

Bachelor's Thesis

Simple Object Machine in Zig

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The goal of this bachelor thesis is to implement the Simple Object Machine (SOM) in Zig as a new fully compatible SOM-implementation. In addition, the goal is to explore optimization opportunities with Zig, and possibly just-in-time compilation. Though, the focus will be on language completeness.

This means, the immediate goal is to support:

- a) The full grammar of SOM.
- b) The BasicInterpreterTests, which test key language and interpreter features.
- c) The TestSuite, which tests the language and libraries more completely.
- d) The benchmarks under Examples/Benchmarks, which will allow performance comparison and further language correctness and completeness checks.

The interpreter is going to be implemented as a bytecode interpreter and should mirror the other SOM implementations to facilitate maintainability. However, using Zig-specific approaches where sensible is desirable to benefit from the language.