

CoJ: Assignment-Based Modularization In Context Oriented Programming

I present a framework for changing the behavior of a J program without losing the overridden behavior.

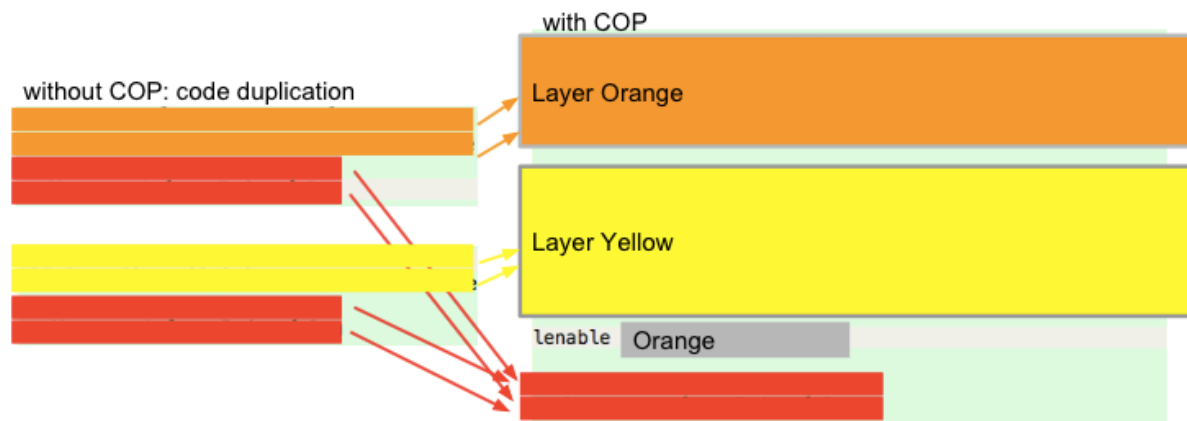
Users are able to describe layers of functionality by refining some assignments and then running the original algorithm with the modified code.

Object-oriented programs as well as few-architected scribbles can facilitate that in a similar way.

Motivation

We found authors of object-oriented J programs using comments, booleans or immediate functions to enable or disable particular features of the program. With CoJ, we suggest a unified, semantic, well-readable way of formulating feature switches. Furthermore changing a feature switch at runtime becomes feasible and visible.

Small scribbles can take advantage of layering when trying alternatives. Authors can use a new layer to start an experiment with alternating data or the algorithm the scribble runs with. When working this way, duplicating code to start a thinking branch can be avoided and a denser, more readable working style of ideation becomes possible.



Survey

"Well written J allows "equational modularity" which is to say: you can change the architecture and/or control flow and/or the data structures with minimal coding changes."

"Verbs (functions) tend to be modular by nature if one avoids globals. In tacit J, there are no named items, so there can't be globals."

"I also commonly use plot, viewmat and some of the math solvers. Are these packages?"

Framework Design

Assignments as overridden unit

Resolving dependencies with rerunning the layered code

Finding A Syntax: Allowing multiline definitions

Implementation State

Sources

<http://swatouch.hpi.uni-potsdam.de/demo.html#workspaces/77f926b9627ebb7b1ab5527f35016205>
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