

# Pharo: A malleable and powerful platform

S. Ducasse and M. Denker

<http://www.pharo.org>



Pleiad

MAD<sup>®</sup>  
ENVIRONNEMENT

vmware

Yesplan  
Let's make it happen

BetaNine  
software engineering

Ecole d'Ingénieurs  
Centre de Recherche  
Mines de Douai  
LILLE EUROPÉGION

esug  
EUROPEAN SMALLTALK USER GROUP

denker

$u^b$   
b  
UNIVERSITÄT  
BERN

RMod

Inria  
INVENTEURS DU MONDE NUMÉRIQUE

netstyle.ch

HR works

Systems that make sense  
Sensus

H2O

# What is it?

- Language + Environment
- Simple Language
- Object-Oriented, Dynamic, Reflective
- Explore + Change running systems
- **The Ultimate Live Programming Environment!**

# Pharo

- MIT license
- Pure object language
- Great community of active doers
- Powerful
- Elegant and fun to program
- Living system under your fingers
- Mac, Linux, Android, iOS, 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
- Parsers: XML, HTML, JSON
- Graphics frameworks: Roassal, Mondrian, EyeSee
- Tool builders: Glamour, Moose
- Databases: DBXTalk, Mongo, Riak, CouchDB
- Parser generators: Petit Parser, SmaCC
- Infrastructure: Proxy, Logging
- Units: Aconcagua, Units
- ...

# Pharo in numbers

- 240 000 downloads on the Inria gforge
- 40-50 active committers
- > 600 mailing-list members
- 180 license agreements
- 50 association members
- 10 industrial consortium members
- around 300 external projects



# Welcome to SmalltalkHub

The free, opensource, Smalltalk projects management application

No account yet? [Register!](#)

**WARNING** The following is a preview of the exploration features of SmalltalkHub. More to come!

**547** repositories, **516** users registered and **53548** packages uploaded.

## Recently registered users

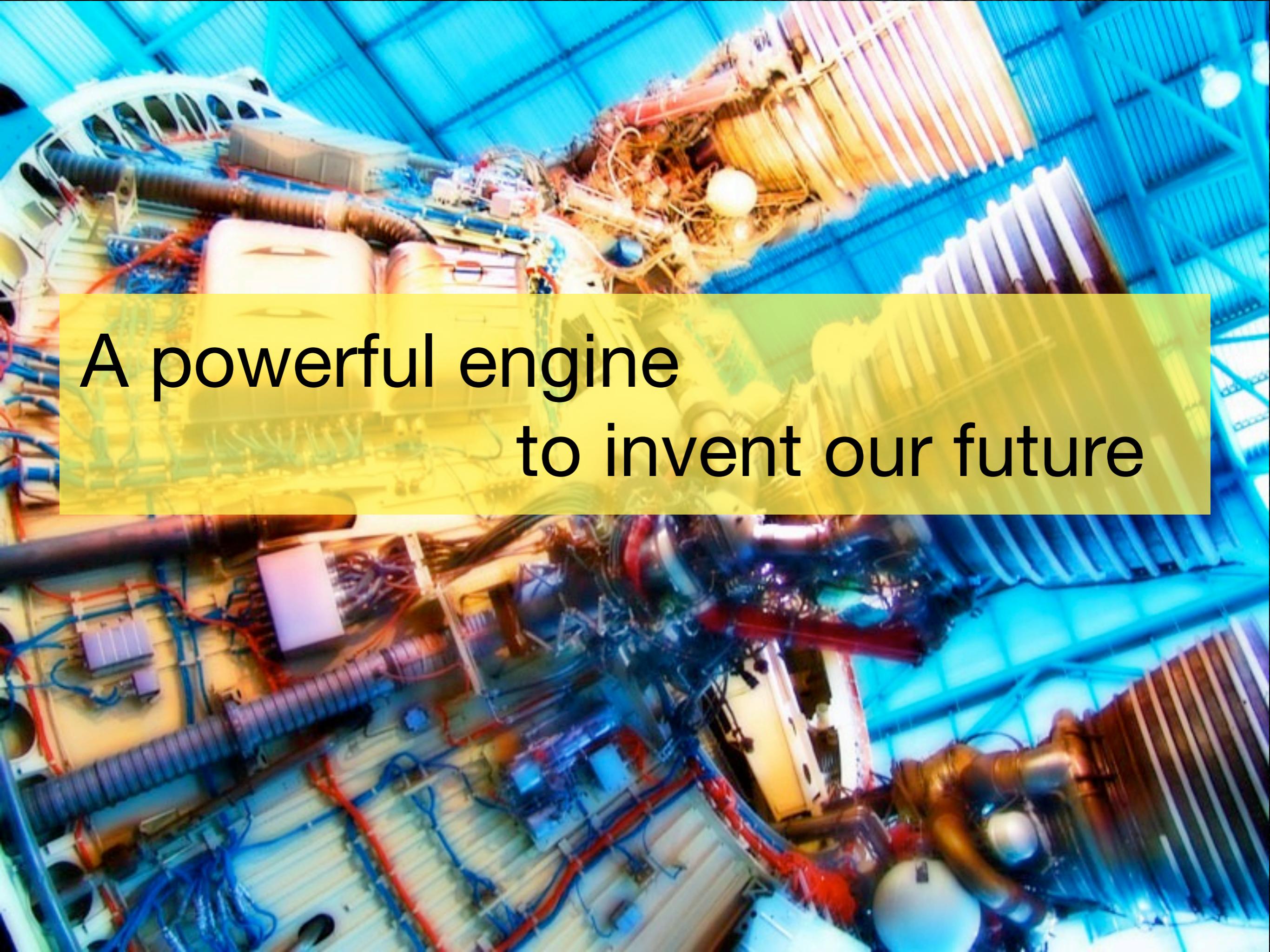
- cdavidshaffer (cdavidshaffer)
- DidierDevroye (Didier Devroye)
- onierstrasz (onierstrasz)
- hfierro (hfierro)
- lanza (lanza)
- RonBeukema (RonBeukema)
- jpanar (jpanar)
- mib (mib)
- craw (craw)
- coldoh (coldoh)
- CarlaGriggio (CarlaGriggio)
- AndrzejDelegacz (AndrzejDelegacz)
- IlmariVacklin (IlmariVacklin)
- nestoryavorskyy (nestoryavorskyy)

