

Pharo: Building an EcoSystem

S. Ducasse

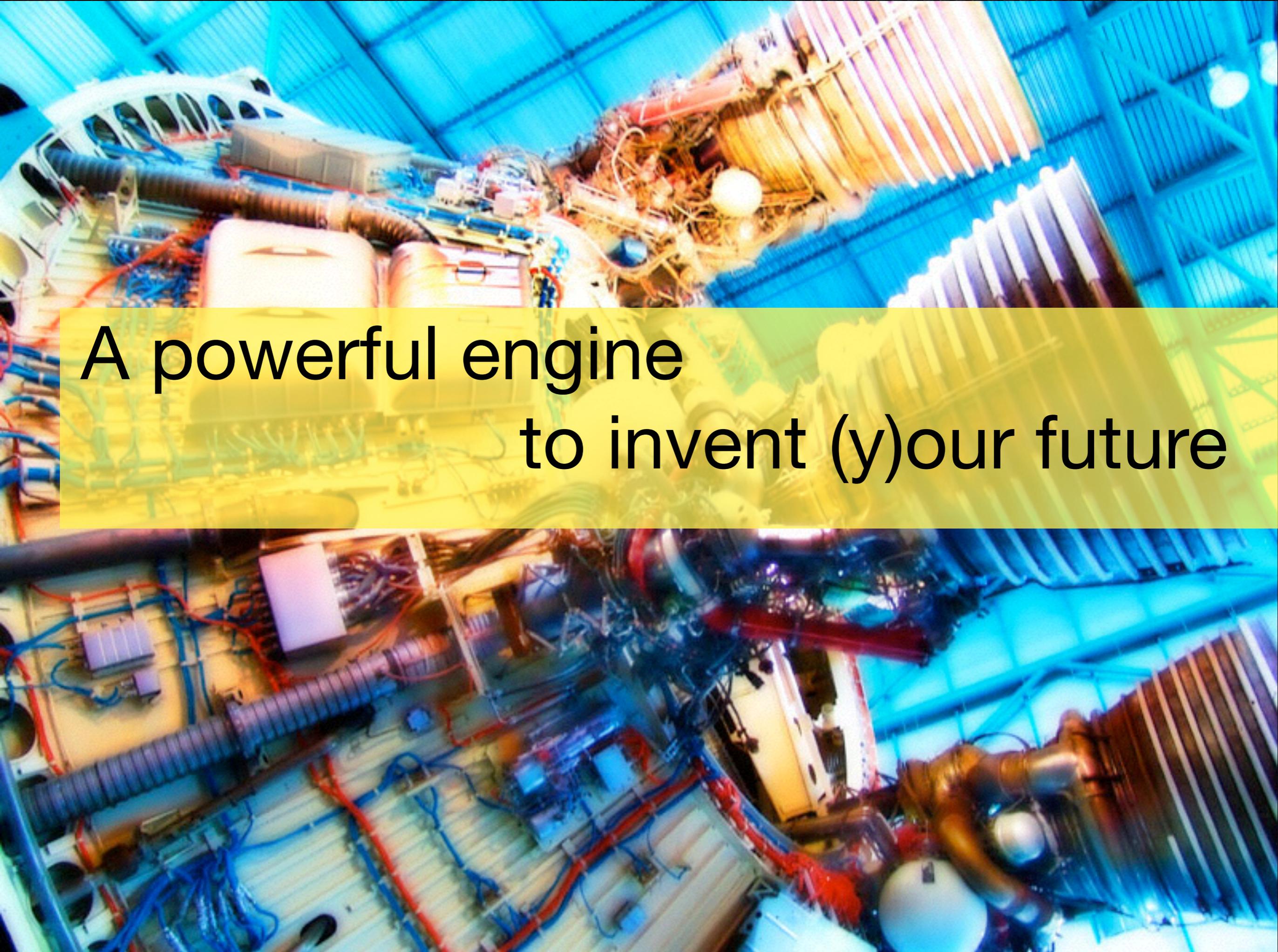
<http://www.pharo.org>



One goal



**where business/innovation
can bloom**



A powerful engine
to invent (y)our future

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

Some projects

Web frameworks - Seaside, Iliad, HTTP2, Tide, Aida, Mustache, Oauth, WebSocket
CSS styling Format parsers - XML, HTML, NeoJSON, NeoCSV.
Application Security, Graphics frameworks - Roassal, Mondrian, EyeSee, GraphET,
Tool builders - Glamour, Spec, XUL, MacNative, Databases - DBXTalk, Mongo, Riak, CouchDB, MySQL, PunQLite.
Object-Oriented databases - Magma, Goods.
Database abstraction - Voyage, ROE
MetaCompiler - Petit Parser, SmaCC - Proxy, Logging - SystemLogger, Toothpick, SimpleLogger
Units: Aconcagua, Units Time - Chronos
Calendars, Timezones
Productivity Tools - Codecritics, Refactorings, Cherry picking
merge tools: merge tool, Komitter
Versionner, Mock frameworks (baby mock), PDFgeneration - Artefact, Testing frameworks - PhExample, SUnit
Assembly generation: ASMJIT, Integration Tools: Hudson, Alternate window manager, Games: Tetris, Sokoban, Miner, Chess, CrossWords
MetaModeling Frameworks - Magritte, Platypus, Cloud deployment - cloudfork cloudPharo, 3D: Roassal3d, NBOpenGL, JVM connection
Bio informatics, ODE solvers, Interactive Geometry - DrGeo...

Pharo in numbers

- ✦ 282 000 downloads on the Inria gforge
- ✦ 40-60 active committers
- ✦ > 600 mailing-list members
- ✦ 200 license agreements
