The Pharo Roadmap

M. Denker and S. Ducasse

http://www.pharo-project.org
Leuchttürme

27.12.09-1

HÖRNUM
Create an ecosystem where business/innovation can bloom.
Some Pharo’s success stories

- Seaside.st
- Yesplan.be, netstyle.ch
- Pier, DrGeo
- Cmsbox.ch: Content Management
- beta9.be: T3 Easy (Pharo server side)
- Moose: www.moose-technology.org
- pinesoft.uk.com: MBagger
- Airflowing
Be able to invent our future
Done so far

- 1.3 is released (a lot, a lot, and a lot of improvements :)
- 1.4 alpha started
- Jenkins server for everything
- All VMs are automatically generated using Jenkins
Community Ongoing Work

- Better widgets (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 source code model: Ring (V. Uquilllas Gomez, A. Kellens, S. Ducasse)
- New compiler (J. Ressia/M. Denker/JB Arnaud)
- Zoomable interface (I. Stasenko)
- Bootstrap (B. van Ryseghem/S. Ducasse)
- Package distribution infrastructure (D. Henrichs)
- Network (Zinc S. van Caekenberghe, Ocean N. Bouraqadi, L. Fabresse, J. Laval)
- Remote Smalltalk (N. Papoulias and N. Bouraqadi)
Roadmap

- Building the infrastructure for the next generation
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
- Adding layers on top of it
- Porting all the tools to use it!
- Reuse tools
Next Steps

- Server for queries
- New source code model
Athens Graphics

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

- OpenGL bindings using NativeBoost
  - done on Windows
- Stabilize API
- Adapt Morphic
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
- Soon added in 1.4
- 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 := (CLICliCommandParser 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 without internet, please!
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 :)
Varia

- Making sure that we will be able to use announcements instead of SystemChangeNotifier
- Cleaning Morphic
- New package infrastructure
Package certification

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

- Throw away StringHolder hierarchy (Yes Browser inherits from StringHolder)
- Browser based on a model
- Nautilus by B. van Ryseghem
Next Steps

- Reimplement
- ChangeSorter
- MC UI
- Debugger
Mini Image

- Pavel’s Mini image
- 4.2 mb for Seaside
Future?

- Native boost
- Google native client
- Full bootstrap
- More secure system
Pharo Consortium

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

- You can participate to the consortium: Pay a fee
- The consortium will pay a full-time engineer to support Pharo tasks
When

- Started discussions with INRIA two years ago
- INRIA is ok to put money on the table (under negotiation)
- More than 25 companies are interested
- Join!
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 Entreprise
  - If you want to contribute...
- A glimpse at VM
Doing a Master with us :)  

- Slim binaries (compressing AST as bytecodes)  
- Virtual Filesystem  
- Fuel-ing the code  
- Source manager  
- Peer to peer sources  
- NativeBoost as a foundational engine  
- Bootstrap next steps
Thanks

Alexandre Bergel
Cedric Beler
Torsten Bergmann
Matthias Berth
Ralph Boland
Noury Bouraqadi
Brian Brown
Guillermo Polito
Damien Cassou
Nicolas Cellier
Gary Chambers
Miguel Coba
Gabriel Cotelli
Carlos Crosetti
Cyrille Delaunay
Simon Denier
Marcus Denker
Ramiro Diaz Trepat
Stephane Ducasse
Morales Durand Hernan
Stephan Eggermont
Luc Fabresse
Matthew Fulmer
Hilaire Fernandes
Julian Fitzell
Tudor Girba
Sean Glazier
Norbert Hartl
Dale Henrichs
Reinout Heeck
Eric Hochmeister
Keith Hodges
Henrik Sperre Johansen
Pavel Krivanek
Adrian Kuhn
Adrian Lienhard
Andreas Leidig
Mariano Martinez Peck
Dave Mason
John McIntosh
Johnaton Meichtry
Eliot Miranda
Hernan Morales Durand
Philipp Marshall
Jannik Laval
Yann Monclair
Oscar Nierstrasz
Laurent Laffont
Joseph Pelrine
Alain Plantec
Damien Pollet
Lukas Renggli
Jorge Ressia
Mike Roberts
Robert Rothwell
David Rotlisberger
Michael Rueger
Bill Schwab
Niko Schwarz
Igor Stasenko
Francois Stephany
Serge Stinckwich
Mathieu Suen
Lawrence Trutter
Andrew Tween
martin von loewis
Andres Valloud
Juan Vuletich
Steven Wirts
Hernan Wilkinson