## Recently created projects

- PharoExamples (created the Tue May 14 2013)
- TraitsModel (created the Tue May 14 2013)
- Tables (created the Tue May 14 2013)
- SqueakByExample (created the Tue May 14 2013)
- SplitJoin (created the Tue May 14 2013)
- SOIDavos (created the Tue May 14 2013)
- SOI (created the Tue May 14 2013)
- SCGPier (created the Tue May 14 2013)
- PharoByExample (created the Tue May 14 2013)
- Nanola (created the Tue May 14 2013)
- Sandbox (created the Tue May 14 2013)
- Lab\_4\_new (created the Tue May 14 2013)
- Lab\_4 (created the Tue May 14 2013)
- Lab4\_new (created the Tue May 14 2013)
- LightHouse (created the Tue May 14 2013)

# SqueakSource: old Forge

- 3672 users
- 3459 projects
- 158 987 packages

A photograph of a complex scientific experiment setup, likely a particle accelerator detector like ATLAS at CERN. The image shows a massive, multi-layered structure of pipes, sensors, and support beams. A bright yellow rectangular overlay covers the middle portion of the image, containing the text.

A powerful engine  
to invent our future

Our goal...



Create an ecosystem  
where business/innovation  
can bloom

We want that **\*\*you\*\*** can make  
money with Pharo. We want to invent  
solutions to actual problems.

We want a powerful **innovative**  
**dynamic** language where we can build  
**our** future.

# Some Pharo's success stories

- **Seaside.st, SmalltalkHub,**
- **Yesplan.be, netstyle.ch,**
- **Pier, DrGeo, VBridge,**
- **Cmsbox.ch, objectFusion.fr,**
- **T3 Easy from beta9.be,**
- **moosetechnology.org, pinesoft.co.uk,**
- **Airflowing, synectique, miriamTech, 2denker...**



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SUPPORT

# Das Content Management mit System

## 100% Inline-Editor

Die cmsbox ist ein Content Management System der nächsten Generation. Die Benutzeroberfläche ist nahtlos in die Webseite integriert: Alle Texte werden direkt auf die Seite geschrieben! 

### Drag & Drop

Handlich: Boxen und Elemente frei auf der Seite positionieren.

[mail@cmsbox.com](mailto:mail@cmsbox.com)

### Copy / Paste

Elemente ausschneiden oder kopieren und irgendwo auf der Webseite wieder einfügen.

Text einfügen 



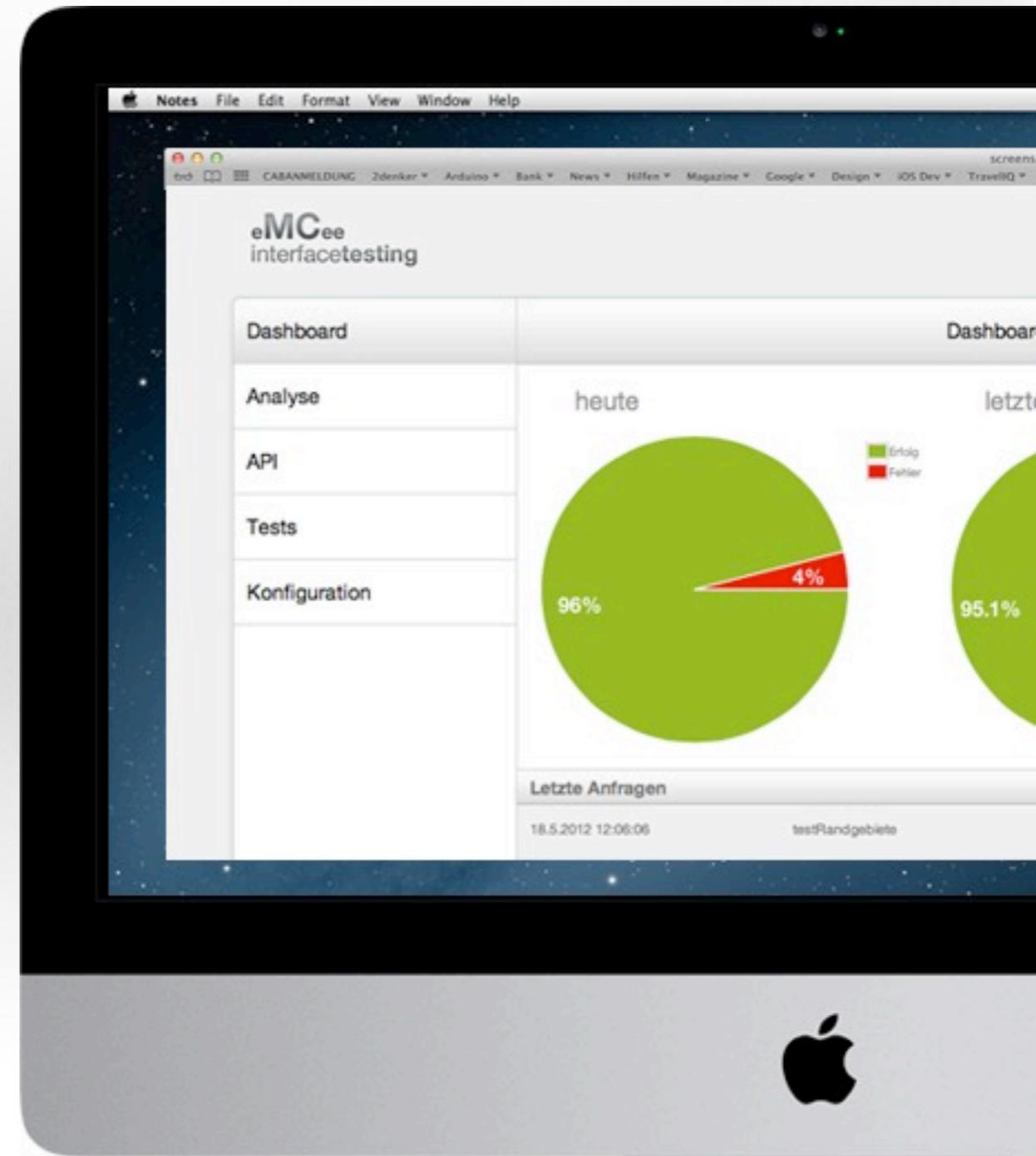
cmsbox rocks

Eigene Bilder und Videos direkt auf die Webseite la



# Continuous API Testing

keep your services under control 24/7



# WEBDRUCK.CH

## Web-To-Print Solution

- Design and create individual printed matter
- eShop with credit card payment
- High quality PDF output with Printing Process integration
- Thousands of orders for seven Swiss printing companies





