



Pharo: Live objects for complex projects

<http://stephane.ducasse.free.fr>

<http://www.pharo.org>

JPMORGAN
CHASE & CO.



feenk



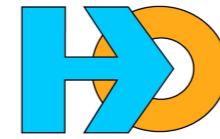
ZWEIDENKER



THALES

projector
software

BetaNine
software engineering



inspired!

SORABITO

knowroaming

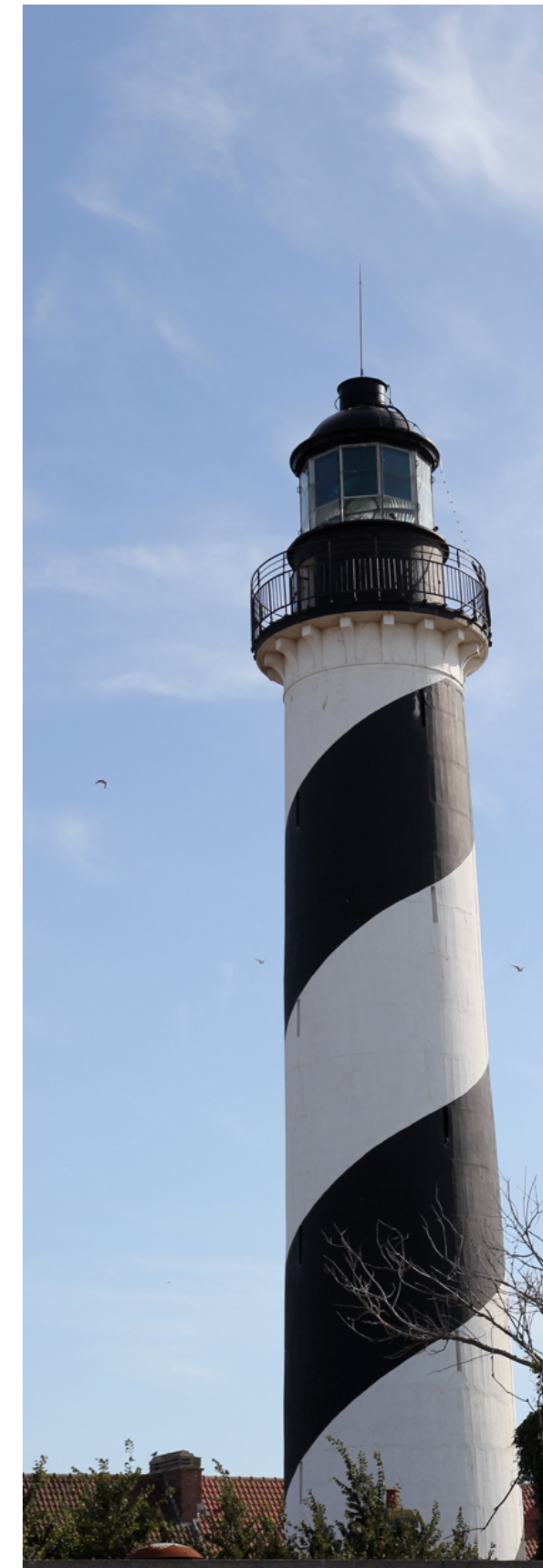
TA MÈRE^{SCRL}
BADASS MOBILE DEVELOPMENT



Systems that make sense
Sensus



Yesplan
Let's make it happen



A word of presentation

Inria:

- 8 labs**
- 200 teams**
- 3300 researchers**
- Excellence in research**
- Transfert (impact on real life)**
- Minister of Education and
industry**

Expert in language design

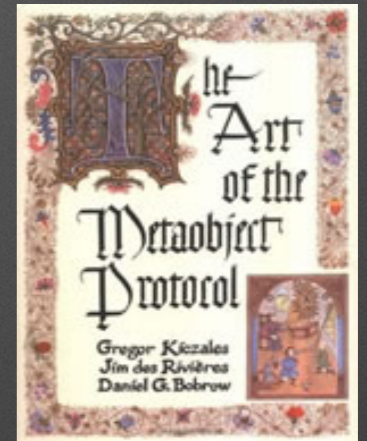
**Traits in Php7.0, Perl60,
Influenced Traits in Scala, groovy
ClassBoxes
Pharo**

Expert in Software Evolution

**Program analysis, Metamodels,
visualization, testing, refactorings,
metrics....**

Language love

Born in Lisp,
Loved Scheme, CLOS'MOP
Discovered Smalltalk in 96
Discovered Squeak in 98
Maintained Squeak 3.9
2008 created pharo



synectique

Inventive Analysis

Building *specific* analysis tools for important running business software (Ada, Cobol, 4D, C, C++, Java...)





Epicea - Code Changes

Pharo.ukuxow01byex@vycsucmc3if *	+ ReferenceFinder - startFrom: Today, 2:24 pm
Pharo.ukuxowhinqostill1cfg38ya Today	+ ReferenceFinder - searchVariablesIn: Today
Pharo.ukuxov6wgcbdg3w2gkuvo08r Today	+ ReferenceFinder - searchIndicesIn: Today
Pharo.70xz09swnu55q51x76u9ij96h Today	+ ReferenceFinder - searchForObject: Today
	+ ReferenceFinder - searchForMethod: Today

Iceberg repositories

New repository Clone repository Add local repository Fetch all

Name	Current branch	Loaded version	Status
iceberg	dev-0.4	f9c63ee (15 May 2017)	Up to date
libgit2-pharo-bindings	master	1f582be (18 April 2017)	Up to date

General

Name	Value
Origin	https://github.com
Remote User	
Remote host	github.com
Repo Owner	pharo-vcs
Location	/tmp/src/te
Cloning from	origin

Branch browser

Date & time	Id	Parents	Author	Comment
2017-05-13 18:16	ec0389	64dd53e	Esteban Lorenz	
2017-05-13 16:22	64dd53e	ee52967	Esteban Lorenz	
2017-05-12 22:47	ee52967	883763d	Esteban Lorenz	
2017-05-12 17:11	883763d	9880fcb	Esteban Lorenz	
2017-05-12 14:24	9880fcb	fefadb2	Esteban Lorenz	
2017-05-12 09:40	fefadb2	7969c6c	GitHub	
2017-05-12 09:32	7969c6c	535238f	Max Leske	
2017-05-11 15:18	535238f	5382135	Esteban Lorenz	
2017-05-10 10:47	5382135	422644a	Esteban Lorenz	
2017-05-10 10:42	422644a			

Commit info

Date & time	2017-05-13 16:22
Commit Id	64dd53ea288990466e2b94095d33fa25764c7100 [64dd53e]
Parent(s)	ee52967
Author	Esteban Lorenz
Comment	remove not used method

AssertionFailure: Assertion failed

Stack

- evaluateAndDo
- highlightValueAndDo
- GLMorphicPharoScriptRenderer(GLMorphicPharoCr actOnHighlightedValue
- handleEdit
- WorldState
- WorldMorph
- WorldState

Source

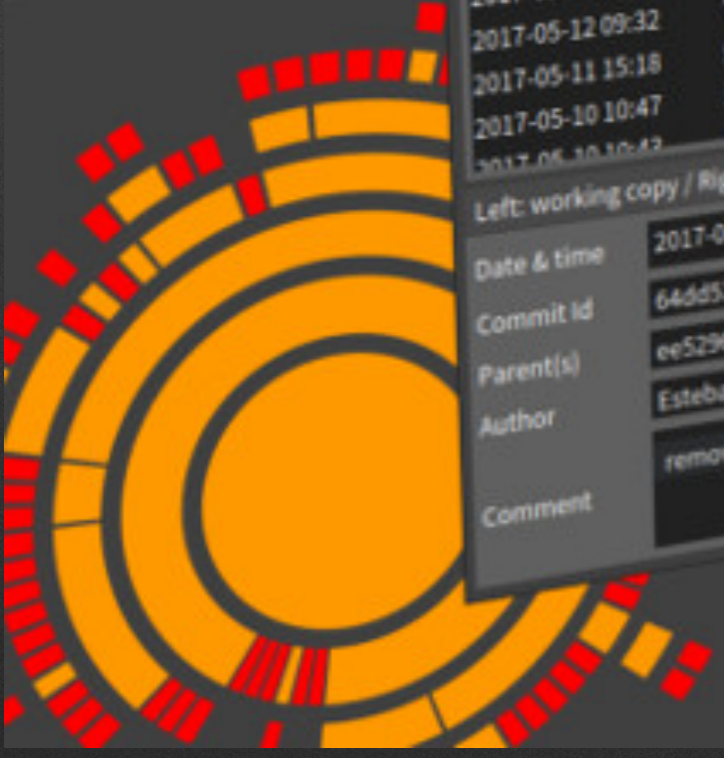
```
doOneCycleLettofer: world  
"Immediately do one cycle of the interaction loop.  
This should not be called directly, but only via doOneCycleLettofer"
```

Variables

Type	Variable	Value
self	self	aWorldState
world	world	aWorldMorphCr
activation	activation	aPharoScriptRenderer
alarm	alarm	aPharoScriptRenderer
cancel	cancel	aPharoScriptRenderer

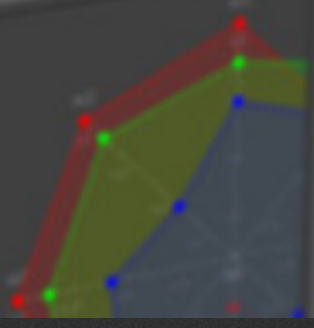


Pharo?



localSelectors

```
"Collection"  
self
```



Pharo!

- System: Pure object language + full IDE
- Powerful, elegant and fun to program
- Great community / industrial consortium
- Living system under your fingers
- Works on Mac OSX, Linux, iOS, *Android*, Windows, Pi - 100% MIT

Elegant!

- Full syntax on a postcard
- Simple and powerful object model



PLAC
STAM
HERI

```

exampleWithNumber: x

<syntaxOn: #postcard>
"A ""complete"" Pharo syntax"
| y |
true & false not & (nil isNil)
iffalse: [ self perform: #add: with: x ].
y := thisContext stack size + super size.
byteArray := #[2 2r100 8r20 16rFF].
{ -42 . #($a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1) }
do: [ :each |
| var |
var := Transcript
show: each class name;
show: each printString ].
^ x < y

```

Annotations for the code above:

- method name: exampleWithNumber
- parameter: x
- pragma: <syntaxOn: #postcard>
- comment: "A ""complete"" Pharo syntax"
- local variable: y
- boolean literals: true, false
- binary message: not
- unary message: isNil
- nil literal: nil
- block: [self perform: #add: with: x].
- keyword message: perform: #add: with: x
- assignment: y := thisContext stack size + super size.
- pseudo variables: thisContext, super
- instance variable: byteArray
- integer literals: 2, 2r100, 8r20, 16rFF
- byte array: #[2 2r100 8r20 16rFF].
- array generated at runtime: { -42 . #(\$a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1) }
- literal array: #(\$a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1)
- symbols: \$a, #a, #'I''m'
- character: 'a'
- string: 'a'
- floating point: 1.0, 1.23e2
- scaled decimal: 3.14s2
- local block variable: :each
- block parameter: each
- global variable: Transcript
- keyword message: show: each class name; show: each printString
- cascade: show: each class name; show: each printString
- return instruction: ^ x < y

other method definition examples:
unary
+ binaryMessageArgument
keyword: arg
keyword: arg1 withTwo: arg2

<https://www.pharo.org>

Full Syntax!

.....
.....
.....
.....
.....

Yes! Nothing else



```

method name      parameter
exampleWithNumber: x

<syntaxOn: #postcard> ]
"A ""complete"" Pharo syntax" ]
| y |
true & false not & (nil isNil)
  ifFalse: [ self perform: #add: with: x ].
y := thisContext stack size + super size.
byteArray := #[2 2r100 8r20 16rFF].
{ -42 . #($a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1) }
do: [ :each |
  | var |
  var := Transcript
    show: each class name;
    show: each printString ].
^ x < y

```

Annotations for the code above:

- method name: exampleWithNumber
- parameter: x
- pragma: <syntaxOn: #postcard>
- comment: "A ""complete"" Pharo syntax"
- local variable: y
- boolean literals: true, false
- nil literal: nil
- binary message: &
- unary message: not
- block: (nil isNil)
- keyword message: #add: with: x
- assignment: :=
- pseudo variables: thisContext, super
- instance variable: byteArray
- integer literals: 2, 100, 20, FF
- byte array: #[2 2r100 8r20 16rFF]
- array generated at runtime: { -42 . #(\$a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1) }
- literal array: #(\$a #a #'I''m' 'a' 1.0 1.23e2 3.14s2 1)
- symbols: \$a, #a, #'I''m'
- character: 'a'
- string: 'a'
- floating point: 1.0, 1.23e2
- scaled decimal: 3.14s2
- local block variable: | var |
- block parameter: :each
- global variable: Transcript
- keyword message: show: each class name; show: each printString
- cascade: ;
- return instruction: ^ x < y

other method definition examples:
 unary
 + binaryMessageArgument
 keyword: arg
 keyword: arg1 withTwo: arg2

PLACE
STAMP
HERE

Full Syntax!

<https://www.pharo.org>

| a |

a := 40 + 2.

