, and we hope you are too.

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