# NTed: disaster scenario recovery

NTed

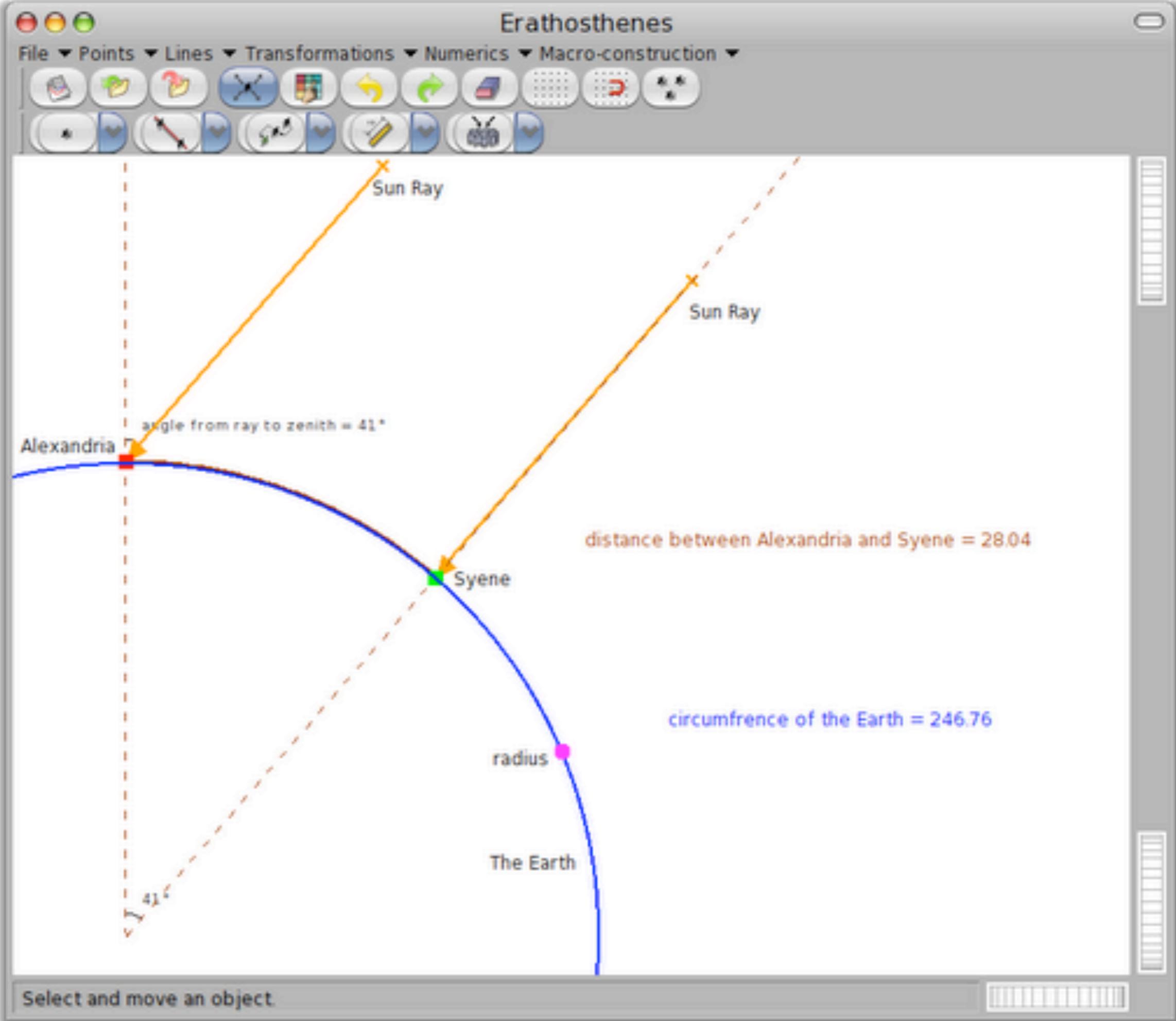
Darsteller					
Darsteller		+Neuer Darsteller			
Darsteller	Verletzungsmuster	Interaktionsschema	tags	PIN	
Patient 1	Inhalationstrauma	Inhalationstrauma	SK I	EEGB	
Patient 2	Verbrennungen 3. Grad	Verbrennungen 3. Grad	SK I	0MTH	
Patient 3	Verbrennungen 3. Grad	Verbrennungen 3. Grad	SK I	VYW6	
Patient 4	Offener Oberschenkel#	Offener Oberschenkel#	SK I	Z19K	
Patient 5	KoplaWu + SHT 1°	KoplaWu + SHT 1°	SK II	G7DE	
Patient 6	Verbrennungen 2°	Verbrennungen 2°	SK II	WM4G	
Patient 7	Schürfwunde	Schürfwunde	SK III	1S5T	
Patient 8	Schürfwunde	Schürfwunde	SK III	EYOL	
Patient 9	Betroffener	Betroffener	SK III	MUJS	
Patient 10	Betroffener	Betroffener	SK III	SMB3	
Patient 11	Betroffener	Betroffener	SK III	W5UR	

# iBizLog - <http://www.ibizlog.com>

The screenshot shows the iBizLog website homepage. At the top left is the logo 'iBizLog' with 'BETA' above it and 'internet business log' below it. To the right are 'Language' (set to English), 'Control Panel' (with a 'PANEL' button), and social sharing links. A navigation bar below the header includes 'Home', 'Sign Up', 'How it Works', 'Features', 'EXAMPLE', and 'Support'. On the left, a section titled 'What is iBizLog ?' features a four-step process diagram: 1. Hand writing on paper, 2. A stack of papers, 3. A hand typing on a keyboard, 4. A person cheering at a computer. Below this, text explains that iBizLog is a simple online system for creating websites to promote products or services, with a 'START NOW !' button. To the right, a large green box promotes 'Have your WebSite' for free, showing a sample website layout and a 'Create WebSite' button. At the bottom, three columns highlight features: 'Personal Identity and URL' (with a globe icon), 'Communication Tools' (with a globe and envelope icon), and 'Multilingual Menu' (with flags of France, Spain, Italy, and Germany). The footer contains links for 'Blog | Facebook | Twitter', 'About Us | News | Partners | Contact Us | Terms of Service', and copyright information.

