

# Beautiful Parrot

## *”one bytecode to rule them all”*

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**Abstract.** Every day new programming languages and paradigms emerge, as they struggle, in an eternal battle since the beginning of times, for a place of honor in the halls of computer languages. From the wisdom of great sorcerers in the Perl community, among others, and following the Perl legacy, which has proven that programming is more than a computer science, it's an art - and such a beautiful one - a shift in the virtual oblivion shaken the foundations of low level programming and a new giant contestant for the likes of many was created. For many winters it has been feed the knowledge of the wises and it has grown. And soon, it will be ready to wander the world in beautiful interpretations of previous compiled tales.

**Parrot** is a virtual machine designed to efficiently compile and execute bytecode for dynamic languages. It was initially created to run the newly improved, and community driven, version of Perl: Perl 6[1], but soon matured and grew into a project of it's own. Currently, a small number of languages already have at least, a working sub set of features in a compiler, or interpreter, that runs on **Parrot**. Built in garbage collection, multi-method dispatch, multiple concurrency models, a complex object and class model or exception systems are some of the advanced features that are prone to get your attention. The project also maintains a set of tools, **Parrot Compiler Tools** for example, that can be used to easily implement and develop a wide range of multipurpose compilers.

This talk aims to briefly introduce **Parrot** and it's core features, and the use of the **Parrot Compiler Tools** to craft compilers. We also take a short glimpse at some of the most advanced features and approach other interesting issues like performance and maintainability. Finally we demonstrate the use of this architecture to quickly create a compiler.

## References

1. Allison Randal, Dan Sugalski, and Leopold Tötsch. *Perl 6 Essentials*. O'Reilly, 2003.