^ a

Unary messages

- Date today, 9 squared

“Operators” Binary

- $4 + 3$
- ‘Black ’, ‘Chocolate ’, ‘is good’

Keywords messages

- 2 between: 0 and: 10
- 2.betweenAnd(0, 10)

Lexical closures: Blocks

- closure definition

`[:x | x + 5]`

- closure execution

`[:x | x + 5] value: 37`

`>>> 42`

Control flow op are messages

Weather today isRaining

ifTrue: [self takeUmbrella]

ifFalse: [self takeSunglasses]

Yes we send messages to Boolean objects

Iterators

```
#( 1 -2 -3 4 -5) collect: [:each | each abs]
```

```
>>> #( 1 2 3 4 5)
```

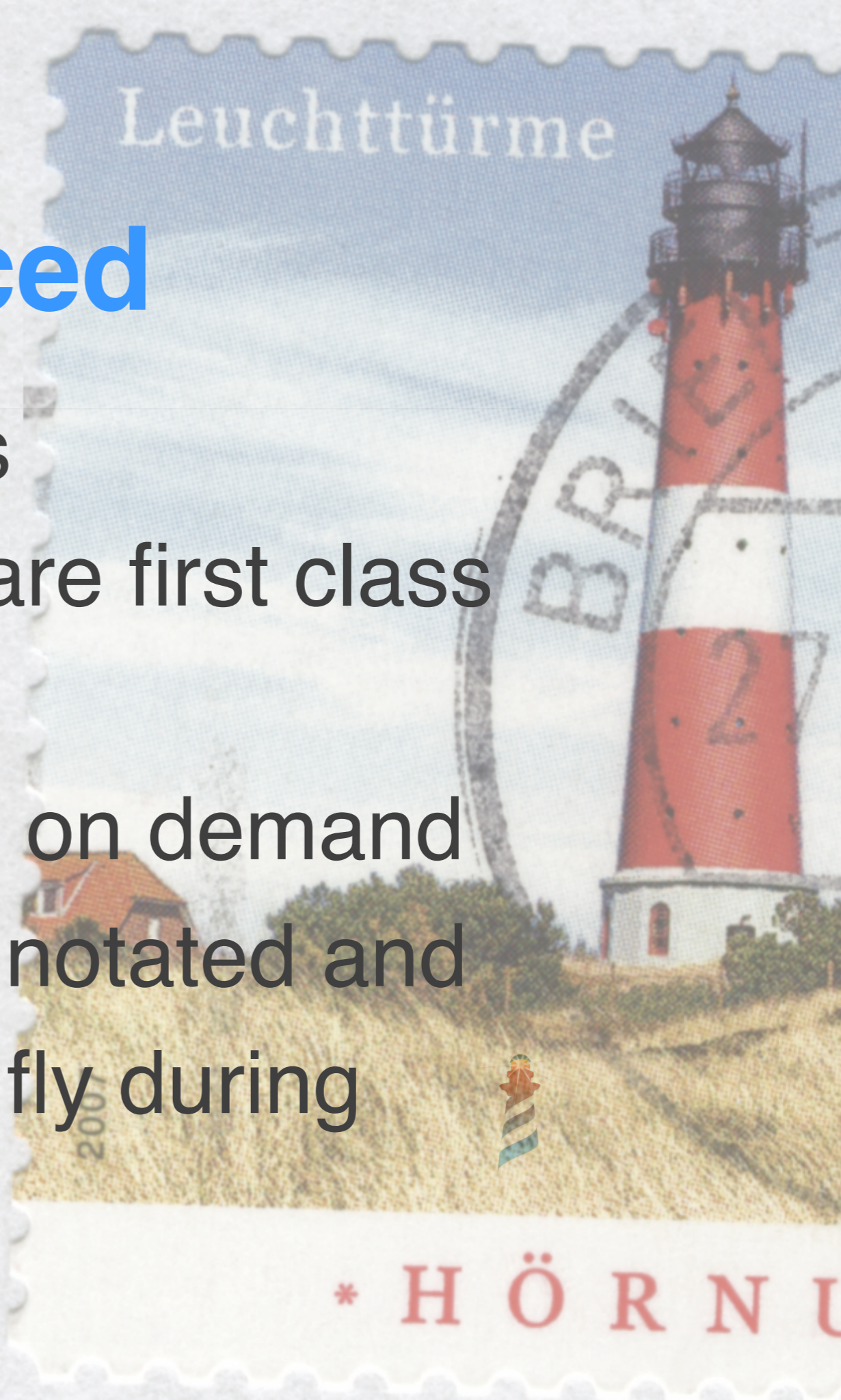

Full Model!

- * Dynamically typed
- * Everything is an object instance of a class
- * All methods are public virtual
- * All attributes are protected
- * Single inheritance
- * Stateful Traits



For the advanced

- * Classes are objects
- * Instance variables are first class
- * MOP for read/write
- * stack can be reified on demand
- * AST can be fully annotated and transformed on the fly during execution



Focus on intrinsic complexity

**Eliminate accidental
complexity**

A hand holding a red pencil is shown writing on a piece of paper. The hand is positioned at the top of the frame, and the pencil is angled downwards. The paper is white, and the red pencil has just finished writing a large, stylized red letter 'P' that is partially visible on the left side of the page. The background is a plain, light-colored surface.

Fully Written in Itself

**Everything is written in Pharo
One simple syntax to rule
them all**

Learn
Adapt
Modify

**Pharo is highly
immersive**

**Most languages do not
expose much of their
internals**

A large aquarium tank filled with various fish, including several large sharks and many smaller fish. In the foreground, the silhouettes of several people are visible, looking at the tank. The scene is set in a dimly lit environment, likely an aquarium, with the light from the tank illuminating the water and the silhouettes of the visitors.

Looking inside

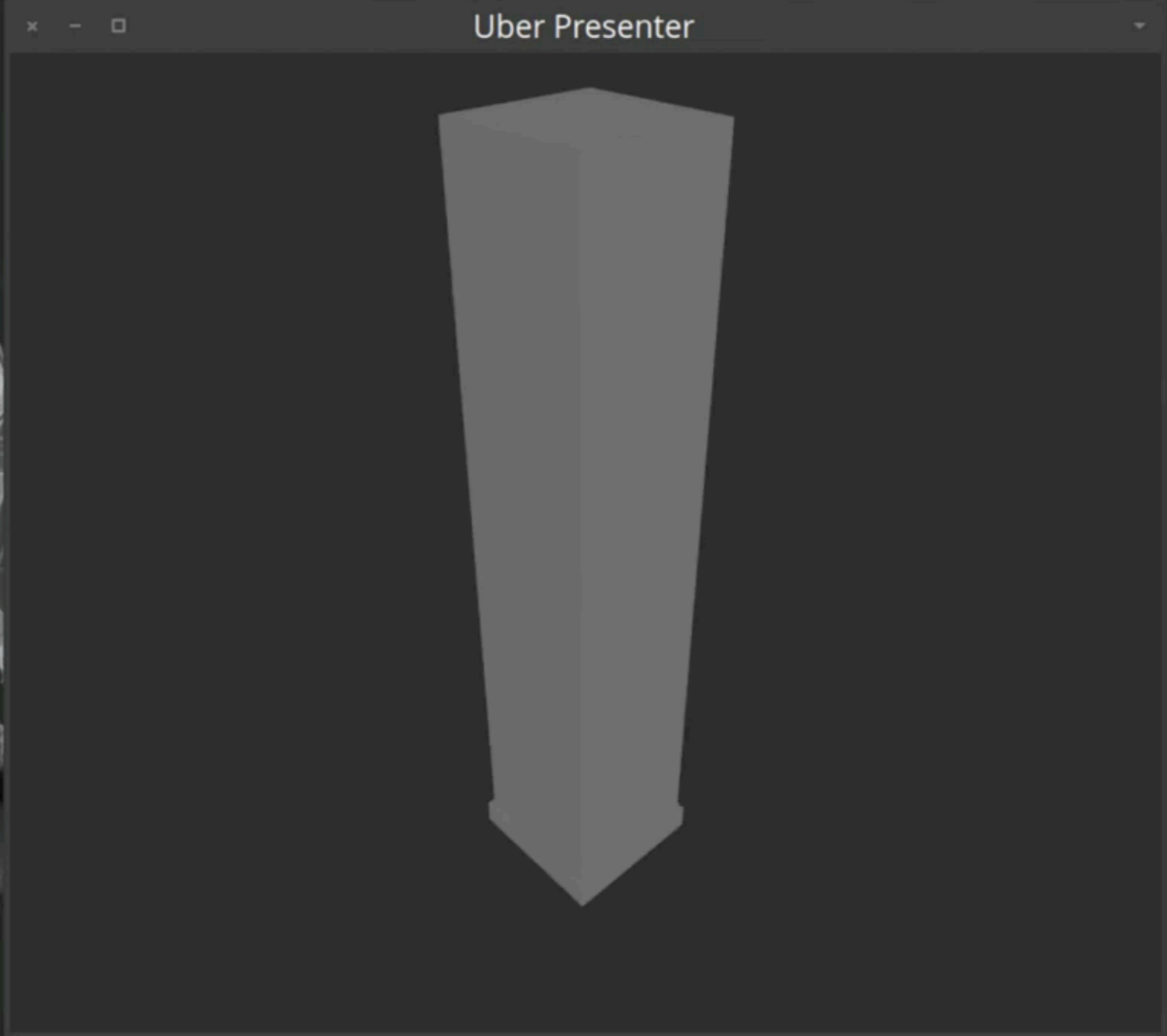
- * Introspection is a first step
- * Pharo is fully inspectable and reflective



Immersed and interacting

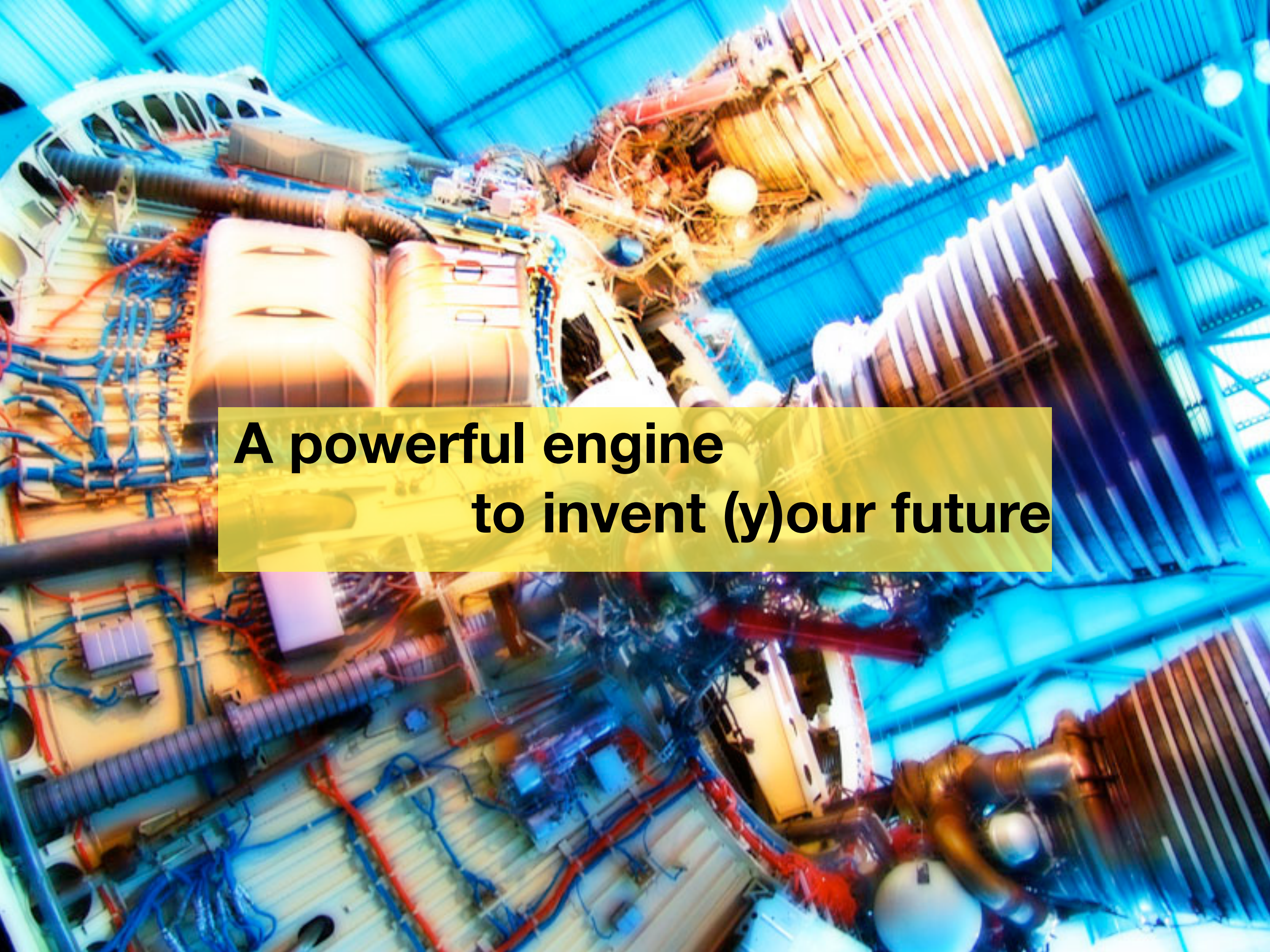
- * You interact with objects
- * You modify objects life


```
Workspace  
| elements lay |  
  
elements := (1 to: 5) collect: [ :ob |  
    (R3CubeShape new) elementOn: ob ].  
    I  
  
lay := R3WallLayout new.  
lay on: elements.  
  
UberPresenter present: elements
```




**We can do the same
with web app, sockets,
networks, sensors,
living programming.....**

Pharo's goal...

The image shows a large, complex industrial machine, likely a particle accelerator or fusion reactor, with a central yellow text overlay. The machine is composed of various components, including large cylindrical tanks, pipes, and a dense network of blue and red cables. The background is a blue, corrugated metal structure, possibly a ceiling or wall. The overall scene is brightly lit, with a strong blue and yellow color palette.

**A powerful engine
to invent (y)our future**



**An ecosystem where
innovation/business bloom**

... ****you**** can make money
with Pharo.

... to be able to invent
solutions to existing
problems.