A product by Smallworks





[About](#)   [Download](#)   [Tools](#)   [Docs](#)   [Events](#)   [News](#) [x](#)

## Moose is a platform for software and data analysis.

It is an open source project since 1996. It is supported by several research groups around the world, and it is increasingly adopted in industrial projects.

[Download 4.7](#)[The Moose Book](#)

## Humane assessment

*the missing software engineering method*

[www.humane-assessment.com](http://www.humane-assessment.com)

[Call for help: webpage redesign](#)  
29 April 2013  
We are starting a project to redesign the Moose webpage. The initial goals of the redesign are: \* ...

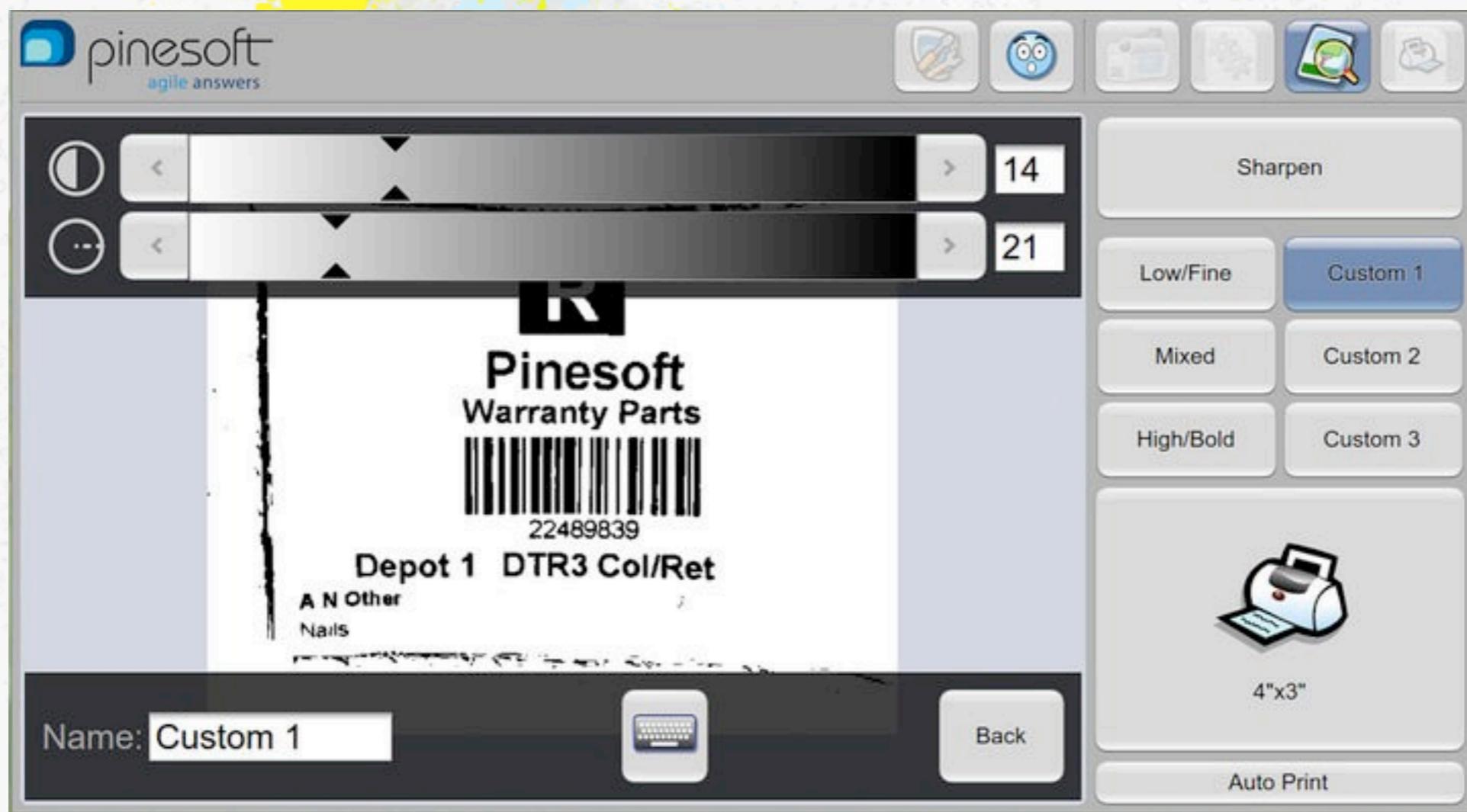
[Moose 5.0 roadmap](#)  
13 April 2013  
A summary of the talk laying out the Moose 5.0 roadmap can be found at: <http://www.humane-assessment...>

[Moose 4.8 development: 4045 green tests](#)  
20 March 2013  
The move from Pharo 1.4 to Pharo 2.0 is finally complete: all 4045 tests are green. The continuous ...

[Login](#)[Contact us](#)[Report an issue](#)

Site powered by [Pier](#)

# Pinesoft MBagger



We want more success  
stories!

