



# Pure and Julia are cool languages worth checking out

## Also Mindjet Tasks allows you to set up project dashboards you can access from your cellphone

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*Gibbs starts the New Year with two languages and a new productivity tool.*

Ah! The fresh aroma of the New Year accompanied by the aroma of fresh new tech! I love the smell of geekiness ... Mmmm. This week, we'll start with some uber-geekosity: A couple of really interesting programming languages.

The first is called Pure and its [web site](#) describes the language as "a modern-style functional programming language based on term rewriting. It offers equational definitions with pattern matching, full symbolic rewriting capabilities, dynamic typing, eager and lazy evaluation, lexical closures, built-in list and matrix support and an easy-to-use C interface."

[Wikipedia](#) explains that "functional programming" is "a programming paradigm that treats computation as the evaluation of mathematical functions and avoids state and mutable data," and the site gives an example of a Pure program that prints the first 1,000 Fibonacci numbers:

```
extern int puts(char*); do (puts.str) (take 1000 (fibs 0L 1L)) with fibs a b = a : fibs b (a+b) & end;
```

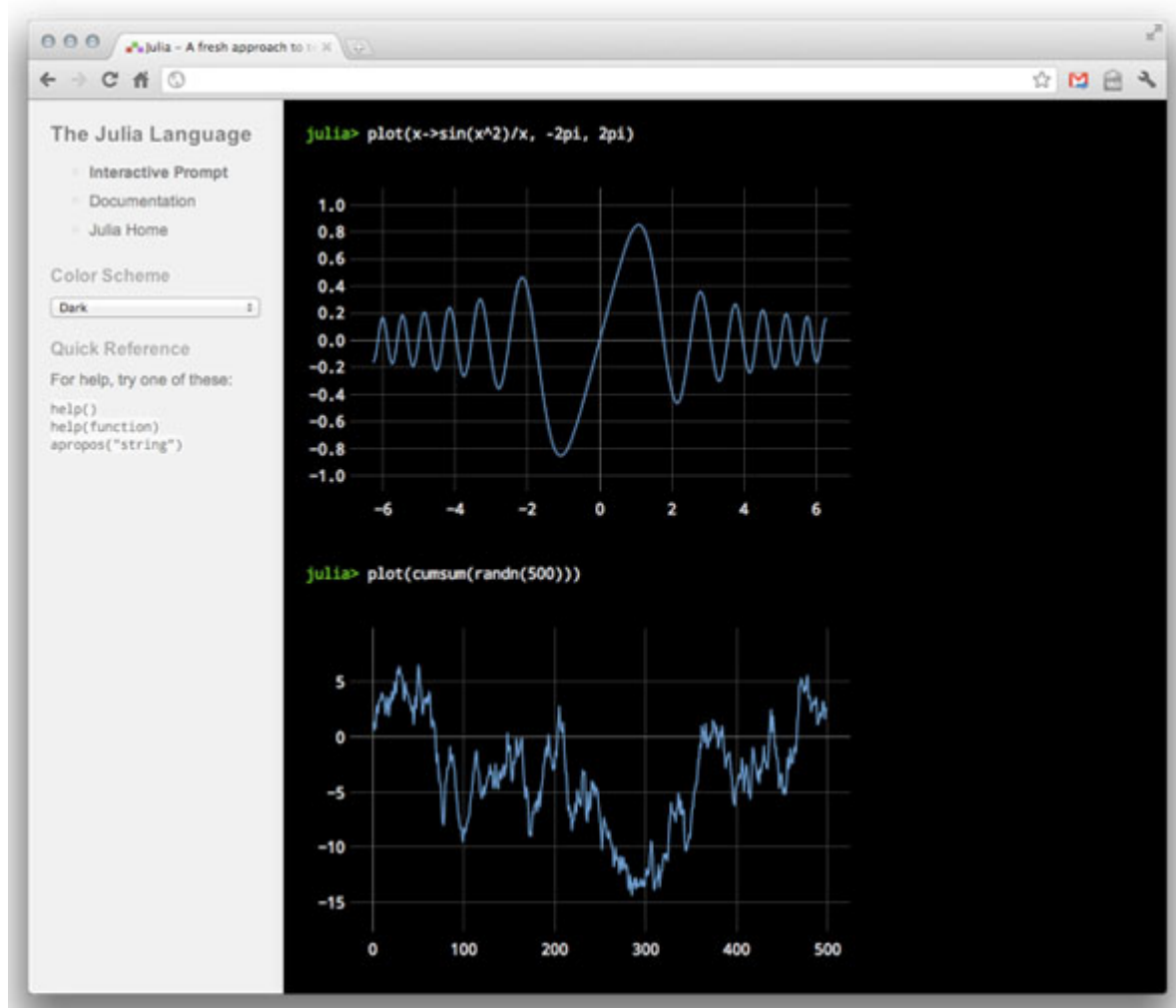
Fascinating stuff. Pure is available, for free, for FreeBSD, GNU/Linux, Mac OS X, and [Windows](#) and licensed under the GNU Lesser General Public License V3.