... a powerful **innovative**
dynamic language where we
can build (y)**our** future.

trentosur

Soluciones móviles para retail y trade marketing

Nos enfocamos en lo que importa del negocio sin perder de vista los detalles de su implementación.

Primero móvil, Plataforma Android, En la nube

PharoCloud

Overview Pricing Blog Login Sign Up

Pharo platform as a Service: put your Smalltalk web-application online at Pharocloud in just 3 clicks

Try it for FREE

Romax TECHNOLOGY

Wind Energy

Pioneering new ways of maximizing sustainable wind energy yields. Our products and services optimise asset availability, wind turbine performance and drivetrain reliability. We work with owners, operators, manufacturers, insurers and service providers worldwide.

Get in touch

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

Quuve

Some Success Stories

Dedicated and cost-effective tools for software evolution

Dedicated Analyses, Dedicated tools, Decision making

Yesplan is veelzijdige software voor het efficiënt plannen van evenementen.

Yesplan is uiterst gebruiksvriendelijk, flexibel en makkelijk te koppelen met andere software.

NTed: disaster scenario recovery

HORIZON-COM

The world's first online platform fully supporting cloud-based management

BETTER, FASTER, CHEAPER

CSOB

airflowing

Organize your creative work

Sales, tasks and finances: your team and all that's essential in one place

Plans and Pricing

Manage your simple way

OBJECT PROFILE

CMSBOX

Das Content Management mit System

100% Inline-Editor

Drag & Drop, Copy / Paste

2denker

Continuous API Testing

keep your services under control 24/7

t3

trentosur

Soluciones móviles para retail y trade marketing

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PharoCloud

Overview Pricing Blog Login Sign Up

Romax TECHNOLOGY

Wind Energy

Pioneering new ways of maximizing sustainable wind energy yields.

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
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Quuve

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

A product by Smallworks

SpiesenFuchs

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Pinesoft MBagger

Synectics

HORIZON-COM

BETTER, FASTER, CHEAPER

airflowing

Organize your creative work

Sales, tasks and finances: your team and all that's essential in one place

OBJECT PROFILE

CMSBOX

Das Content Management mit System

2denker

Continuous API Testing

keep your services under control 24/7

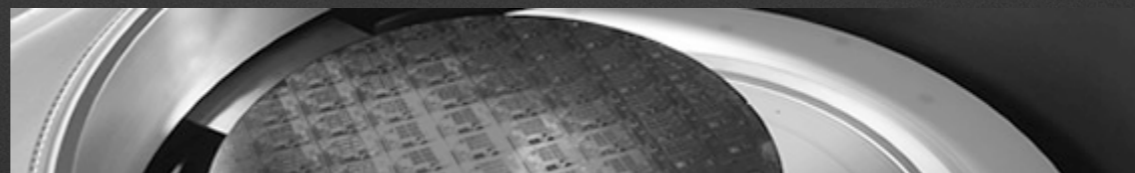
Check
<http://pharo.org/>
 success

LAMRC

Back-End Wafer-Level Packaging

50% microprocessors
of your mobile/PC/tablet

Your mobile hardware as
a high-chance to have
been produced by a robot
controlled via a smalltalk

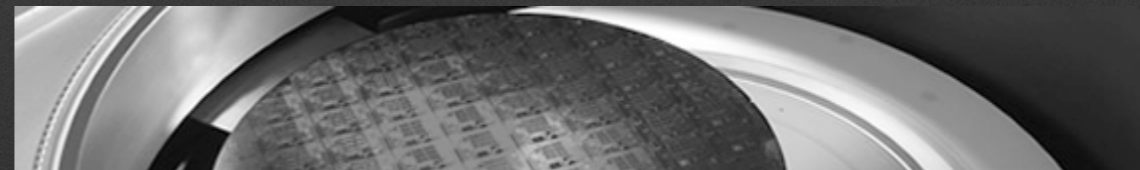


LAMRC

Back-End Wafer-Level Packaging

Started to experiment
with Pharo

Your mobile hardware as
a high-chance to have
been produced by a robot
controlled via a smalltalk



LifeWare



800

thousand

policies currently managed by our solution

25

€ billion

assets under management

15

satisfied customers

90

thousand

page per views per day

130

thousand

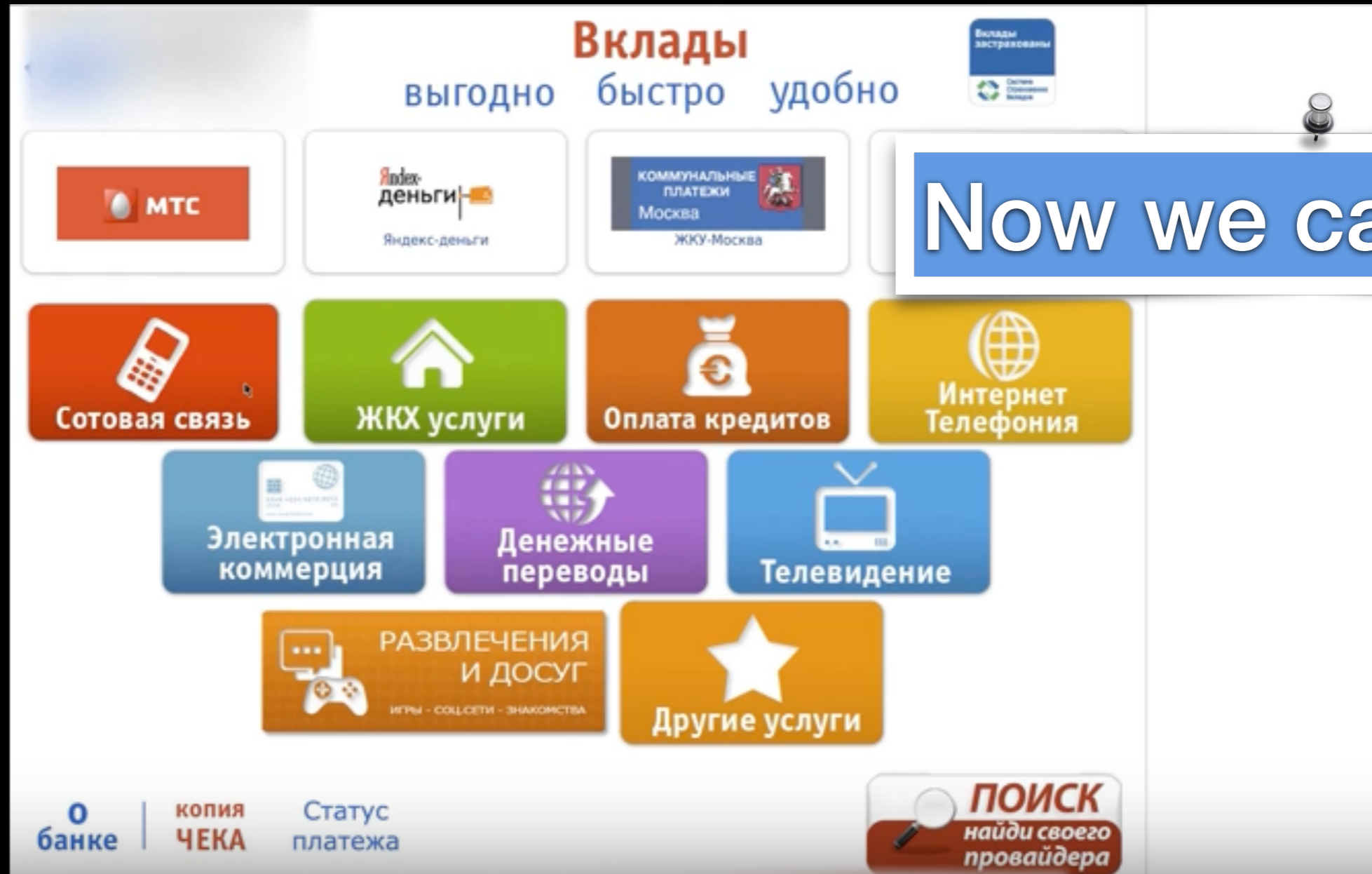
authorized users

Migrating to
Pharo

30 Millions lines of code...

Kent Beck is one of the
founders

Pharo in ATM like Device in Moscow



ALLSTOCKER

We find machines for you
+81-3-5



Find Machines

Q Search by Category

Construction Machinery

 Mini Excavators	 Excavators	 Wheel Loaders	 Dozers	
 Cranes	 Rollers	 Graders	 Finishers	
 Generators	 Welders	 Compressors	 Small Items	 Other Construction Machinery

Material Handling

 Forklifts

Farm Machinery

 Tractors

Vehicles

 Dumps	 Trucks	 Other Vehicles
-----------	------------	--------------------

Others

 Attachments	 Parts	 Others
-----------------	-----------	------------

Q Search by Keyword

Enter a keyword (e.g. KOMATSU PC200)

New Machines

Updated on: 2016/09/13 17:46:18 (JST)

[See More >](#)

 HOKUETSU PDS175S 400,000 JPY 4573	 KUBOTA U-55-6 3,500,000 JPY 2015 330	 OTHER MGR2500 133,100 JPY	 ISEKI HL407G 198,000 JPY	 OTHER MR6500 143,000 JPY	 OTHER GH250-GML 165,000 JPY
--	---	-------------------------------------	------------------------------------	------------------------------------	---------------------------------------

Full Stack in Pharo Online marketplace raised 4.7 M\$

Network Monitoring for small ISPs

The dashboard provides a comprehensive overview of network health. Key metrics include:

- Utilisation Downlink:** 95% CAPACITE / 800 Mbps
- Modems connectés:** 99% (1540/1550)
- System Status:** CMTS_STRING and les compo (Warning), Switch (OK), Modems (OK), Routeur (OK), and Serveur (OK).

The mobile application displays the 'Supervision HFC' status, indicating that the system is operational:

Tout est en ordre avec Supervision Talange

Alias	M	Type	Condition	Etat	Températures	Info Syst
Supervision Talange	talange	HfcSupervisionPC	OK	OK	OK	OK
Supervision Creutzwald			Warning	Warning	Warning	Warning
Supervision Rombas			Warning	Warning	Warning	Warning
Supervision SVOM			Warning	Warning	Warning	Warning

Condition	Etat	Face Avant/Arrière	Températures	Info Syst
33°C	OK	MPE HMI	OK	OK
33°C	OK	MPE Omb	OK	OK
33°C	OK	MP MPE HMI	OK	OK
34°C	OK	MP MPE	OK	OK
33°C	OK	MP UC HMI	OK	OK
33°C	OK	MP UC	OK	OK
32°C	OK	CPU De	OK	OK

This section shows a detailed network tree structure and performance graphs for various components:

- Tree structure: CMTS -> Slot 0 -> Carte Ethernet -> GigabitEthernet0/1
- Graphs: Multiple line charts showing traffic and performance metrics over time.

This section provides a detailed view of the equipment configuration and physical layout:

- Configuration: CMTS -> Slot 0 -> Carte Ethernet -> FastEthernet0/2, GigabitEthernet0/1
- Physical Layout: Diagram of the equipment rack showing the placement of various modules and components.



pharocloud

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[Pricing](#)

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Pharo platform as a Service: put your
Smalltalk web-application online at
Pharocloud in just a couple clicks

[Try it for FREE](#)

[Watch how it works](#)

**Deploy Pharo
on the cloud in 3 min**



CMSBOX Bearbeiten Hinzufügen Clipboard Aktionen Diese Seite sofort Publizieren

cmsbox

Neue Seite
Artikel
Formular
Tabelle

CMS with full history

Das Content Management 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

Copy / Paste

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

Text einfügen

SYSTEM

WEBSEITE

Bearbeiten

Metatags

Statistik

Archiv

BENUTZER

SUPPORT

Eigene Bilder und Videos direkt auf die Webseite laden

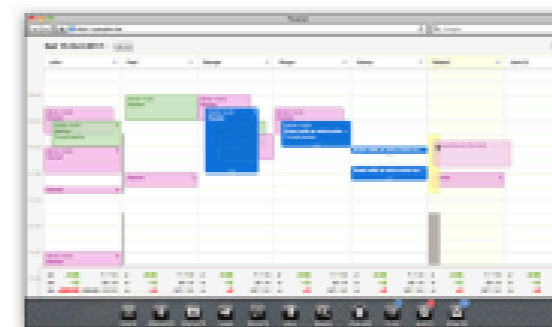
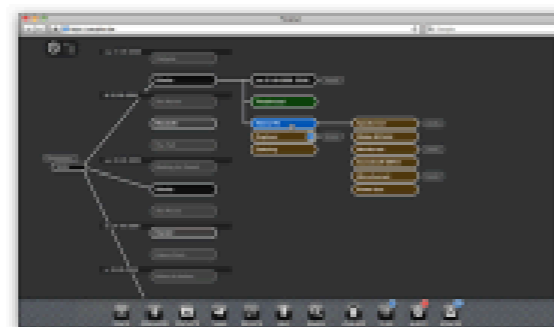
CMSBOX GMBH · TERRASSENWEG 18 · CH-3012 BERN · +41 (0)31 356 42 52

Suchen...

Yesplan is veelzijdige software voor het efficiënt plannen van evenementen.

Yesplan is uiterst gebruiksvriendelijk, flexibel en makkelijk te koppelen met andere software.