# Daily Active Development

A massive amount of improvements

# Since may 2008



- ***Pharo 2.0 - Apr 2013 (1657 closed cases)***
- Pharo 1.4 - Apr 2012 (988 closed cases)
- Pharo 1.3 (736 closed cases)
- Pharo 1.2 - mar 2011 (691 closed cases)
- Pharo 1.1 - jul 2010 (918 closed cases)
- Pharo 1.0 - oct 2009 (307 closed cases)



Very High  
Activity

# 2.0 Statistics



Very High  
Activity



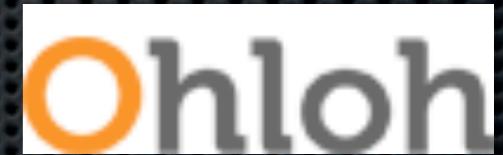
- Started April 2012
- 1657 issue tracker entries
  - since start: 7663
  - 420 open, all have seen activity in 2012
- 593 incremental updates

# 2.0: Overview

- ❖ UI:
  - ❖ New UI Builder, Widget enhancements. Layout improvements.  
Shout Themes
  - ❖ Keybindings. New icons. "Growl" style notifications. Rectangle intersection improvements.
- ❖ Tools
  - ❖ Browser: new default browser, critics browser
  - ❖ Spotlight (shift+enter), unify Smartcharacters and completion
- ❖ Compiler enhancement: new AST + ErrorNode
- ❖ Improved HTTP and SSL
- ❖ System



**Very High  
Activity**



# Vision Document around 2.0

<https://gforge.inria.fr/frs/download.php/30434/PharoVision.pdf>

3.1 Towards a small kernel [we have it now we should think about migration]

3.2 Towards a verified package catalog [On the way]

4.1 A Robust and Extensible System Events [Beta and should be in 3.0]

4.2 Rewrite of Filesystem/Streams [DONE for Files]

4.3 Announcements and Ephemerons [Annoucements Done. More Enh for 3.0]

4.4 UI Canvas for Zoomable Interface  
[Waiting for TextModel and 3.0]

4.5 Bootstrap of the Core [Done should be integrated in 3.0]

4.6 Fully parametrized compiler tool chain [Start with Opal in 3.0]

4.7 Packages as real objects [in 2.0 and will improve in 3.0]

4.8 Package Meta-Data [Done]

4.9 Less Model Clutter and Duplication [Started in 2.0 will be accentuated in 3.0]

4.10 Building and Reusing UI Logic  
[First cut in 2.0 UIPainter for 3.0]

4.11 New Network Layer [Nothing]

4.12 Serializers [Done]

4.13 SystemChangeNotifier replacement [Done]

4.14 Cleaning Morphic [To be continued in 3.0]

5.2 VMs identification and regression testing [On the way]

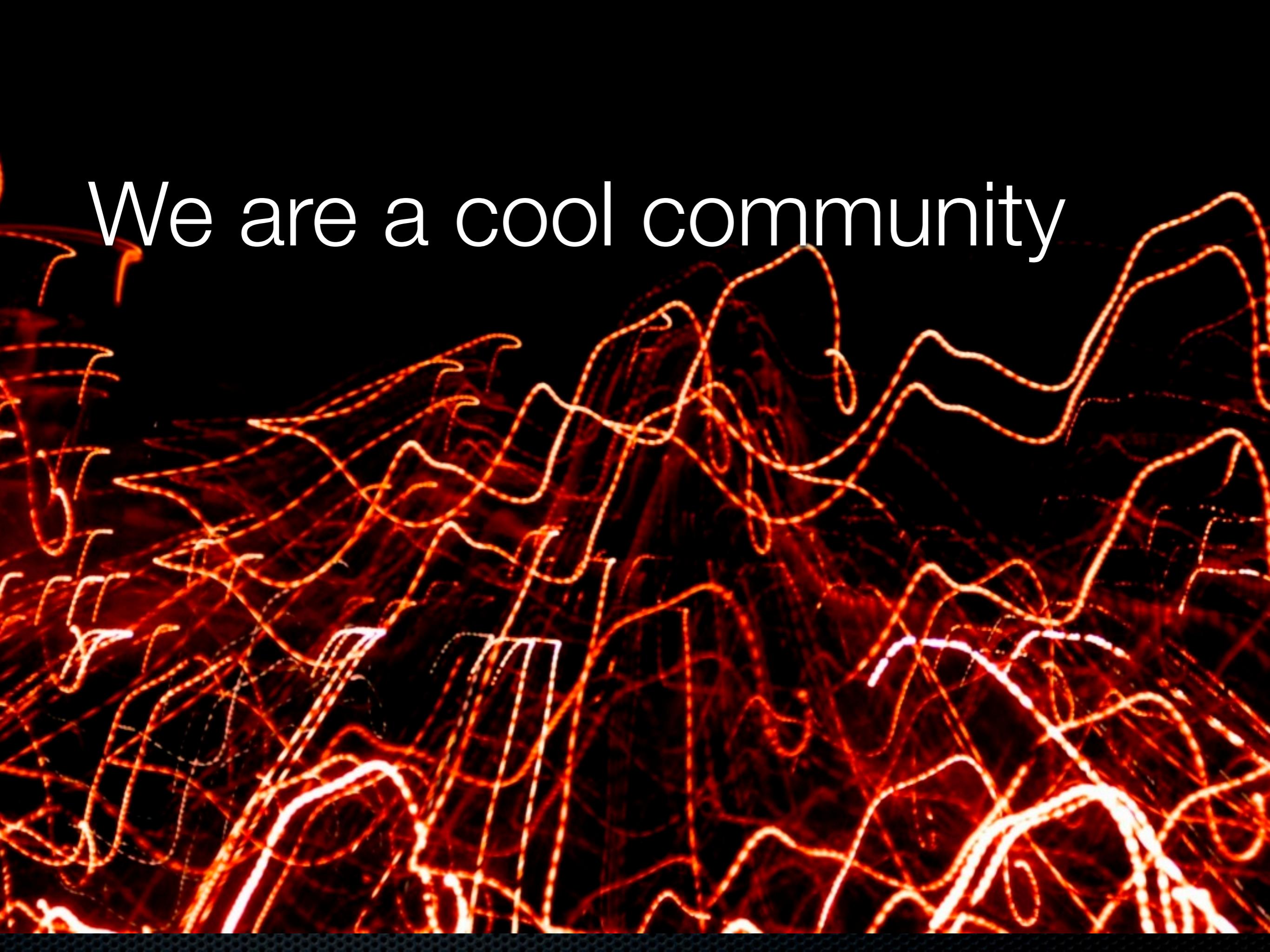
5.3 One Unified FFI framework [before June]

We want to improve the  
complete system!

