

\$LANG Language Proposal

Daniel Cole, Megan Skrypek, Rashedul Haydar, Tim Waterman
dhc2131, ms4985, rh2712, tbw2105

September 30, 2014

Motivation

Most "modern" programming languages trace their origins back decades to before the advent of cheap, general purpose multicore CPUs. They were designed for a distinctly mono-threaded environment. While libraries and enhancements to mainstay languages such as C/C++ and Java have added multithreading capabilities, it remains in many ways bolted on kludge. While newer frameworks such as Node.js provide more integral support for asynchronous operations, they lack the depth of support and power of a fully compiled language. With \$Lang, we aim to build a language that has the power and flexibility of a fully compiled C style language, while having native threading support for modern multithreaded applications.

Description

\$Lang is inspired by C, which has a very well known syntax, and has been one of the most widely used languages since it was released over forty years ago. \$Lang is a general purpose language that supports all standard mathematical and logical operations. In addition to the standard C primitive types (`int`, `double`, `char`, etc.), \$Lang has native support for the `string` type.