Distributed
Resources
Management





eMCee
interfacetesting

Server Testing

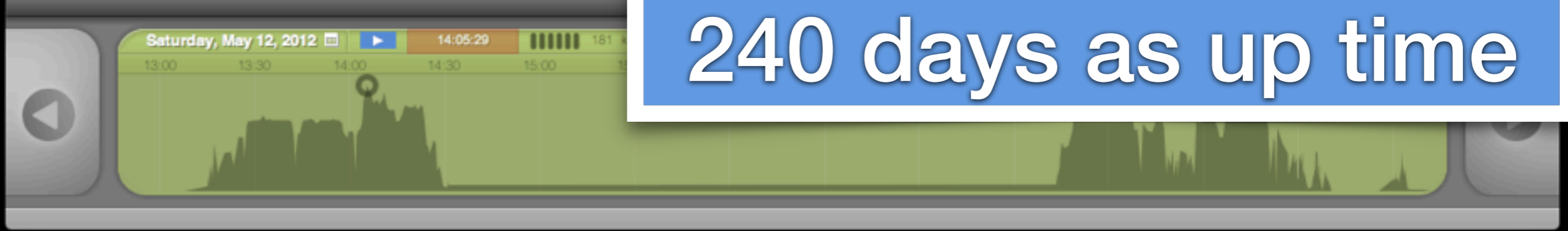
Continuous API Testing
keep your services under control 24/7



www.2denker.de



Truck fleet monitoring
Pharo as a server
240 days as up time



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



The screenshot shows the Webdruck.ch website interface. At the top, it says "WEBDRUCK.CH ONLINE DRUCKEN UND GESTALTEN". Below this is a navigation menu with links for "Produkte", "Über uns", "Kontakt", and "Hilfe". A main heading asks "Was möchten Sie gerne drucken?". Below this are several product categories with icons: Hochzeitskarten, Hochzeitskarten gefalzt, Geburtsanzeigen, Geburtsanzeigen gefalzt, Postkarten, and Karten. A secondary navigation bar includes "Karten", "Geschenke", "Geschäftsdrucksachen", "Werbung", "Trauer", "Flyer", and "Broschüren".

The main content area features a featured product: "In 5 Schritten zu Ihrer Geburtskarte." It shows a sample of a birth announcement card with a photo of a baby and the name "STEPHANIE". Text next to it says: "Gestalten Sie schnell und einfach im [Webdruck.ch online](#) oder laden Sie Ihre eigene Datei hoch. - bis Mittag bestellen - heute noch abholen - mit passenden Kuverts" and "ab CHF 138.-". There are links for "Ähnliche Produkte", "Geburtsanzeigen", and "Hochzeitskarten". A "Bestellen" button is visible.

Below this are three promotional boxes:

- "Schneller bestellen und Geld sparen? Bestellen Sie mehrere Sorten (Sujets) im gleichen Auftrag. Zu den Postkarten -> Zu den Visitenkarten ->"
- "In 5 Schritten zu Ihrer Drucksache. 1 Drucksache wählen, 2 Art der Ausführung bestimmen, 3 Online gestalten oder Datei-Upload, 4 Gut zum Druck, 5 Kasse. Funktionsweise ->"
- "100 % Schweizer Qualität. Wir stellen alle Webdruck-Produkte in der Schweiz her. Darum ziert neu das Schweizer Kreuz unser Logo. Die Partner ->"

At the bottom, there are links for "Newsletter abonnieren ->" and "Folgen Sie Webdruck.ch auf Facebook". A footer section lists various product categories: Karten (Hochzeitskarten, Hochzeitskarten gefalzt, Geburtsanzeigen, Geburtsanzeigen gefalzt, Postkarten, Karten, Karten gefalzt, Visitenkarten), Geschenke (Monatskalender, Memo-Spiele, Puzzles, Tischsets, Poster), Geschäftsdrucksachen (Briefpapier, Kuverts, Visitenkarten, Blocks, Happen), and Werbung (Memo-Spiele, Postkarten, Fotosteller, Poster, Tischsets, Monatskalender). Payment logos for Visa and Mastercard are also present.



Year	2008	2009	2010	2011	2012	2013	2014	2014
Period End Date	06/30/2008	06/30/2009	06/30/2010	06/30/2011	06/30/2012	06/30/2013	06/30/2014	09/30/2014
Period Duration (Years)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25
Price High	35.96	31.50	31.58	29.46	32.95	38.98	50.05	
Price Low	17.50	14.87	22.73	23.65	26.26	26.28	34.63	
Price / sh	47.2							
Excess Cash / sh	2.41	3.38	4.03	6.05	7.33	8.98	10.09	10.53
Revenue Growth %	-3.28	6.93	11.94	5.40	5.60	11.54	5.38	
Gross Margin %	80.80	79.20	80.16	77.73	76.22	73.99	68.98	67.11
Leverage	2.01	1.97	1.86	1.90	1.83	1.90	1.92	1.88
Common Shares Outstanding	9328.00	8945.00	8813.00	8490.00	8396.00	8375.00	8299.00	8249.00
GAAP Dil. Cont. EPS VNG	18.70	16.20	21.00	26.90	20.00	25.80	26.30	25.50
GAAP EPS VNG	19.00	16.30	21.30	27.30	20.20	26.10	26.60	25.80
GAAP EPS V3G	27.14	23.29	30.43	39.00	28.86	37.29	38.00	36.86
2 X GAAP EPS V3G	54.29	46.57	60.86	78.00	57.71	74.57	76.00	73.71
EPS VNG	18.95	16.29	21.29	27.27	20.22	26.11	26.60	25.91
EPS avg5 VNG								
EBIT / sh VNG	25.53	22.16	28.38	33.06	26.52	32.30	33.52	33.10
bm EPS VNG	10.52	13.37	21.24	19.81	24.42	25.13	12.82	
bm EPS V3G	15.03	19.10	30.34	28.29	34.89	35.89	18.03	
bm EPS VNG	9.67	13.94	20.92	15.70	23.04	13.64	12.83	
bm EPS avg3 V3G								
2 X bm EPS avg3 V3G								
bm EPS avg5 VNG								
bm EPS avg5 V3G								
Fair Price bm ROE3				21.55	26.34	31.90	31.46	25.82
Fair Price bm ROE5						29.59	34.38	31.29
Fair Price bm ROE7								31.32
Fair Price bm ROE5								31.70
Fair Price via NetMargin7 with 3% Growth								41.39
FB Trend Score V1	(3/3)	(0/7)	(8/9)	(7/9)	(5/9)	(7/9)	(4/9)	(6/9)
Financial Strength Score V2	(14/19)	(19/24)	(26/29)	(27/30)	(26/30)	(27/30)	(27/30)	

Year	2008	2009	2010	2011	2012	2013	2014	2014
Gross Margin %								
EBIT Margin %								
Net Margin %								
ROSA (tt) %								
ROSTA (tt) %								
ROSTDA (tt) %								
ROSC %								
ROSC Avg5 %								
ROSCCE %								
ROSTCE Avg5 %								
ROSTCE %								
bm Ret. EPS %								
bm ROSCE1 %								
bm ROSCE3 %								
bm ROSCE5 %								
bm ROSTCE1 %								
bm ROSTCE3 %								
bm ROSTCE5 %								
Common Sh. Gr								

Portfolios Over Clients: ACL001 Company Report Portfolio: All Clients

Portfolio - Subscribers: All Clients 9 items selected

View Config: Default New Copy Manage

Use Event Date if View Date: 2015-03-25 Apply <<< << >> >>>

Balance summary as of 03/25/2015

Quuve Cash & Equivs	Quuve Total Value	Custodian Cash & Equivs	Custodian Total Value
\$10,985,154.10 (61.2%)	\$17,938,986.95		

Overview Positions Prices Errors Events Special CSV Reports Historical Verification Balances

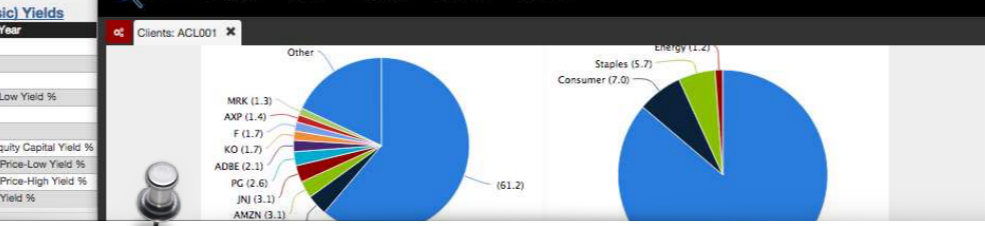
Actions	Subtotal Name	Asset Description	Ticker Symbol	Account Name	Num Units	Price Paid / sh	Cost / sh	Price / sh	Cost	Mid Value	Net Gain	Gain/Loss %	% of Holdings	ACL001: % of Holdings	ACL001: Net shares to buy	ACL002: % of Holdings	ACL002: Net shares to buy	ACL003: % of Holdings	ACL003: Net shares to buy	BCL005: % of Holdings	BCL005: Net shares to buy	BCL006: % of Holdings	BCL006: Net shares to buy	BCL007: % of Holdings	BCL007: Net shares to buy	ACL023: % of Holdings	ACL023: Net shares to buy	BCL026: % of Holdings	BCL026: Net shares to buy
show	Total ...				11,109,129.10	1.36			15,089,382.1	17,938,986.95	2,849,604.87	18.9	100.0	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00

Marketing ... / Electronic Equipment 7,000.00 24.359 24.36 170,540.00 176,890.00 6,350.03 3.7 1.0 1.0 0.00 0.4 0.00 1.5 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00

Marketing ... / Information Technology 1,070.00 155.259 155.31 166,177.00 174,410.00 8,233.05 5.0 1.0 1.0 0.00 0.5 0.00 6.5 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00 0.0 0.00

All reports are automatically generated

Year	2008	2009	2010	2011	2012	2013	2014	2014
E-Yield %								
Div. Yield %								
LCF Yield %								
LCF Avg2 Price-Low Yield %								
NCF Yield %								
SFCF Yield %								
Non-Common Equity Capital Yield %								
Common Equity Price-Low Yield %								
Common Equity Price-High Yield %								
Common Equity Yield %								



Clients Overview Portfolio: none Clients

Client Name	Advisor	Is Employee Portfolio	Account Owners	Accounts	Benchmark Portfolio	Actions
001	Founding Fathers Investment Advisors, Inc.	false	AO-002, AO-001	CL001 ET0002, CL001 ET0001, CL001 ET0003	CS - Demo - Single Stock Trade Model1 (model)	Actions
002	Founding Fathers Investment Advisors, Inc.	false	AO-003, AO-004, AO-001	CL002 ET0001, CL002 ET0002, CL002 ET0003, CL001 ET0001, CL001 ET0003		Actions
003	Founding Fathers Investment Advisors, Inc.	false	AO-005, AO-006	ET xxxx-0010 IRA Traditional, CL003 ET0011, CL003 ET0012		Actions
023	Founding Fathers Investment Advisors, Inc.	false	AO-037, AO-038			Actions
006	Founding Fathers Investment Advisors, Inc.	false	AO-011, AO-010			Actions
007	Founding Fathers Investment Advisors, Inc.	false	AO-012			Actions
026	Founding Fathers Investment Advisors, Inc.	false	AO-042, AO-041			Actions
027	Founding Fathers Investment Advisors, Inc.	false	AO-043			Actions
029	Founding Fathers Investment Advisors, Inc.	false	CL009	CL009 ET0123		Actions

Quuve: Investment Portfolio
<http://debrispublishing.com>

Free Software Mobile Communication solutions

```
plan: SCCPGlob
addr: destGT;
translation: 0;
yourself);

yourself.

forwardSM := ASN1Dictionary new
at: 'sm-RP-DA' put: (ASN1Dictionary
at: 'imsi' put: destIMSI toTBCD
yourself);
at: 'sm-RP-OA' put: (ASN1Dictionary
at: 'serviceCentreAddressOA'
yourself);
at: 'sm-RP-UI' put: (ByteArray readHexFrom: '240c9194814813654700005110712195534010c8370hfd0600a5af3'
yourself.
operationName := 'forwardSM'.

dialogue := ZHLR endPoint newDialogue.

invoke := dialogue
requestTcInvokeNamed: operationName parameters: for
class: 1 timeout: 500.

invoke
onReturn: [ ];
onError: [ ];
onReject: [ ];
onReturnLast: [:result | ].

dialogue
requestTcBeginDestinationAddress: imsiAddr
originatingAddress: mscAddr
applicationContextName: '0.4.0.0.1.0.25.2' asAsn1Oid .
```

The image shows a Wireshark network traffic capture. The top pane shows a table with one entry: No. 1, Time 0.000000, Source 6, Destination 2000, Protocol GSM S., Length 236, Info invoke forwardSM. The middle pane shows the packet details for Frame 1: 236 bytes on wire (1888 bits), 236 bytes captured (1888 bits). The protocol stack includes Internet Protocol Version 4, Stream Control Transmission Protocol, MTP 3 User Adaptation Layer, Signalling Connection Control Part, Transaction Capabilities Application Part, GSM Mobile Application, and GSM SMS TPOU (GSM 03.40) SMS-DELIVER. The bottom pane shows the raw packet data in hexadecimal and ASCII, with the SMS text: Hello from Pharo.

Programming environment for Programmable Logic Controllers

The screenshot displays the IDE4PLC software interface, which is powered by Pharos. The main window shows a hardware selection screen for the EDU-CIAA-NXP board. Below this, there are two tables for variable declarations and a ladder logic editor.