Not just a nice library on top  
of ...

Of course not everything is  
perfect

But we believe in non linear  
growth



We are a cool community

# Companies

www.10pines.com  
www.2denker.de  
www.agilitic.com  
www.airflowing.com  
www.anymorphic.com  
www.ardishealth.com  
www.beta9.be  
www.bombardier.com  
www.cmsbox.com  
www.finworks.biz  
seaside.gemstone.com  
www.ibizlog.com  
www.inceptive.be  
www.jooshr.com  
www.majcon.de  
www.mindclue.ch  
www.miriamtech.com  
www.myneat.org  
www.netstyle.ch  
www.objectfusion.fr  
www.panasoft.com  
www.pinesoft.co.uk  
www.promedmedical.net  
www.sharedlogic.ca  
www.smallworks.com.ar  
www.trantaria.com  
www.square-i.net  
yesplan.be

# Lectures

University of Bueno Aires

University of Bern scg.unibe.ch

University of Brussels soft.vub.ac.be/soft/

Ecole des Mines www.ensm-douai.fr

Université de Savoie www.imus.univ-savoie.fr

Ivan Franko National University of Ukraine

Czech Technical University

University of Life Sciences in Prague

Northen Michigan University www.nmu.edu

University Catholic of Argentina www.uca.edu.ar

University of Santiago www.uchile.cl

Universitat Policnica de Catalunya www.upc.edu

# Research Groups

Lafhis (University of Bueno Aires )

Software Composition Group (scg.unibe.ch)

CAR (Ecole des mines [www.ensm-douai.fr](http://www.ensm-douai.fr))

RMOD (Inria)

Ummisco (IRD)

Reveal (University of Lugano)

Lysic (University of Bretagne Occidentale)

Pleiad (University of Santiago)

CEA-List

# New Dev Process

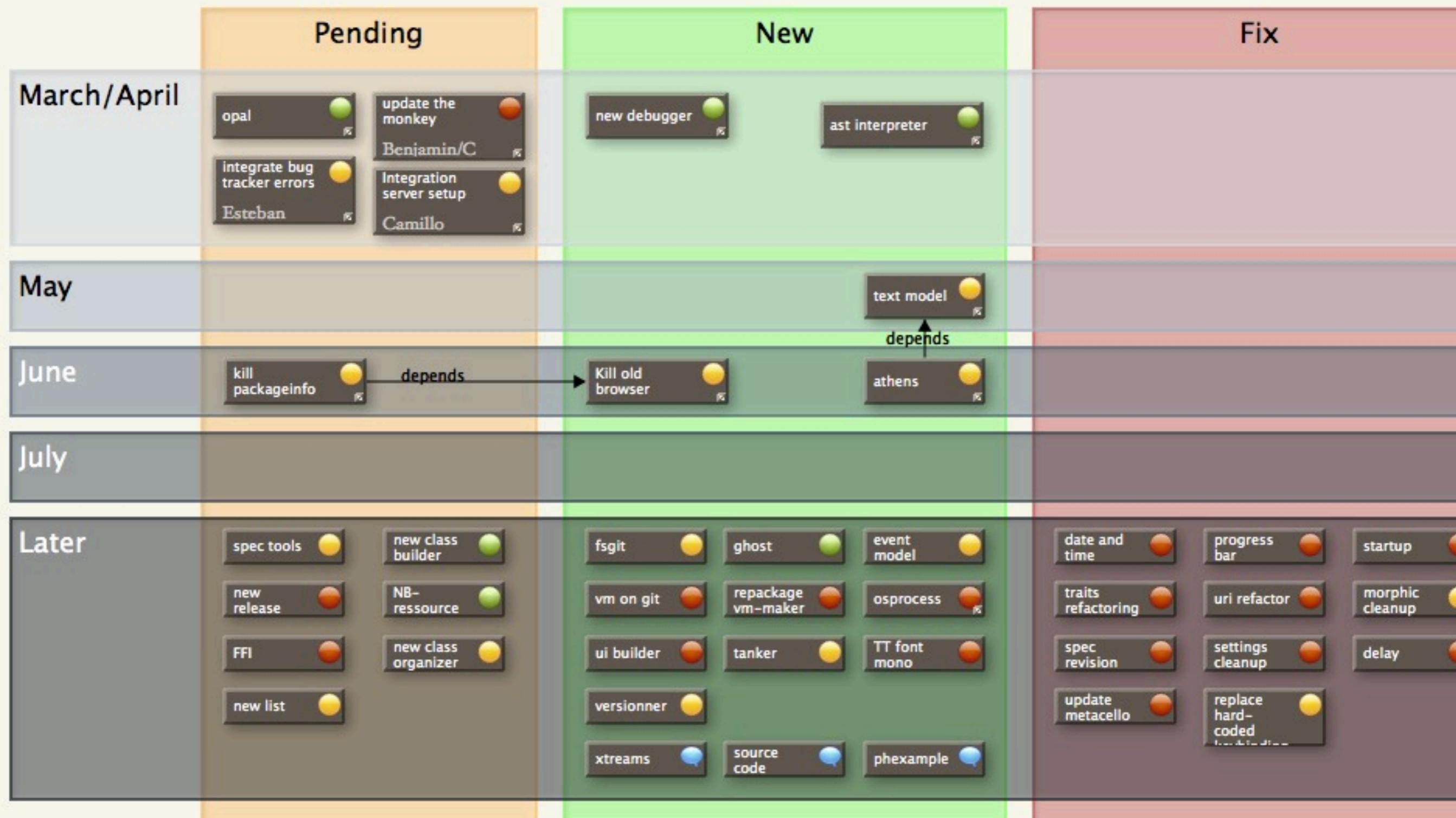
- To galvanize and stabilize a long cycle
- Chunked per month
- Retrospective analysis
- Continue to have a Summer release and an alpha

# Community Ongoing Work

- Better widgets, UI Builder (A. Plantec, G. Chambers, B. van Ryseghem)
- Better browsers (B. van Ryseghem, C. Bruni)
- Proxy (M. Martinez-Peck)
- New compiler (J. Ressia/M. Denker/C. Bera/)
- Vectorial canvas (I. Stasenko)
- Better FFI (I. Stasenko, E. Lorenzano)
- Bootstrap (G. Polito/S. Ducasse/N. Bouraqadi/L. Fabresse)
- PDF generation (O. Auverlot, G. Larcheveque)
- Network (WebSocket, Oauth, Zinc, Zodiac S. van Caekenberghe)