- ✦ 60 association members
- ✦ 11 industrial consortium members
- ✦ around 400 external projects or more

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!

1708 repositories, **1390** users registered and **133313** packages uploaded.

Recently registered users

-  JuanIgnacioVaccarezza (JuanIgnacioVaccarezza)
-  AmulyRaj (AmulyRaj)
-  MoneyBoy (MoneyBoy)
-  mattgoodwin (mattgoodwin)
-  bmathias (bmathias)
-  arkbar (arkbar)
-  eftanga (eftanga)
-  lkloster (lkloster)
-  iantor (iantor)
-  dposture (dposture)
-  gtesta (gtesta)
-  username (username)

Recently created projects

- [SpecUIAddOns](#) (created the Mon Jul 28 2014)
- [Rockola](#) (created the Sun Jul 27 2014)
- [LightsOutgame](#) (created the Sat Jul 26 2014)
- [Teapot](#) (created the Fri Jul 25 2014)
- [GeneticAlgo](#) (created the Fri Jul 25 2014)
- [ATHENA](#) (created the Fri Jul 25 2014)
- [ShcTestProject1](#) (created the Fri Jul 25 2014)
- [FamixSQL](#) (created the Thu Jul 24 2014)
- [DeployUtils](#) (created the Thu Jul 24 2014)
- [Deprecator](#) (created the Thu Jul 24 2014)
- [WindowsPharoDeveloper](#) (created the Thu Jul 24 2014)
- [DynaCASE](#) (created the Wed Jul 23 2014)
- [argumentAnalysisPublic](#) (created the Wed Jul 23 2014)



We are a cool and growing
community



Tweets, blogs, buzz

- ✦ Pharo 3,065 tweets / 1018 followers
- ✦ S. Ducasse tweets 513/ 735 followers
- ✦ S. Stinckwich 8712 / 1006 followers
- ✦ Moose 502 tweets/ 255 followers
- ✦ Youtube Pharo smalltalk: about 1540 videos!