POU Variable Declarations Editor

Category	Name	Datatype
VAR_INPUT	TEC1	BOOL
VAR_INPUT	TEC2	BOOL
VAR_INPUT	TEC3	BOOL

Category	Name	Datatype
VAR	var0	BOOL
VAR	var1	INT
VAR	var2	TIME

Program Organization Units (POU) editor

Network 1

```
graph LR
    TEC1[TEC1] --- AND1(( ))
    TEC2[TEC2] --- AND1
    AND1 --- TEC3[TEC3]
    TEC3 --- TON[TON TIME]
    TON -- IN --> AND1
    TON -- ET --> var0[var0]
    var0 -- Q --> LEDB[LEDB]
    var0 -- IN1 --> MUL[MUL INT]
    INT#2[INT#2] -- IN2 --> MUL
    MUL -- ENO --> var1[var1]
    var1 -- IN1 --> EQ[EQ INT]
    INT#20[INT#20] -- IN2 --> EQ
    EQ -- ENO --> LED2[LED2]
```




NTed: disaster scenario recovery

NTed

Darsteller

- Interaktionsschema
- Verbindungsstatus
- Events
- Nachrichten

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	   

To simulate disaster response

Patient 11	Betroffener	Betroffener	SK III	W5UR	   
------------	-------------	-------------	--------	------	---

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



Full system developed
in 5 months one developer
(discontinued)

A product by Smartworks

Google play

drgeo



Apps

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Games

Editors' Choice

My wishlist

Redeem

Apps



Dr. Geo free
Hilaire Fernandes & Dimi



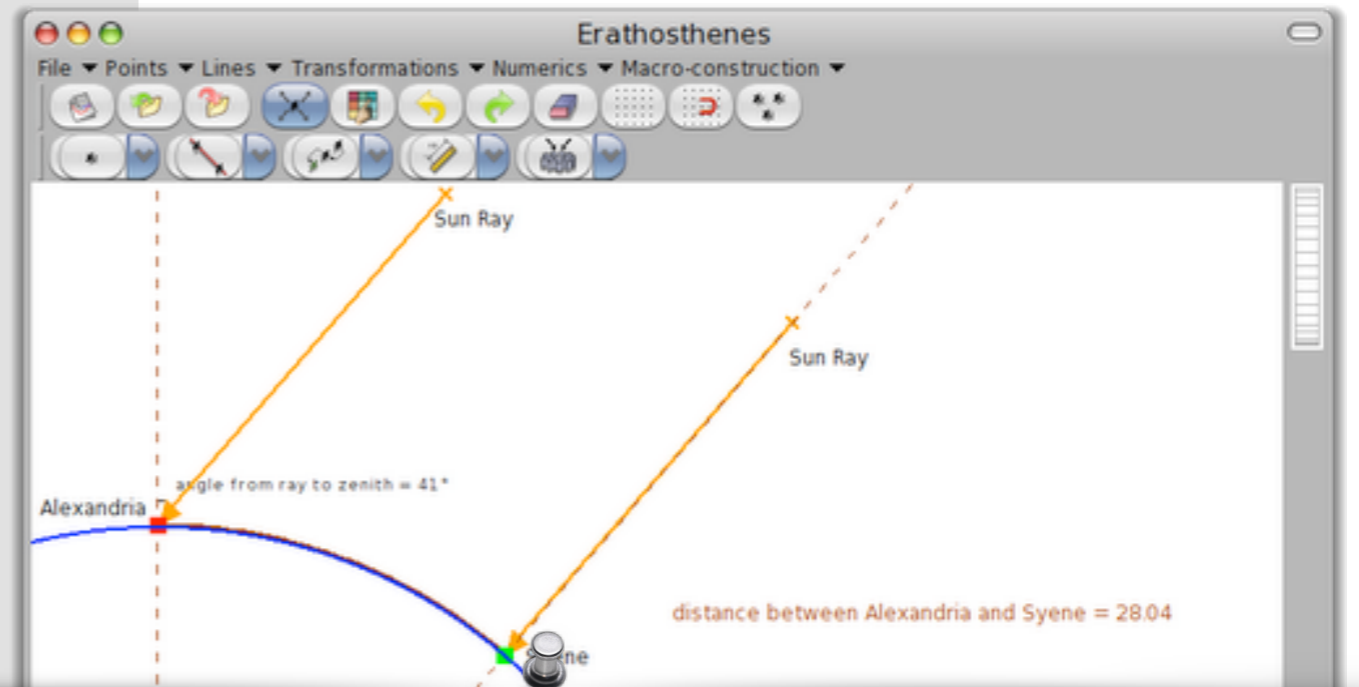
FREE



Dr. Geo
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android, OLPC

Select and move an object.

Moose technology: Home

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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.

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 enables 

[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: * ...

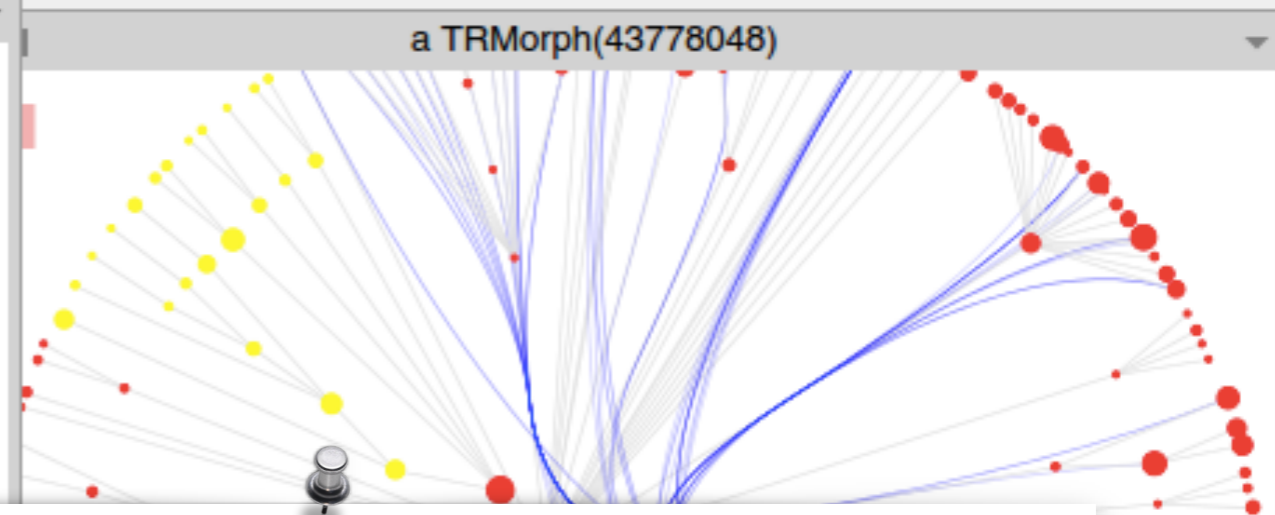
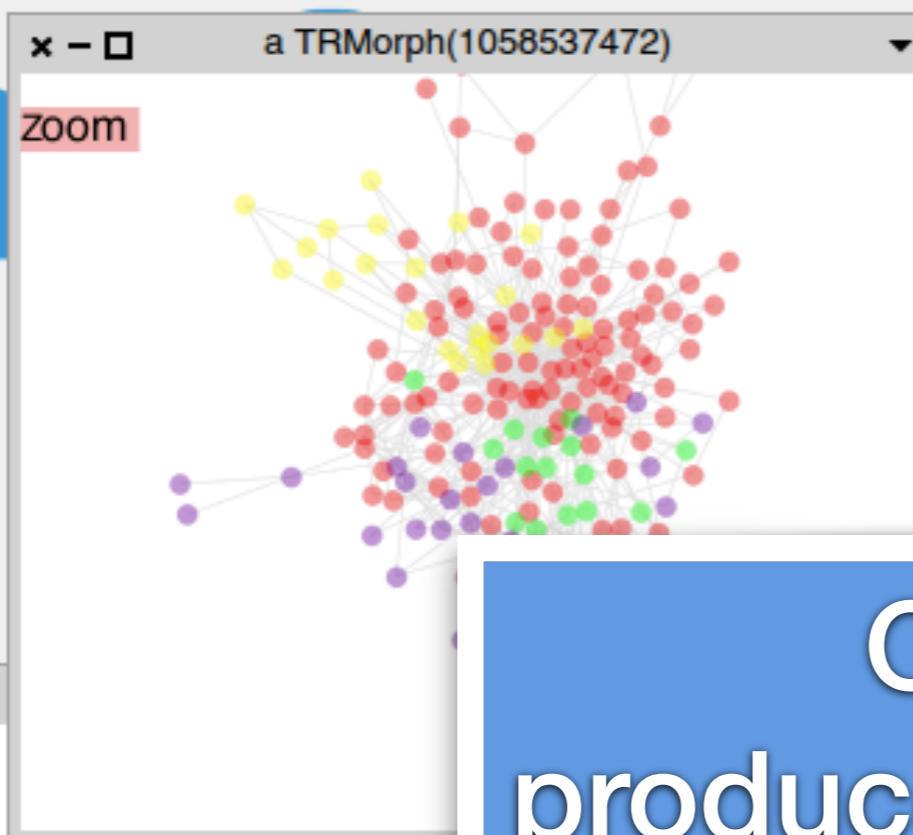
[Moose 5.0 roadmap](#)
13 April 2013
A summary of the talk laying out the Moose 5.0 roadmap can be found at: <http://www.humane-assessment...>

[Moose 4.8 development: 4045 green tests](#)

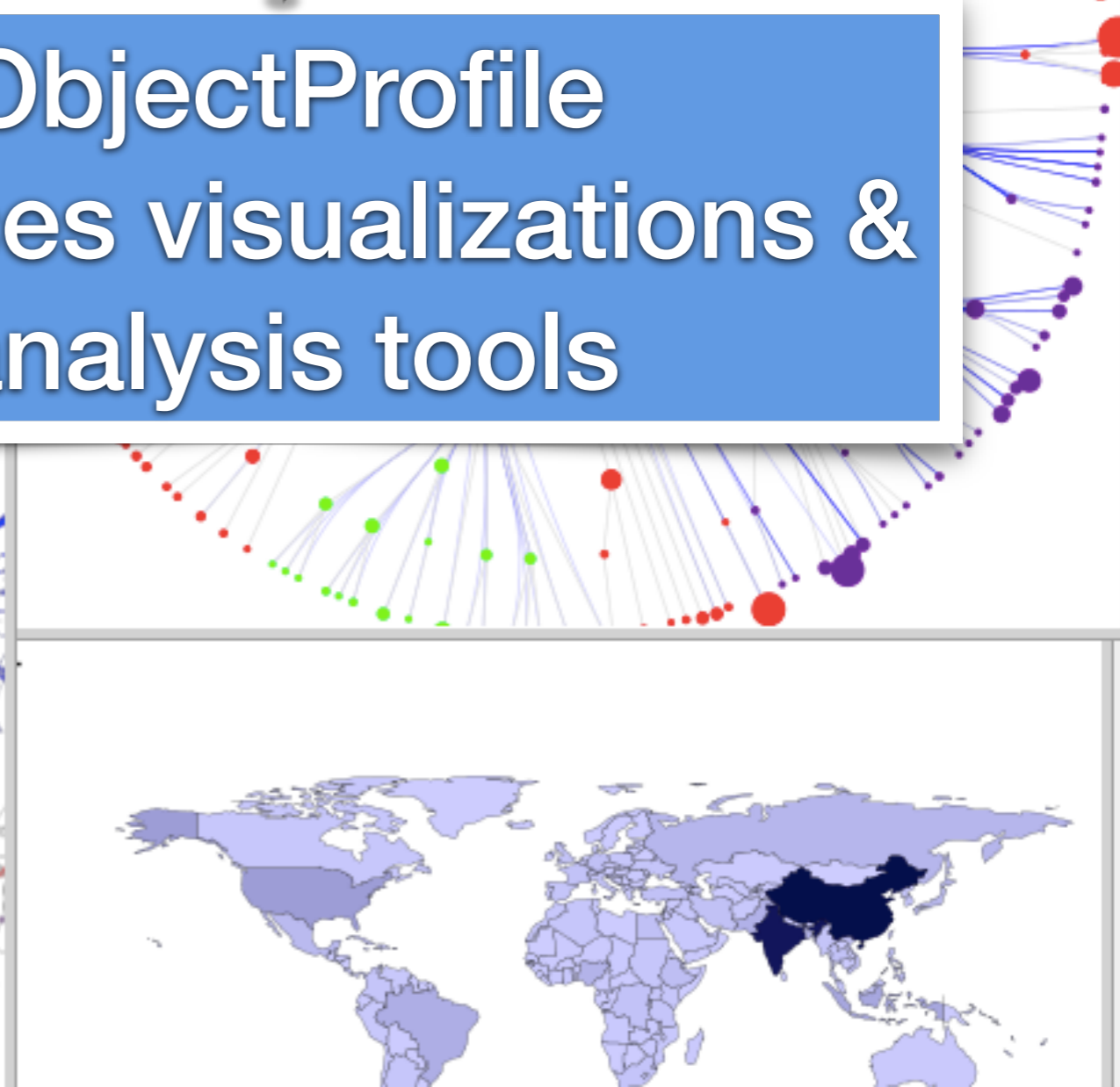
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Pha



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produces visualizations &
analysis tools



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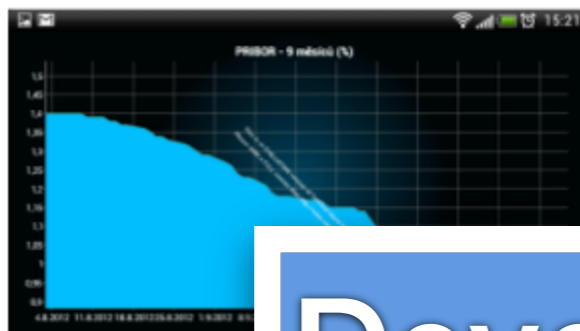
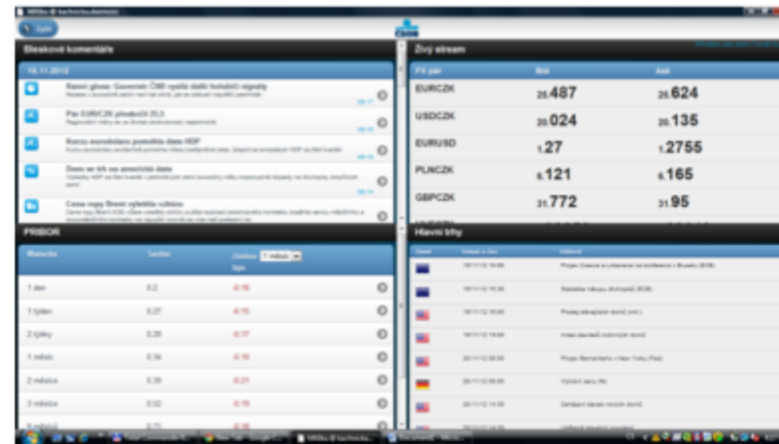
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 <p>Reporting</p> <p>Monitor the progress using the Risk</p>	 <p>Export</p> <p>Export your test plan to a docx file.</p>	 <p>Business Intelligence</p> <p>Discover intelligence in your testing</p>	<p>▶ LEARN MORE</p>



