

Pharo Simply

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<http://www.pharo-project.org>


Pharo

- ✦ Pure object language
- ✦ Great community of active doers
- ✦ Powerful
- ✦ Elegant and fun to program
- ✦ Living system under your fingers

- ✦ VM running on MacOSX, linux, Windows
- ✦ Compiler, Core classes (stream, collections, unicode)
- ✦ IDE (editor, inspector, debugger, code versioning,...)
- ✦ UI frameworks (widgets, theme)
- ✦ FFI
- ✦ Graphics (soon opengl)
- ✦ Hyper fast object serializer
- ✦ Network, HTTP

- ✦ Web frameworks: seaside, iliad, HTTP2
- ✦ XML, HTML scraping, Zodiac (HTTPS)
- ✦ Graphics frameworks: Roassal, Mondrian, EyeSee
- ✦ Tool builder: Glamour, MetaTools: Moose
- ✦ Database: DBXTalk, Mongo, Riak, CouchDB
- ✦ Proxy, Logging
- ✦ Units (Aconcagua, Units)
- ✦ Parser: Petit Parser, SmaCC
- ✦ Mathematical ...


Our goal...



**Create an ecosystem
where business/innovation
can bloom**

We will not repeating it enough. We want that ****you**** can make money with Pharo. We want to be able to invent solutions to existing problems.

We want a powerful **innovative dynamic** language where we can build **our** future. Our goal is more than just a Smalltalk. We want a new rethought language.



**Create an ecosystem
where business/innovation
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Some Pharo's success stories

- **Seaside.st, SmalltalkHub,**
- **Yesplan.be, netstyle.ch**
- **Pier, DrGeo, VBridge,**
- **Cmsbox.ch, objectFusion,**
- **beta9.be:** T3 Easy (Pharo server side)
- **Moose, pinesoft.co.uk**
- **Airflowing, synectique, miriamTech, 2denker...**

We want more success
stories!

The image shows a large, complex industrial machine, likely a particle accelerator or fusion reactor, with a central cylindrical structure and various pipes and cables. The machine is housed in a large, blue-lit industrial facility. The central structure is a large, cylindrical vessel with a complex internal structure, surrounded by various pipes, cables, and support structures. The overall scene is dominated by blue and yellow lighting, creating a high-tech, industrial atmosphere. The machine is the central focus, with its intricate details and complex structure clearly visible. The background shows the structural elements of the facility, including beams and supports, all bathed in the same blue light.

A powerful engine
to invent our future

Since may 2008

- Pharo 1.0 - oct 2009 (470 updates)
- Pharo 1.1 - jul 2010 (410 updates)
- Pharo 1.2 - mar 2011 (500 updates)
- Pharo 1.3 (700 updates)
- Pharo 1.4 - Apr 2012 (860 updates)
- Pharo 2.0 alpha (235 updates)

Oct 2009: Pharo 1.0

- Major Cleanups (MVC, eToys)
- New UI Look / TrueType
- Tools
- Block Closures (thanks Eliot)
- Lots of bugfixes and small improvements
- Preferences clean up
- MIT license clean

July 2010: Pharo 1.1

- Performance, performance, performance...
- More cleanups and Simplifications
- Small deployment image (6.2 MB)
- Settings framework
- New world menu

Pharo 1.2: March 2011

- <http://www.pharo-project.org/pharo-download/release-1-2>
- New tools
- Cleaning again
- New undo
- New textEditor
- ...

Pharo 1.3: Nov 2011

- <http://code.google.com/p/pharo/wiki/ActionsInPharoOneDotThree>
- Cleaning architectural dependencies
- More cleanups directed by applying code critics on the system
- Support for server and headless images. stdin, stdout and stderr.
- More robust and better startup/shutdown
- Improved look and feel
- Better widgets Improved tools Weak Announcements
- Network improvements based on Zinc

Pharo 1.4

- ✦ <http://code.google.com/p/pharo/wiki/ActionsInPharoOneDotFour>
- ✦ Ring code model
- ✦ New E/oCompletion
- ✦ Cherry picking on merge
- ✦ Better tools, Better Widgets
- ✦ Cleaning.... yes as always

Roadmap for 2.0

- ✦ Building the infrastructure for the next generation
- ✦ <https://gforge.inria.fr/frs/download.php/30434/PharoVision.pdf>

Glimpse at 2.0 alpha

- ✦ core: 1.36 mb so far
- ✦ integration process using metacello!
- ✦ rewriting most tools with Spec
- ✦ new implementation for package
- ✦ new system announcement
- ✦ package manifest = package meta data

Community Ongoing Work

- Better widgets, UI Builder (A. Plantec, G. Chambers, B. van Ryseghem)
- Better browsers (B. van Ryseghem, C. Bruni)
- Key mapper (G. Polito)
- Serializer (M. Dias, M. Martinez-Peck), Full Proxy (M. Martinez-Peck)
- New compiler (J. Ressia/M. Denker/JB Arnaud)
- Vectorial canvas (I. Stasenko)
- Better FFI (I. Stasenko, E. Lorenzano)
- Bootstrap (B. van Ryseghem/G. Polito/S. Ducasse)
- Package distribution infrastructure (D. Henrichs)
- PDF generation (C. Haidler, O. Auverlot)
- Network (Zinc, Zodiac S. van Caekenberghe)

Code Model Infrastructure

- Able to query all the versions
- What were the senders of this method in version 13168?
- What is the diff between the senders in the past and the one now?
- Support for merging
- Distributed source code

Code Model Infrastructure

- ✦ Ring (V. Uquillaz Gomes/A. Kellens/S.Ducasse)
 - ✦ Source code metamodel
 - ✦ *API compatible* with Smalltalk objects
 - ✦ in Pharo 1.4
- ✦ Adding layers on top of it
- ✦ Porting all the tools to use it!