# Glimpse at 3.0

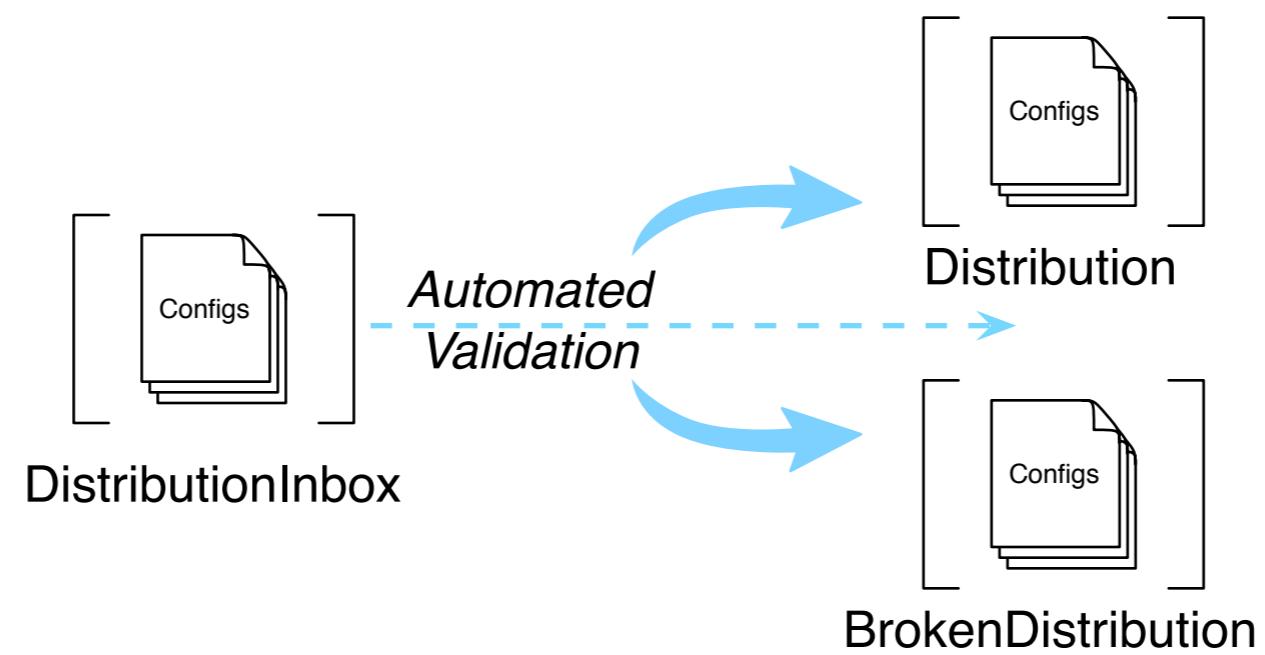
- OPAL visitor and IR compilation chain
- Athens (vector graphics)
- Integration process
- New widgets
- UIPainter
- Validated packages



# Distributions: towards a certified catalog

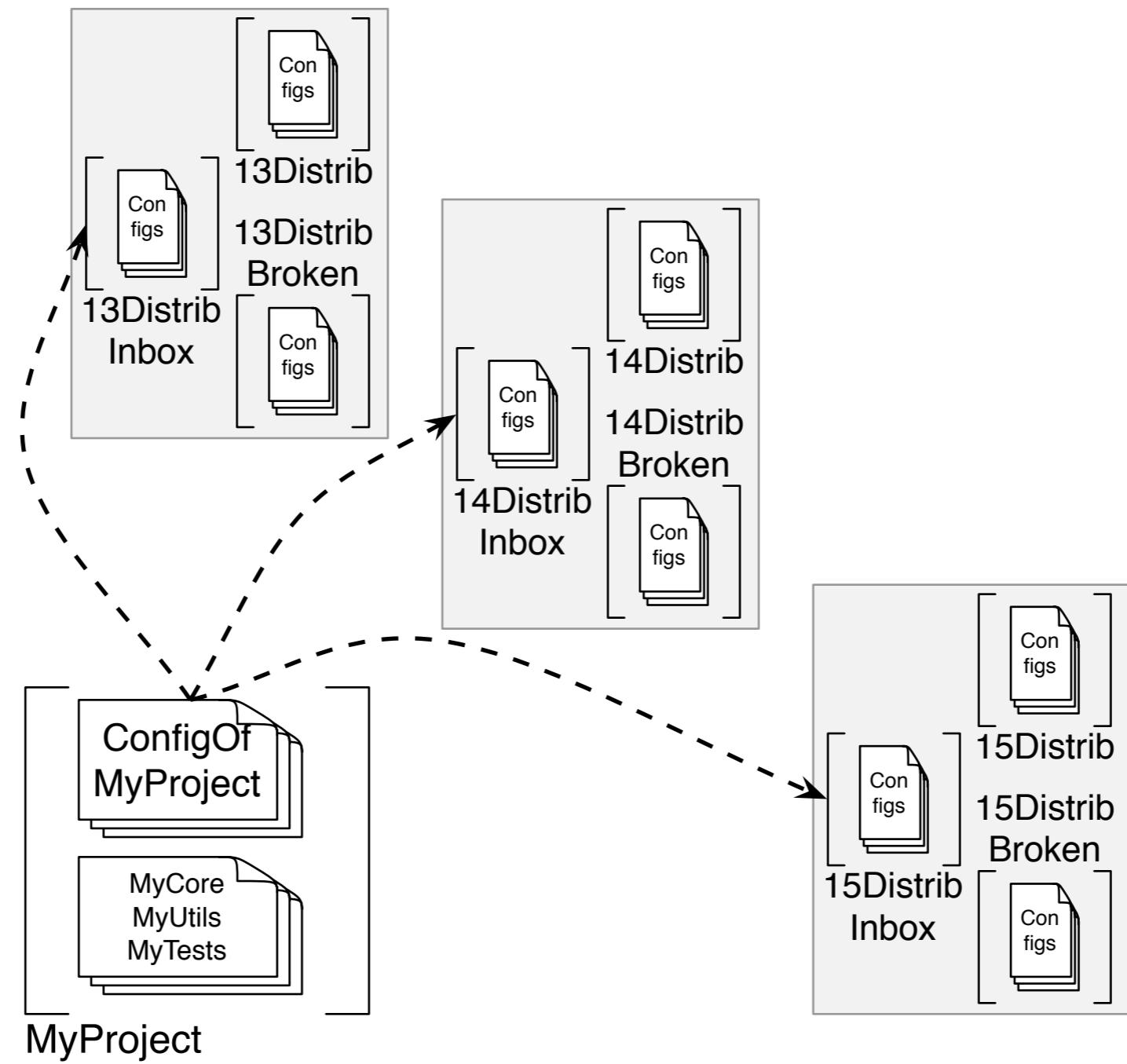
- I want to go to Mars with just a DVD,
- and still be able to load the projects I want,
- and get the right ones loaded.