Měnový pár	bid	ask	Deviz. sazba
EURAUD			1.30
EURCHF	0.908	0.907	1.30
EURCZK	26.140	26.170	1.30
EURDKK	1.445	1.470	1.30
EURGBP	0.614	0.605	1.30
EURHUF	102.700	104.000	1.30
EURISK	1.240	1.260	1.30
EURJPY	102.700	104.000	1.30
EURPLN			1.30



FX pár	bid	ask
EURCZK	26.407	26.539
USDZCZK	19.746	19.856
EURUSD	1.2836	1.2893
PLNCZK	€168	€212
GBPCZK	31.494	31.67
HUFZCZK	€09075	€09141
CHFZCZK	21.082	21.206
AUDCZK	20.471	20.593
AUDUSD	1.0323	1.0415
CADCZK	19.816	19.926
DKKZCZK	3.407	3.424
EURAUD	1.2325	1.249

Developed in 3 months one dev
Sold to Belgium bank
Java team estimated 2 years



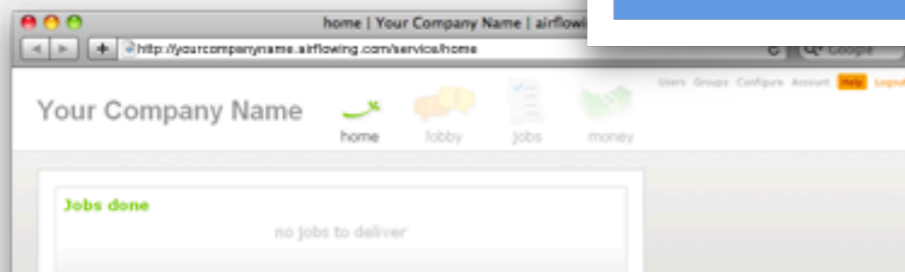
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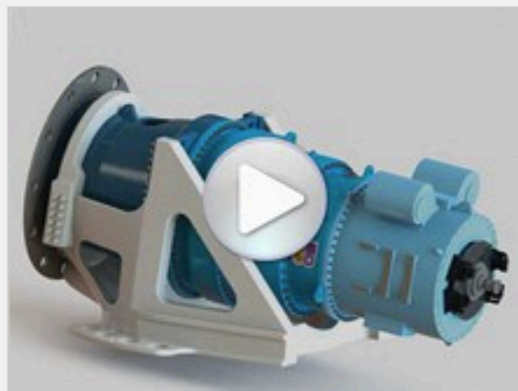
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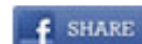
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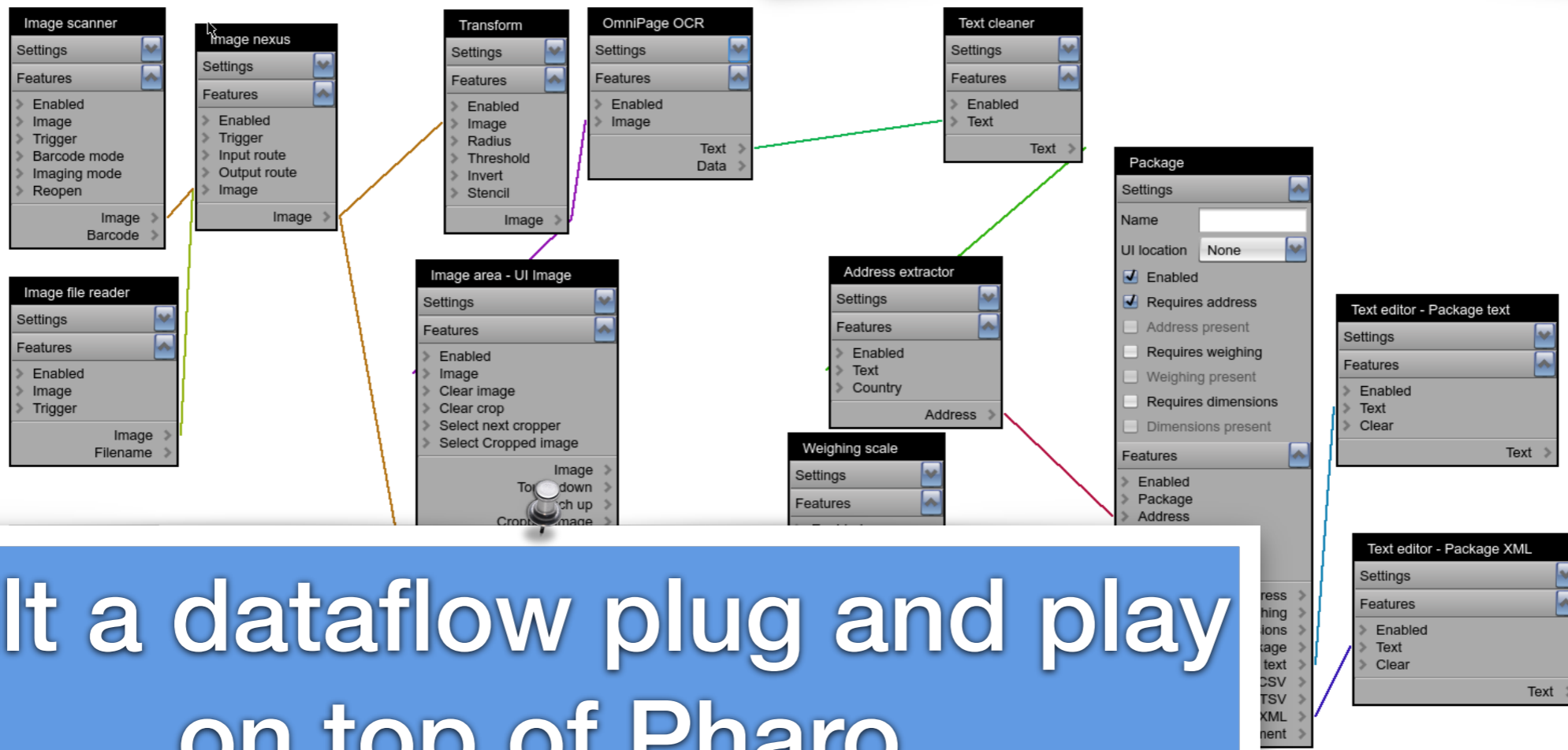


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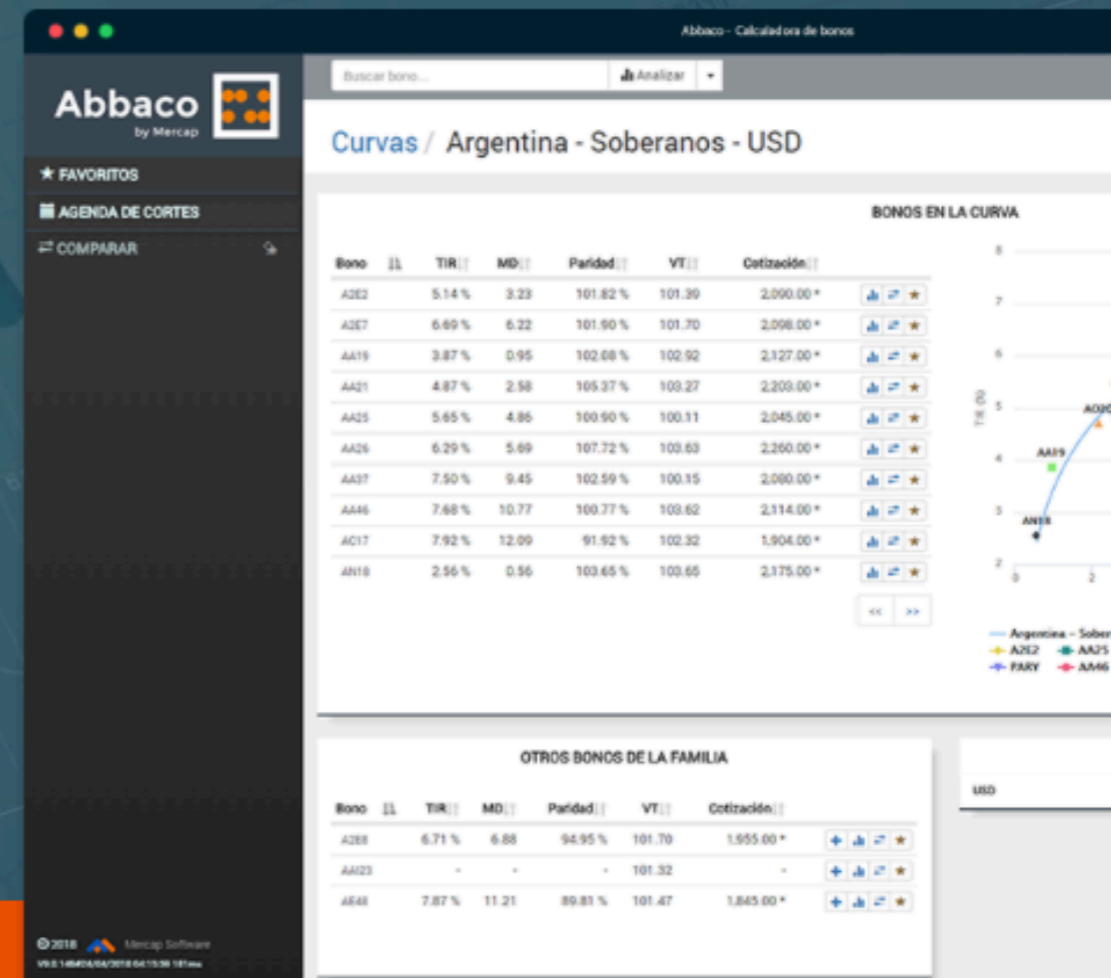
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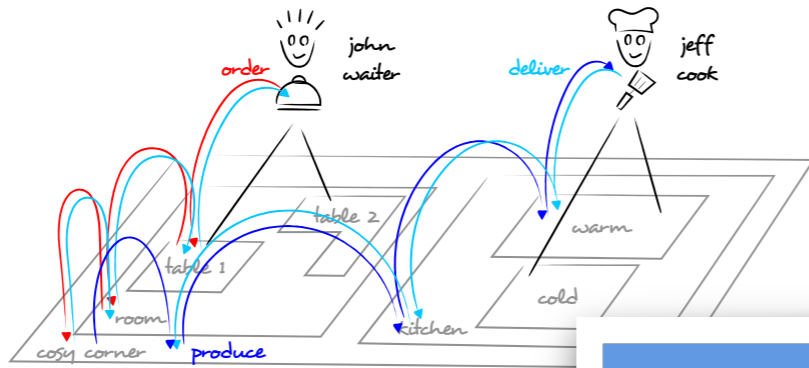
BONOS EN LA CURVA

Bono	TIR	MD	Paridad	VT	Cotización
AZE2	5.14%	3.23	101.82%	101.39	2,090.00*
AZE7	6.69%	6.22	101.90%	101.70	2,098.00*
AA19	3.87%	0.95	102.08%	102.92	2,127.00*
AA21	4.87%	2.58	105.37%	100.27	2,200.00*
AA25	5.65%	4.86	100.90%	100.11	2,045.00*
AA26	6.29%	5.69	107.72%	100.63	2,260.00*
AA27	7.50%	9.45	102.59%	100.15	2,080.00*
AA46	7.68%	10.77	100.77%	103.62	2,114.00*
AC17	7.92%	12.09	91.92%	102.32	1,904.00*
AN18	2.56%	0.56	103.65%	100.65	2,175.00*

OTROS BONOS DE LA FAMILIA

Bono	TIR	MD	Paridad	VT	Cotización
AZE8	6.71%	6.88	94.95%	101.70	1,955.00*
AA23	-	-	-	101.32	-
AE48	7.87%	11.21	89.81%	101.47	1,845.00*

USD

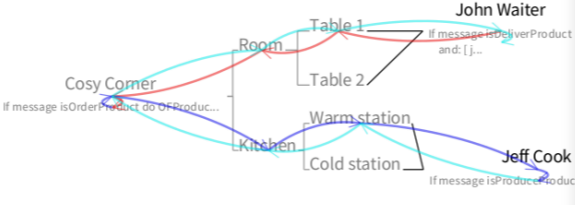


Help growing startups Get back control on software

```

"CONTRIBUTORS"
jeffCook := OFCookActor new name: 'Jeff Cook'.
johnWaiter := OFWaiterActor new name: 'John Waiter'.
"AREAS"
cosyCorner := OFVenueActor new name: 'Cosy Corner'.
kitchen := OFRoomActor new name: 'Kitchen'; parentArea: cosyCorner.
warmStation := OFKitchenActor new name: 'Warm station'; parentArea: kitchen; addContributor: jeffCook.
coldStation := OFKitchenActor new name: 'Cold station'; parentArea: kitchen; addContributor: jeffCook.
room := OFRoomActor new name: 'Room'; parentArea: cosyCorner.
table1 := OFTableActor new name: 'Table 1'; parentArea: room; addContributor: johnWaiter.
table2 := OFTableActor new name: 'Table 2'; parentArea: room; addContributor: johnWaiter.
"PRODUCTS"
steak := OFProduct new name: 'Steak'; characteristics: {OFFWarm}.
sandwich := OFProduct new name: 'Sandwich'; characteristics: {OFFCold}.
cosyCorner products: { steak . sandwich }.
"MESSAGE HANDLERS"
cosyCorner addScriptedMessageHandler
when: [ :message | message isOrderProduct ];
execute: [:message :handler | OFProduceProductMessage new ].
jeffCook addScriptedMessageHandler
when: [ :message | message isProduceProduct ];
execute: [ :message :handler |
handler
queue: message
to: [OFDeliverProductMessage new to: handler actor areas anyOne] ].
johnWaiter addScriptedMessageHandler
when: [ :message |
message isDeliverProduct and: [
johnWaiter areas includes: message initialReason receiver ] ];
execute: [:message :handler |
handler
queue: message
to: [ self inform: message product gtDisplayString, ' delivered!' ] ].
"ORDERS"
orderSteak := OFOrderProductMessage new product: steak; sendBy: johnWaiter to: table1.
orderSandwich := OFOrderProductMessage new product: sandwich; sendBy: johnWaiter to: table1.
cosyCorner

```



feenk

glamorous toolkit

!Glamorous Toolkit
The Glamorous Toolkit (GT) is the moldable integrated development environment. For Pharo, it is made of components that are programmable inexpensively while using the tool itself.

