

Abstract
CodeMetrics, an Extensible Tool for Code Counting
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The COCOMO model, as well as many other software cost estimating models, is primarily dependent on the line of code count. In the Basic COCOMO model for example, the sole dependent variable in the man-months calculation is the Delivered Source Instructions (DSI) count: $MM = 2.4 (kDSI)^{1.05}$

Although much attention and effort has been addressed toward the definition of these models, little attention has been paid to the development of counting tools to gather the line of code counts. Many organizations now have a wealth of information regarding total effort/cost from previously developed software projects, but few can accurately measure the code counts from their software libraries to accurately and efficiently predict future development sizing, or define and track productivity rates.

Some excellent code counting tools exist in the commercial and open source market, but most are generally relegated to the few, most popular languages. One example, USC's Code Count provides a "collection" of tools that individually compute line counts for nine prevalent languages. Few tools support multiple languages, and fewer still support counting for historical languages. Many reengineering software cost estimates often need to be prepared from software initially developed in historical, antiquated language. Another issue in today's code counters is extensibility. Often, open source tools such as Code Count require a user to compile the tool as part of installation, a difficult, nonuser-friendly operation for the average estimator

OPS Consulting has a committed investment in the developed of an extensible code counting tool, CodeMetrics, which provides out of the box support for more than 30 languages/dialects and is uniquely tailorable, allowing a user to effortlessly add additional languages or modify language syntax characteristics. This presentation will discuss the analytic capabilities and application of this tool including its key role in support of corporate-wide software costing, scheduling, and portfolio management for a major government agency.

The CodeMetrics tool is just one of several unique applications in OPS's Quality Assessment Capabilities (QAC) tool suite. The QAC tool suite is a collection of processes and evaluation tools, typically COTS plug-ins, developed by OPS to support a rapid, robust evaluation of software assets. To date, The QAC tools and processes have been used exclusively to evaluate more than 170 million lines of code for the above-mentioned agency's software metrics repository. In addition to the presentation of the CodeMetrics counting tool, this presentation will also provide some discussion of the capabilities and implementation of the QAC.