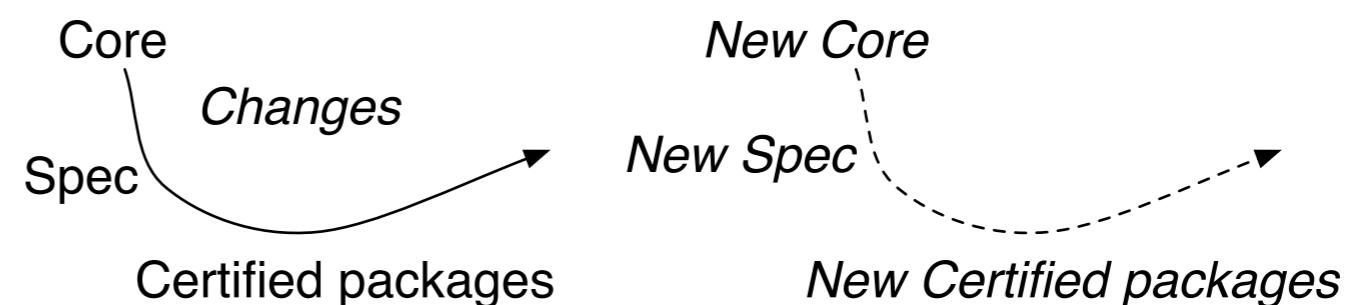
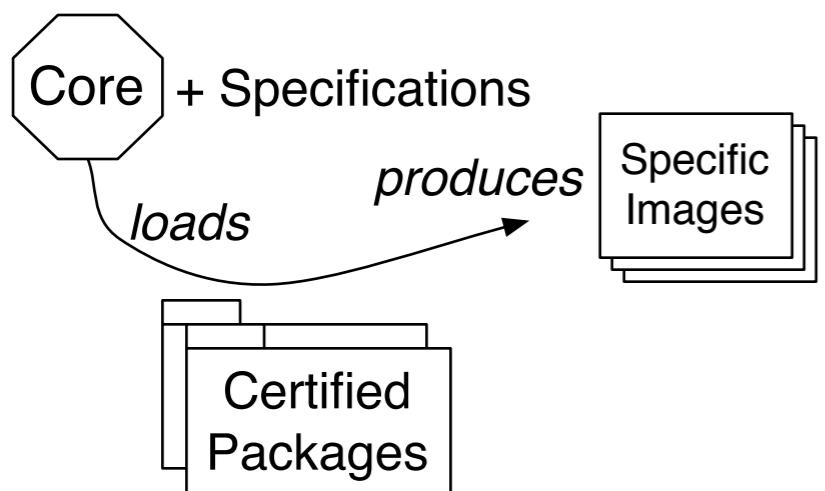




# Process

- 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 :)





# Consortium & Association

- How to sustain Pharo?
- How to structure the community?
- Let us talk about it tomorrow :)



Pharo is a clean, innovative, open-source Smalltalk-inspired environment. Pharo's goal is to deliver a clean, innovative, free open-source Smalltalk-inspired environment. By providing a stable and small core system, excellent dev tools, and maintained releases, Pharo is an attractive platform to build and deploy mission critical Smalltalk applications. The license of Pharo is MIT with some original parts remaining under the Apache License. All contributors are required to sign our license agreement.

The consortium is for legal entities, if you are an individual that wants to support Pharo participate to the [Pharo association](#).

## Pharo consortium portal

*A clean, innovative, open-source, Smalltalk-inspired environment.*

### What's new ([See all](#))

#### [A new age for Pharo](#)

*1 March 2013 5:37:47 pm by Stéphane Ducasse*

After some efforts, we are proud to announce the consortium around Pharo. With such consortium companies and academic partners will be able to collaborate and sustain the development of the Pharo envi...

[Entries \(RSS\)](#) and [Comments \(RSS\)](#)

### Industrial members

 **Golden**



# Consortium Members

- Managed by Inria for now
- Who: companies, institutions, user groups
- Privileged access to the **core** development team
- Influence **priorities** of the next development
- Engineering support time
  - Job posts
  - Training/Conferences special prices

# Pharo User Association



This is the Pharo users association site  
*Pharo is a clean, innovative, open-source Smalltalk-inspired environment.*

Home    Members    News    About

# Pharo User Association

- Managed by the Pharo Association
- Individuals
  - Premium (99 Euros)
  - Normal (40 Euros)
- Join and participate what we do!

# Pharo books

- Pharo by example
  - translated to french, merci!
  - translated to spanish, gracias!
  - translated to japanese, ありがとう!
  - german started

# New books are coming

- 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

# Everybody can help

- Reporting bugs
- Confirming bugs
- Writing tests
- Writing examples
- Writing comments
- Simple contributing fixes
- Discussion, feedback

# 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  
October 2012 Bern  
April 2012 Lille  
August 2012 Ghent  
October 2012 Puerto Madryn  
January 2013 Santiago  
February 2013 Lille  
April 2013 Lille



# Pharo



<http://www.pharo.org>



# Join Us

Creating good energy,  
software quality,  
learning and having fun

<http://pharo.org>