What's interesting about it? It offers a fundamentally new perspective on how programs can be approached. It's not the features that make the difference. Yes, we do have cool widgets and fancy code analyses, but our goal is to change the way you experience software. You can read about it, but to understand it, you have to play with it.

And engage with us. We'd love to hear from you: <https://feenk.com/gt>.

!!Organization
Glamorous Toolkit is an umbrella project that puts together several subprojects. The picture below provides an overview of these projects and their interdependencies.

!!Learn
Learn about example-driven development by following the introductory tutorial:
\$[inputFile: path=pharo-local/iceberg/feenk.com/gtoolkit-examples/tutorial]\$

!!Included projects
\$(exampleName=BaselineOIGToolkitExamples class=>#itself show=>#itGMapForExpandedPreview=truinoCode=>#previewHeight=300)\$

!!Learn
!!Documenter
This very document is edited and rendered through Documenter. Take a look at the demo file here:
\$[inputFile: path=pharo-local/iceberg/feenk.com/gtoolkit-demos/tutorial/leug-2018-documenter/documenter.pillar]\$

Items	Raw	Connections	Print
-	224 kB	2012-10-09 19:22:23	
pictures	160 B	2019-09-07 17:18:50	
esug2018	160 B	2019-09-07 13:30:19	
sample-data	160 B	2018-09-07 17:14:06	
.DS_Store	6.15 kB	2018-09-07 17:13:18	
readme.txt	89 B	2014-02-10 17:05:30	

```
directories := ([osRepository repositoriesLocation / 'feenk.com')
allDirectories
select: [each |
  (each fullName includesSubstring: 'gtoolkit') and: [
    (each fullName includesSubstring: 'git') not]]]

mondrian := GtMondrian new.
mondrian nodes
stencil: [:dir |
  #!textElement new text: dir basename asRopedText ];
with: directories.
mondrian edges
fromRightCenter;
toLeftCenter;
connectFrom: #parent.
mondrian layout horizontalTree.
mondrian!
```



```
example
<GtExample>
|yellow green red container |

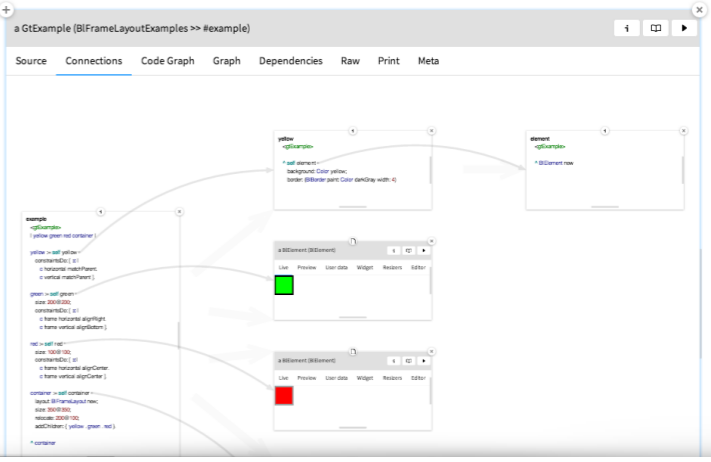
yellow := self yellow ^
yellow
<GtExample>

^ self element ^
element
<GtExample>

^ BIFElement new
background: Color yellow;
border: (BIBorder paint: Color darkGray width: 4).

constraintsDo: [ :c |
  c horizontal matchParent.
  c vertical matchParent ].

green := self green ^
size: 200@200;
constraintsDo: [ :c |
  c frame horizontal alignRight.
```



feenk.com/gt

Build advanced tools for business expert and CEOs of large companies

Thales prototyping VR



Playground

tmp

craftCarrier open.

OVRWDemoAircraftCarrier

Scoped Variables

- Type: Pkg1/*Pkg2/Pk...
- OpenVR
- OpenVR-Woden
- OpenVR-Woden-
- Pharo-Help
- Polymorph-Task
- Polymorph-Widg
- PragmaCollector
- ProfStef-Core
- ProfStef-Help
- ProfStef-Tests
- ProtoObject
- Object
- WApplication
- WDFPSExample
- OVRWEmptyExamp
- OVRWExample
- OVRWDemoAircra
- OVRWDemoPickir
- OVRWExampleCol
- Hier. Class Com.

History Navigator

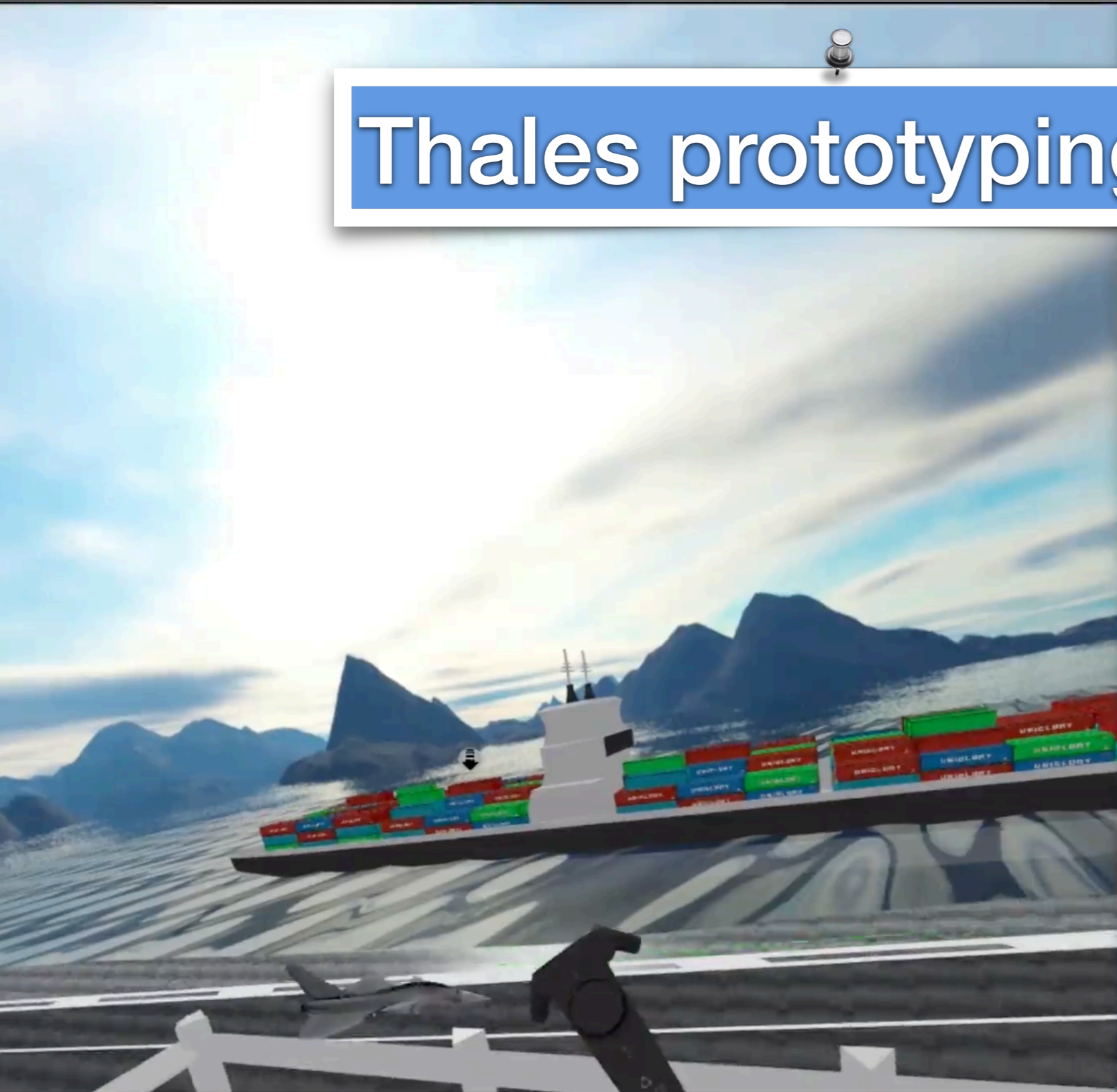
- all --
- event handling
- initialize
- menu
- scene content
- updating
- addAbeilleBourbon
- addBarrel
- addBoxes
- addCargo
- addCharlesDeGaulle
- addHawkeye
- addHelicopter
- addObjectAt:orientation:s
- addPlayableAreaToScene
- addRadar

```
OVRWExample subclass:  
#OVRWDemoAircraftCarrier  
instanceVariableNames:  
'flyingRafaleNode teleportLocations  
scrollGestureListener menu  
operationQueue waterMaterial  
dynamicsWorld'  
classVariableNames: ''  
package:
```

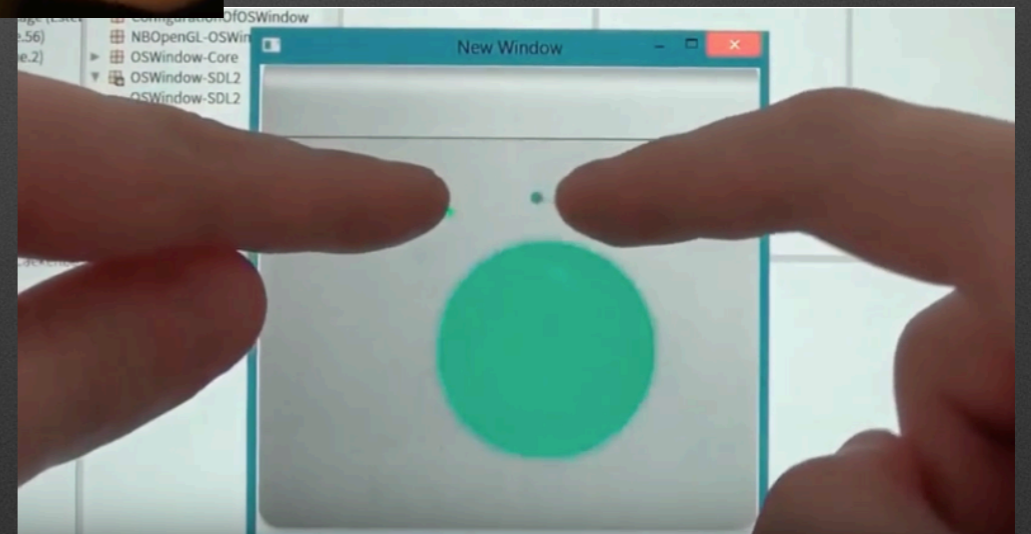
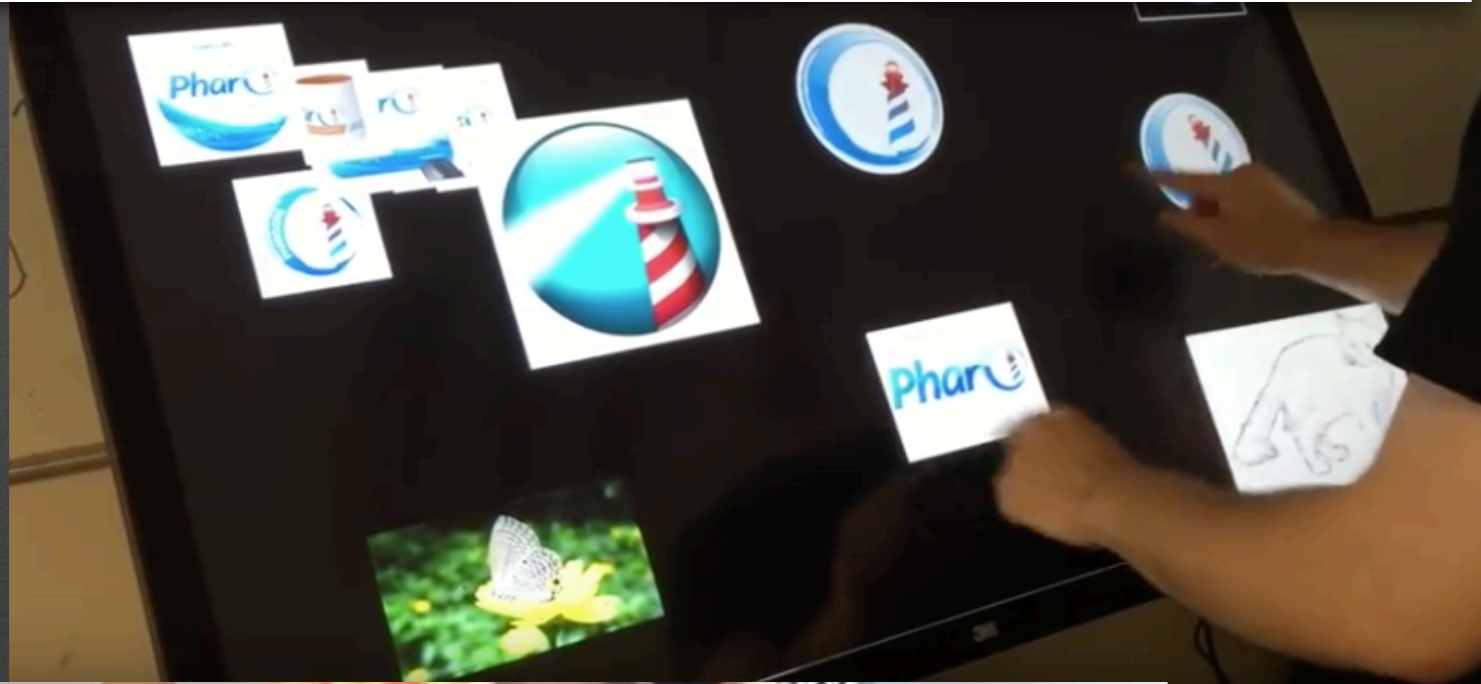
Controls:
- Big front button for teleportation
- Menu button to change the color of the sea

1/11 [2] -- 1/11 [25] Format as you read W +L 1/3 [1]
Class not referenced ? X
[dynamicsWorld] Instance variables not read AND written ? X
[dynamicsWorld] Variables not referenced ? X

OVRWDemoAircraftCarrier Playground



Thales prototypes advanced interaction design



Mobility Map: a broker for mobility services

multi-modal routing search

docker running dozens of pharos

Departure: 29. Sep until 17:10

Vehicle Options:

- smart forfour (AIRBUS) 29. Sep 2018 15:00 until 29. Sep 2...
- smart forfour (AIRBUS) 29. Sep 2018 15:00 until 29. Sep 2...
- Opel Astra Kombi (AIRBUS) 28. Sep 2018 08:45 until 28. Sep 2...

