PolyMath
ESUG 2018 updates

Serge Stinckwich, Oleksandr Zaytsev

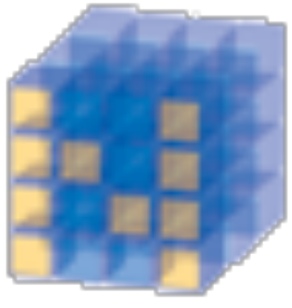
PolyMath

- New name of SciSmalltalk
- A general purpose numerical computation framework in Smalltalk
- MIT Licence
- https://github.com/PolyMathOrg/PolyMath

Related works

SciRuby

julia



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Main packages

- Matrix, Statistics moments, Polynomials, Interpolations, Integration, Series, Linear Algebra (DHB)

- Ordinary Differential Equations Solver (RK4, AB2, …)

- Complex numbers, Quaternions

- Random Number Generators

- KD-Trees

- Arbitrary Floating-point arithmetics

Main contributors

- Didier H. Besset (DHB packages)
- Nicolas Cellier (arbitrary floating point arithmetics)
- Stéphane Ducasse (Refactorings, packaging, documentation)
- Werner Kassens (KDETree)
- Hernán Morales Durand (Random Number Generator)
- HwaJong Oh (combinaisons/permutations)
- Serge Stinckwich (documentation, integration)
- Natalia Tymchuck (ODE)
- Daniel Uber (first version)
- Oleksandr Zaytsev (DataFrame)

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Announcement

PolyMath 1.0 Alpha

What new at the infrastructure level ?

- New name
- Consistent naming for the classes (PM prefix) and the packages (Math)
- Book almost in sync with the code
- Available on github
- CI jobs running on Travis for Pharo 6.0, 7.0
- More tests (767 now)

New packages in PolyMath

- **TensorFlow** (already seen in a previous talk)

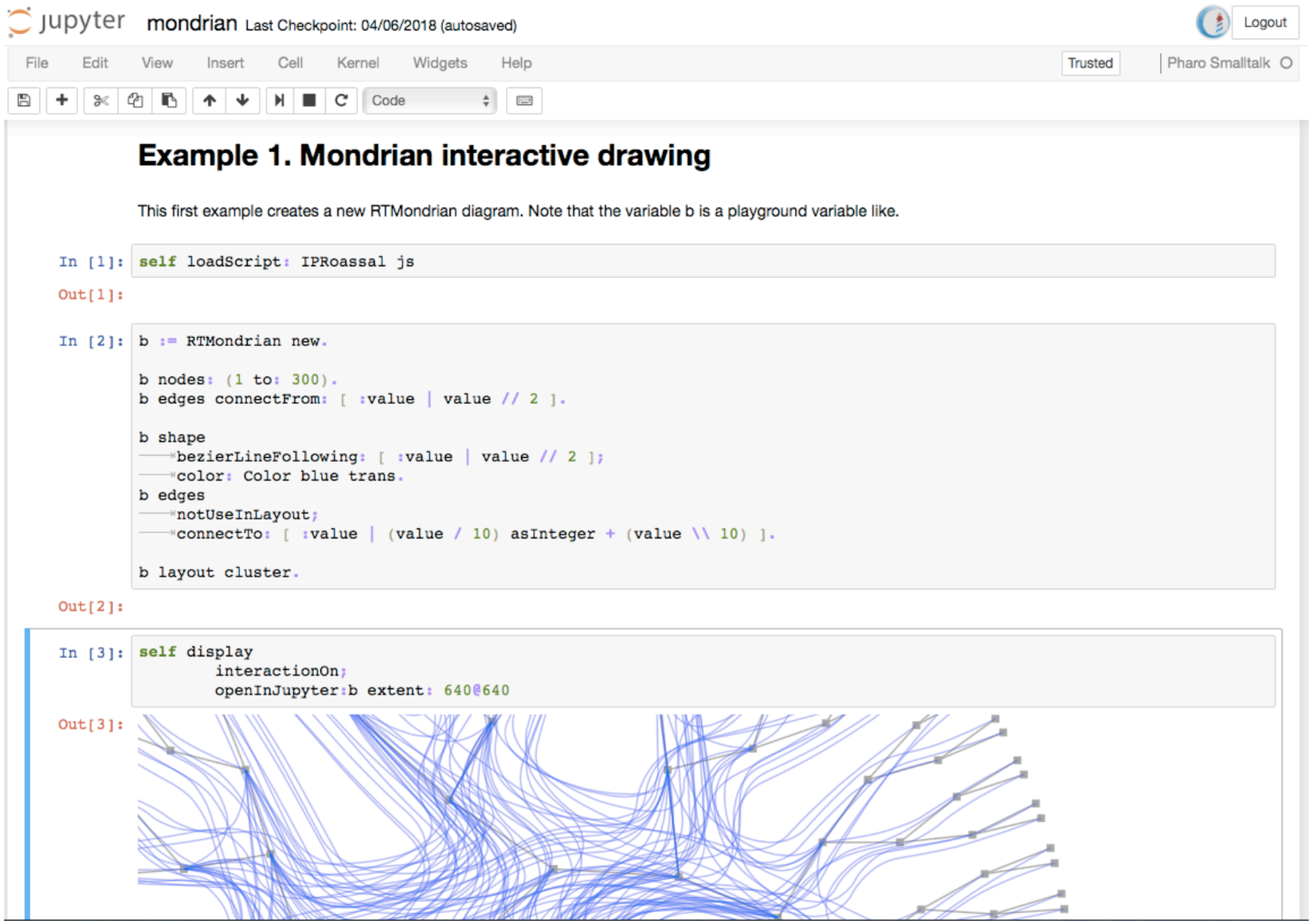
- **DataFrame** (GSOC 2017 project from Oleks)

PolyMath Book

- Original Book from Didier Besset in 2000
- New book (remove all Java part of the book)
- Creative Commons Licence
- 410 pages
- Will be available when PolyMath 1.0 is released: https://github.com/SquareBracketAssociates/NumericalMethods
- Thank you Didier !

JupyterTalk

- Jupyter are notebooks
- A Pharo kernel for Jupiter done by Jesus Mari Aguirre



https://github.com/jmari/JupyterTalk

Roadmap

- PolyMath 1.0 release (before the end of the year)
- Book release at the same time
- Organise PolyMath documentation
- We are welcoming contributions in all mathematics area (statistics, symbolic computation, …)
- Use TensorFlow bindings