The other language that's worth checking out is [Julia](#), "a high-level, high-performance dynamic programming language for technical computing, with syntax that is familiar to users of other technical computing environments. It provides a sophisticated compiler, distributed parallel execution, numerical accuracy, and an extensive mathematical function library."

Julia's support for parallelism is intriguing as the language "provides a number of key building blocks for distributed computation, making it flexible enough to support a number of styles of parallelism, and allowing users to add more." The site gives an example of counting, in parallel, the number of heads in a large number of coin tosses:

```
nheads = @parallel (+) for i=1:100000000 randbit() end
```

The `@parallel` directive automatically distributes the calculation "across all available compute nodes, and the result, reduced by summation (+), is returned at the calling node."



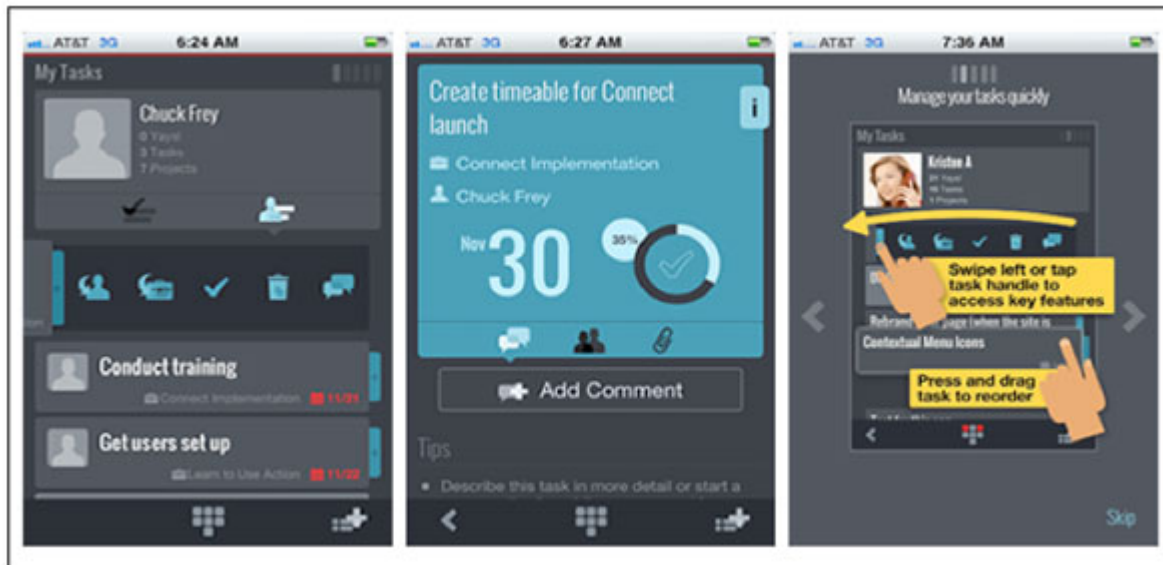
A web-based interactive Julia session, plotting an oscillating function and a Gaussian random walk.

I'd love to see Julia implemented on Parallela, a Kickstarter project I was amped about last year, that succeeded in raising almost \$900,000 on its goal of \$750,000. Described as "A Supercomputer For Everyone," this \$99 board, which runs Linux, will support a performance of 26 GFLOPS and should be perfect for a language like Julia.

Enough of the rarified stuff: Here's something that may make you more productive in 2013 ... Mindjet Tasks.

I wrote about Mindjet last May when the company released Mindjet Maps for iPad and Android and for iPhone.

I still think that these apps ... which are free! ... are indispensable planning tools. Late last year, Mindjet released another iOS app that's related to mind-mapping: Mindjet Tasks.



Mindjet Tasks on an iPhone.

Mindjet Tasks allows you and your team to set up dashboards for projects so you can coordinate planning from wherever you have a cell signal. If you do have some kind of connection, then Mindjet Tasks allows you to make on-the-fly task assignments with real-time updates and team postings. It will also auto-prioritize tasks and can share data with MindJet on OS X and Windows.

I've always been an admirer of Mindjet and Mindjet Tasks looks like a very slick addition to their product line. I'll give it a Gearhead rating of 5 out of 5!

*Gibbs is geeked out but organized in Ventura, Calif. Your resolutions to [gearhead@gibbs.com](mailto:gearhead@gibbs.com) and follow him on [Twitter](#) and [App.net](#) (@quistuipater) and on [Facebook](#) (quistuipater).*

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Mark Gibbs is an author, journalist, and man of mystery. For more than 30 years, Gibbs has waded through the swamps of the computer industry.

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