Pharo's Teachers

- Uni. of Buenos Aires • Uni. of Bern • Uni. of Maroua • Uni. of Brussels • Ecole des Mines de Douai • Uni. de Savoie • Ivan Franko Nat. Uni. of Lviv • Czech Technical Uni. • CULS Prague
- Uni. of Quilmes • Uni. of La Plata
- Northern Michigan Uni.
- Uni. Technologica Nacional (UTN) • Uni. Catholic of Argentina • Uni. of Santiago
- Uni. Policnica de Catalunya • Uni. of Saarland
- Uni. de Bretagne Occidentale • Uni. of Tomsk

Research Groups

Lafhis (AR)

Software Composition Group (CH)

CAR (FR)

RMOD (FR)

Ummisco (IRD)

Reveal (CH)

Lysic (FR)

Pleiad (CL)

CEA-List (FR)

Uqbar (AR)

Blogs

- ✦ <http://pharo.org/blogs>
 - ✦ <http://astares.blogspot.co.uk>
 - ✦ <http://clementbera.wordpress.com>
 - ✦ <http://pharoweekly.wordpress.com>
- Guille Polito, [Playing with Objects](#)
 - Mariano Martinez Peck, [Sending messages](#)
 - Igor Stasenko, [Computer Adventures](#)
 - Laurent Laffont, [MaGaLoMa](#)
 - Esteban Lorenzano, [The Martian Chronicles](#)
 - Tudor Girba, [Humane assessment](#)
 - Philippe Back, [The Philippe Back Report](#)
 - Yuriy Tymchuk, [Uko on Code](#) and [Sleepy Coders](#)
 - Mark Rizun, [Coding is Fun](#)
 - Sean DeNigris, <http://seandenigris.com/blog/?cat=Smalltalk>
 - S. Krish, [Skrishnamachari's Weblog](#)
 - Ecole des Mines, [Components, Agents, and Robots](#)

Design ideas

Object-centric debugging

First-class slots

Bootstrapping a Smalltalk

Vector graphic core

New modules

New frameworks

STON, Tide, Voyage, Babymock, Mocketry...

Example: OpenCL in Pharo

The image displays a screenshot of the Pharo IDE interface, illustrating the use of OpenCL. On the left, a file browser shows a project structure with folders like 'OpenCL-Examples' and 'OpenCL-Tests'. Below it, a code editor shows the implementation of an OpenCL kernel named 'exampleRadialGradient'. The kernel code is as follows:

```
self new exampleRadialGradient
..
self makeImage: '
__kernel void makeImage(int width, int height, __global __write_only int *image) {
    int x = get_global_id(0);
    int y = get_global_id(1);
    int destPos = y*width + x;

    /* Texture coordinates. */
    float s = (float)x / (width - 1);
    float t = (float)y / (height - 1);
    float2 coord = (float2)(s, t);

    /* */
    float r = length(coord)*2.0f - (float2)(1.0f, 1.0f);

    /* Emit a black pixel. */
    image[destPos] = encodeRGBA(0.0f, min(r, 1.0f), 0.0f, 1.0f);
}
}
```