Next Steps

- Database to store
- Better source model
- Server for queries

Athens Graphics

- ✦ New Canvas
 - ✦ Vector Graphics API
 - ✦ Layered Architecture
 - ✦ Backend Cairo /
OpenGL OpenVG....

Next Steps

- ✦ Adapt Morphic
- ✦ Clean all the canvases

Opal

- ✦ We need a more flexible and simpler compiler
- ✦ Hooks for DSL support
- ✦ Better API
- ✦ New generation of tools

Next Steps

- Decompiler (was the last missing bit) is nearly finished
- Will be added in 2.0
- Throw away the old compiler
- Then improving the API

Fuel: Fast Serialization

- Done by M. Diaz, M. Martinez-Peck, (T. Bourgeois & S. Ducasse)
- Don't use ImageSegment (removed in 1.4)
 - Fuel is faster (!!)
 - Much more flexible and easier to understand

Next Steps

- Replace existing serializers
- Migration path
- Binary code loader

Scripting Syntax: Coral

- ✦ We want to write scripts in Pharo :)
- ✦ Headless
- ✦ REPL
- ✦ OS connexion (OSProcess for now)
- ✦ So we get Coral D. Pollet (and S. Ducasse)

```
[ Console puts: 'Before the command'. ]
```

```
[ "Let's define a command"
```

```
  | command |
```

```
    Console puts: 'duuuuhhh'.
```

```
    command := (CLICommandParser named: 'dostuff')
```

```
      aliases: #('dostuff.coral');
```

```
      description: 'This command does a lot of stuff. I  
really mean a lot.'.
```

```
]
```

Distributions: towards a certified catalog

- I want to go to Mars with just a DVD,
- and still be able to load the projects I want,
- and get the right ones loaded.

Package certification

- ✦ Packages should be more self contained
- ✦ Tests
- ✦ LintRules
- ✦ Meta data
- ✦ Run and automatically certified

Process

- You use Metacello!
- You publish in your repo!
- When you want you can release code to a distribution
- All the code then is recursively copied to the distribution space
- All the **tests and quality rules** are checked
- People use your code but with a certain level of confidence :)

Native Boost

- ✦ By Igor Stasenko (mac, linux and windows 32bits)
- ✦ Generate machine code on the fly :)
- ✦ Implement primitives
- ✦ FFI

VM

- ✦ Expand knowledge
- ✦ Welcome newbies and idiots (like Stef)
- ✦ Increase tests
- ✦ Release VM builders from stupid tasks
- ✦ Traceability/Branding

VM builds

- ✦ Anybody is now able to build a vm!

VM Infrastructure

- VM validation after ANY changes
- Automatic recompilation
- Automatic test regressions

New Low-Level Tools

- ✦ Throw away StringHolder hierarchy
- ✦ Browser based on a model, support refactoring, groups, a lot more :)
- ✦ by B. van Ryseghem

Next Steps

- ✦ Reimplement
 - ✦ ChangeSorter (Done)
 - ✦ MC UI
 - ✦ Debugger
 - ✦ MCWorkingCopyBrowser

Next Steps

- May be a glamour-based IDE
- Use/Help glamour

Mini Image and bootstrap

- ✦ Pavel's Mini image
- ✦ 4.2 mb for Seaside
- ✦ Guillermo and Benjamin's Hazelnuts
- ✦ State as of last week: **1.36 mb** for core+compiler
- ✦ Soon PaGuiBen PineKernel

Pharo Consortium

- How to sustain Pharo?
- How to structure the community?
- Should we always rely on people free time?

When

- Started discussions with INRIA two years ago
- INRIA put money on the table (Esteban)
- More than 25 companies are interested
- Join!

How/what for

- ✦ You can participate to the consortium: Pay a fee
- ✦ The consortium will pay a full-time engineer to support Pharo enhancement (64 bits, ARM jit, more bindings...).
- ✦ We will talk later about it!

Consortium FAQ

- ✦ Pharo will stay free!
- ✦ No negative impact: just a better Pharo
- ✦ People and organization should be able to pay too:
a.k.a. Morale License

Pharo books

- ✦ Pharo by example
 - ✦ translated to french, merci!
 - ✦ translated to spanish, gracias!
 - ✦ japanese, german started

New books are coming

- ✦ Pharo by Example Volume Two (deep into Pharo)
- ✦ Pharo for the Enterprise
 - ✦ If you want to contribute...
- ✦ A glimpse at VM

The future is what we do!

Every **single** contribution is
important

You can get **impact**

Everybody can help

- ✦ Reporting bugs
- ✦ Confirming bugs
- ✦ Writing tests
- ✦ Writing examples
- ✦ Writing comments
- ✦ Simple contributing fixes

Open Pharo Sprints

May 2008 Bern

July 2009 Bern

October 2009 Lille

November 2009 Buenos Aires

March 2010 Bern

May 2010 Buenos Aires

June 2010 Bern

June 2010 Bruxelles

July 2010 London

September 2010 Barcelona

September 2010 Lille

January 2011 Lille

July 2011 Lille

October 2011 Bruxelles

February 2012 Bern

April 2012 Lille