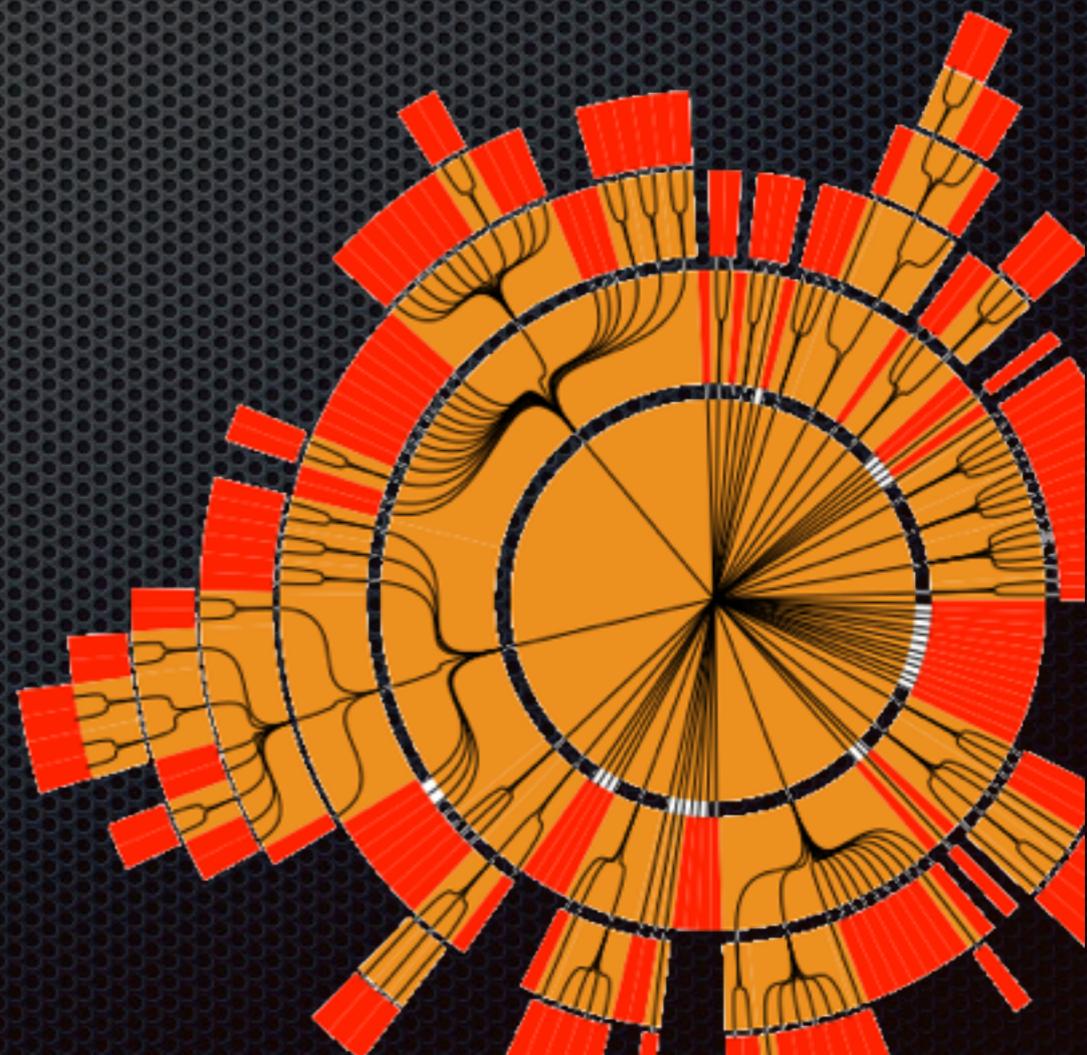
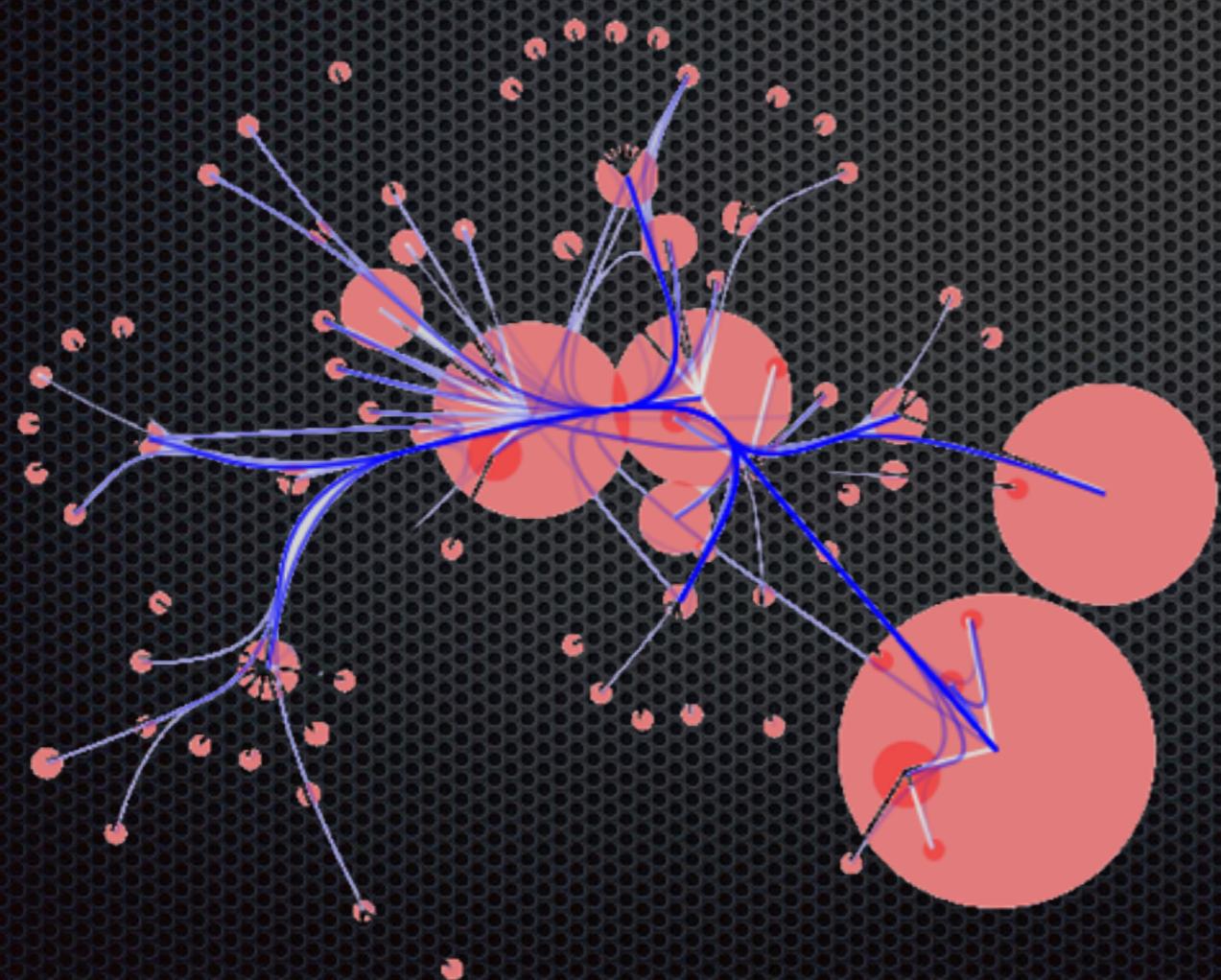
On the right, a 3D scene titled 'WDFPSSimpleExample6 - 98.21 FPS' shows a blue water surface with a small boat. The 'Workspace' window displays the 'WWaterMaterial' class with its properties: 'program', 'programAssembler', 'diffuseColor', 'specularColor', 'emissionColor', 'shininess', 'harmonics', and 'propagationSpeed'. The 'EyeInspector' window shows the 'self' object with the following values: 'self harmonics: 3 amplitude: 0.05 frequency: 2.0 center: (WVector2 newX: 2.0 y: 2.0)'. The 'Hierarchy' window shows the scene structure, including 'water attach: waterShape. scene addChild: water.' and 'Add the floor' floor := WSceneNode new. floorShape := WComplexGeometryBuilder new currentMaterial: floorMaterial).

✦ <http://youtu.be/-2ida5Q1mbg>

Proven Innovation!

seaside 

Proven Innovation!



all MIT!

- ✦ GraphET, EyeSee
- ✦ Tide (Amber/Pharo)
- ✦ Voyage (NoSQL)
- ✦ Zinc
- ✦ WebSocket, OAuth, Riak, MongoDB, couchDB, mustache, PunQlite
- ✦ ...

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Creating good energy,
software quality,
learning and having fun

<http://pharo.org>



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