Navigation:

- Search Plan Trip
- My Bookings Add and send tickets
- My Account Manage linked accounts
- Help and Information FAQ, Service and Contact

Language: en de

Routing Results:

- 13:30 Shuttle bus 1004 Bus Finkenwe...
- 15:10 Ridesharing H. 9
- 15:15
- 16:28
- 16:45 Shuttle bus 1006 Bus Finkenwe...
- 16:39 CarPool A (Kleinwagen) H. 50/51
- 16:34 CarPool A (Kleinwagen) H. 62
- 16:32 CarPool A (Kleinwagen) H. 14 W [OW-N]
- 16:23 CarPool A (Kleinwagen) H. 214
- 17:06

We are a cool
community



Some Pharo's Teachers

- Univ. of NoviSad • 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. • 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. de Bretagne Occidentale • Uni. of Tomsk • Uni. of Fernhagen • IT University of Copenhagen • Uni. of Yaounde • Uni. Lille • INFTI • Uni. of Lyon •

Some Research Groups

Lafhis (AR)

SCG (CH)

CAR (FR)

RMOD (FR)

Ummisco (IRD)

Reveal (CH)

Lysic (FR)

CEA-List (FR)

Uqbar (AR)

OC (FR)

CCMI-FIT (CZ)

ASEREG (BR)

Pleiad (CL)

SoftQual(Serb)

SRA (Jap)

GL (Bol)

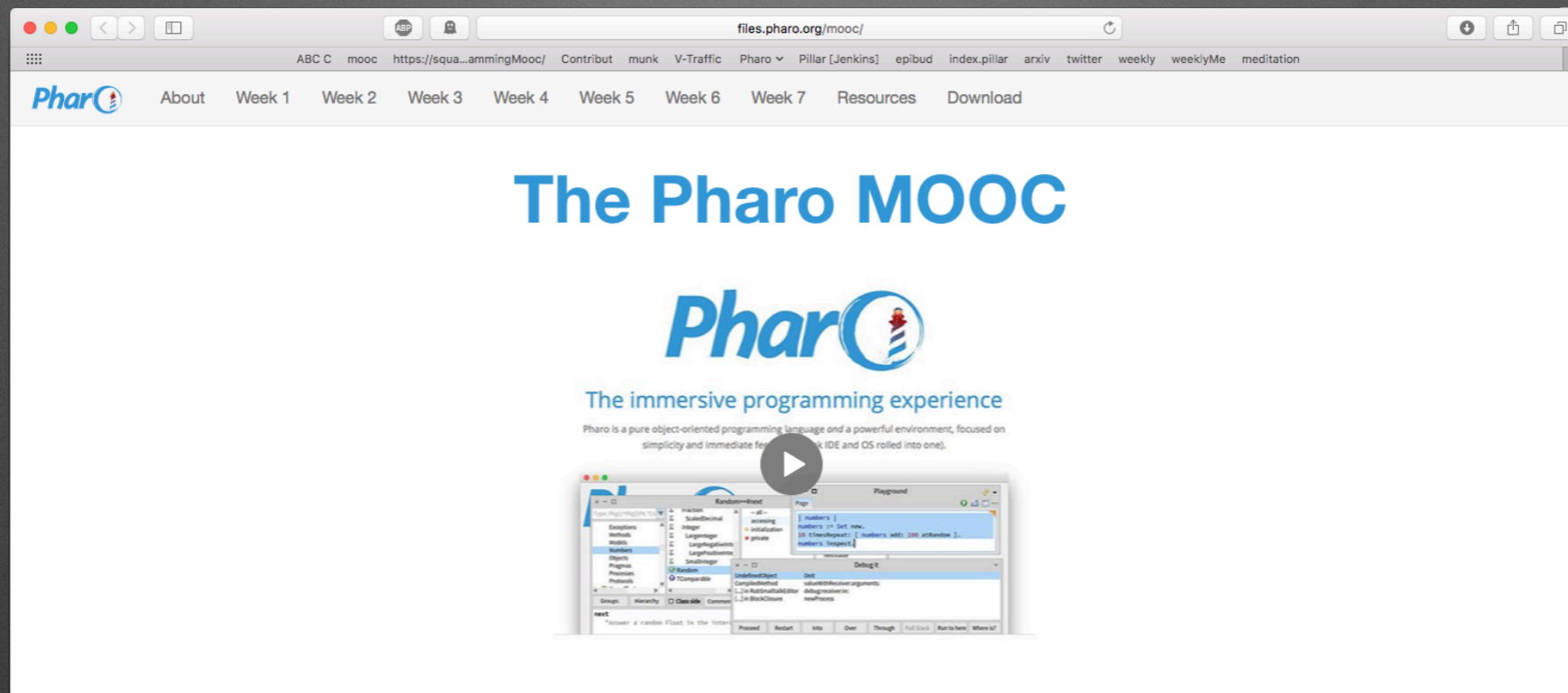
UFMG (Br)

ETS (Can)

U.Chi (Can)

Soft (Be)

<http://mooc.pharo.org>



About this course

If you are either a beginner or an expert in object-oriented programming, this MOOC will change the way you program with objects: come and learn or rediscover object-oriented programming with Pharo!

Pharo is a pure object-oriented programming language in the tradition of Smalltalk. It offers a unique developing experience in constant interaction with live objects. Pharo is elegant, fun to use and very powerful. It is very easy to learn and enables to understand advanced concept in a natural way. When programming in Pharo, you are immersed in a world of live objects. You have immediate feedback at any moment of your development on objects representing web applications, code itself, graphics, network. [More...](#)

Obtaining the MOOC

We strongly suggest to follow the MOOC during the next session on [France Université Numérique](#) that will start **October 16th, 2017** because you will have support from the teaching team.

Join the discord channel mooc on the Pharo community (Invitation at <http://discord.gg/Sj2rhxn>)

But, you can also access all ressources of this MOOC offline on:

- [WebPortal](#): full online lecture with all videos and exercises,
- [CanalU](#): one of the key website that delivers ressources for teaching and research.

How to follow this MOOC?

We propose five profiles to follow this MOOC at different speed and levels. The Mooc sequences will be tagged according to these profiles. The profiles are not exclusive: to become a pharo expert you need to start as a newbie and grow up. Of course, you can also follow the full MOOC.

- **Total newbies [Newbies]** 🧑🎓 Focus on the beginning of the lectures, you can skip the Seaside/Mongo and tinyBlog exercises. Follow the end of the Mooc but without trying to understand everything. Take it easy and spend time understanding that the system is written in itself. Focus on the navigation tools (senders and implementors).
- **Looking for Web [Web]** 🌐 For those that focus on web development, we suggest to get started with the syntax (since we really love this lecture you should really watch the not implementation

http://discord.gg/Sj2rhxn

The screenshot displays the Discord interface for a server named 'Pharo'. The main window shows the chat history for the '#mooc' channel. A blue notification bar at the top of the chat area indicates '23 new messages since 9:59 AM on November 23, 2017' and includes a 'MARK AS READ' button. The chat history contains several messages:

- akgrant0710** (Last Saturday at 11:21 AM): dict includesKey: 'a key'
Take a look through the testing protocol of Dictionary (and superclasses)
- Peter Uhnak** (Last Saturday at 11:26 AM): @Marek Erben especially at:ifPresent:, at:ifAbsentPut: & co.
- Marek Erben** (Last Saturday at 1:14 PM): Yeah, thank you @Peter Uhnak
One more question - is there some simple way to remove one occurrence of item in Bag collection?
- Peter Uhnak** (Last Saturday at 1:34 PM): remove: should do it
- Marek Erben** (Last Saturday at 1:35 PM): But it removes all the occurrences of item, doesn't it?
- Yani** (Last Saturday at 2:20 PM): as in script of the day >url>
- Peter Uhnak** (Last Saturday at 2:36 PM): @Marek Erben did you try? 😊
trying is for free 😊 (edited)

The left sidebar shows the server's channel list, including '# learning-help', '# mooc', '# general', '# development', '# offtopic', '# iceberg', '# bootstrap', and several 'LIBRARIES' channels like '# databases', '# polymath', '# roassal', '# roassal-scriptoftheday', '# seaside', '# moose', '# bloc', '# ai', and '# ai-scriptoftheday'. The right sidebar shows a list of users, categorized into 'ADMIN-3', 'CHANNEL-ADMIN-7', and 'ONLINE-42'. The 'ONLINE' list includes users like akgrant0710, AlejandroInfante, awarenghem, and Benoit Verhaeghe.

<http://books.pharo.org>

Pharo Books

Pharo is a clean, innovative, open-source, live-programming environment.

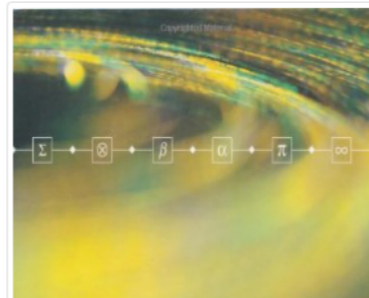
Contribute to the SquareBracketsAssociates community free books
<https://github.com/SquareBracketAssociates/>

Access [the book compilation farm!](#)



Pharo by Example, intended for both students and developers, will guide you gently through the Pharo language and environment by means of a series of examples and exercises.

[View details »](#)



Deep into Pharo is the second volume of a series of books covering Pharo. Whereas the first volume is intended for newcomers, this second volume covers deeper topics.

[View details »](#)



Enterprise Pharo is the third volume of the series. This book covers libraries and frameworks for enterprises, and in particular those doing web development.

[View details »](#)



TinyBlog: Un Tutorial Web en Pharo

https:// pharoweekly.wordpress.com

The screenshot shows a web browser window displaying the homepage of pharoweekly.wordpress.com. The browser's address bar shows the URL https://pharoweekly.wordpress.com. The page features a navigation menu with links for ABC C, mooc, and various project names. The main content area has a large heading "WEEKLY NEWS ABOUT PHARO" and a sub-heading "Everything you wanted to know about http://www.pharo.org without being forced to read 1000 mails". Below this is a navigation bar with links for "HITCHHIKER'S GUIDE TO ...", "SMALLTALK, TIPS'N TRICKS", "COG BLOG", and "ABOUT". The main content area displays two news items:

NOV 25 2017
UNSORTED
WHAT ABOUT CONTRIBUTING?
EDIT
Here is the testimony of Astares regularly contributing to Pharo 70. What is not visible in the list are the many enhancements happening also on Calypso, Bloc, Grease and many many others. Nonetheless the core image still needs love from more people. Remember even the smallest change can make a difference and shape the future. Also "a contribution per day keeps bad systems away". Even one contribution per week or month. So jump in – the water is just fine!
Bye
T. (aka astares)

NOV 23 2017
UNSORTED
[PHARO 7.0A] NEXT ENHANCEMENTS 2
EDIT
eport period: 5 November 2017 to 23 November 2017
November 2017
* 20739-Remove-dead-stream-primitives >> <https://pharo.fogbugz.com/f/cases/20739/Remove-dead-stream-primitives>
Issue URL: <https://pharo.fogbugz.com/f/cases/20739> PR URL: <https://github.com/pharo-project/pharo/pull/524> Diff URL: <https://github.com/pharo-project/pharo/pull/524/files>
Thanks to clementbera
* 20645-Windows-rebuildFieldAccessors-problem >> Fixing the creation of anonymous classes



**Pharo is our vehicle
We improve it
everyday**

**For us Pharo is the
beginning of the journey and
we are building the road**

Stop!!!!!!

Let us think a bit

A Pure OO World

Only objects +
messages +
closures!

mouse, booleans, arrays, numbers, strings, windows, scrollbars, canvas, files, trees, compilers, sound, url, socket, fonts, text, collections, stack, shortcut, streams, ...

**Customize object
interaction/presentation
to focus on YOUR
domain**

Playground

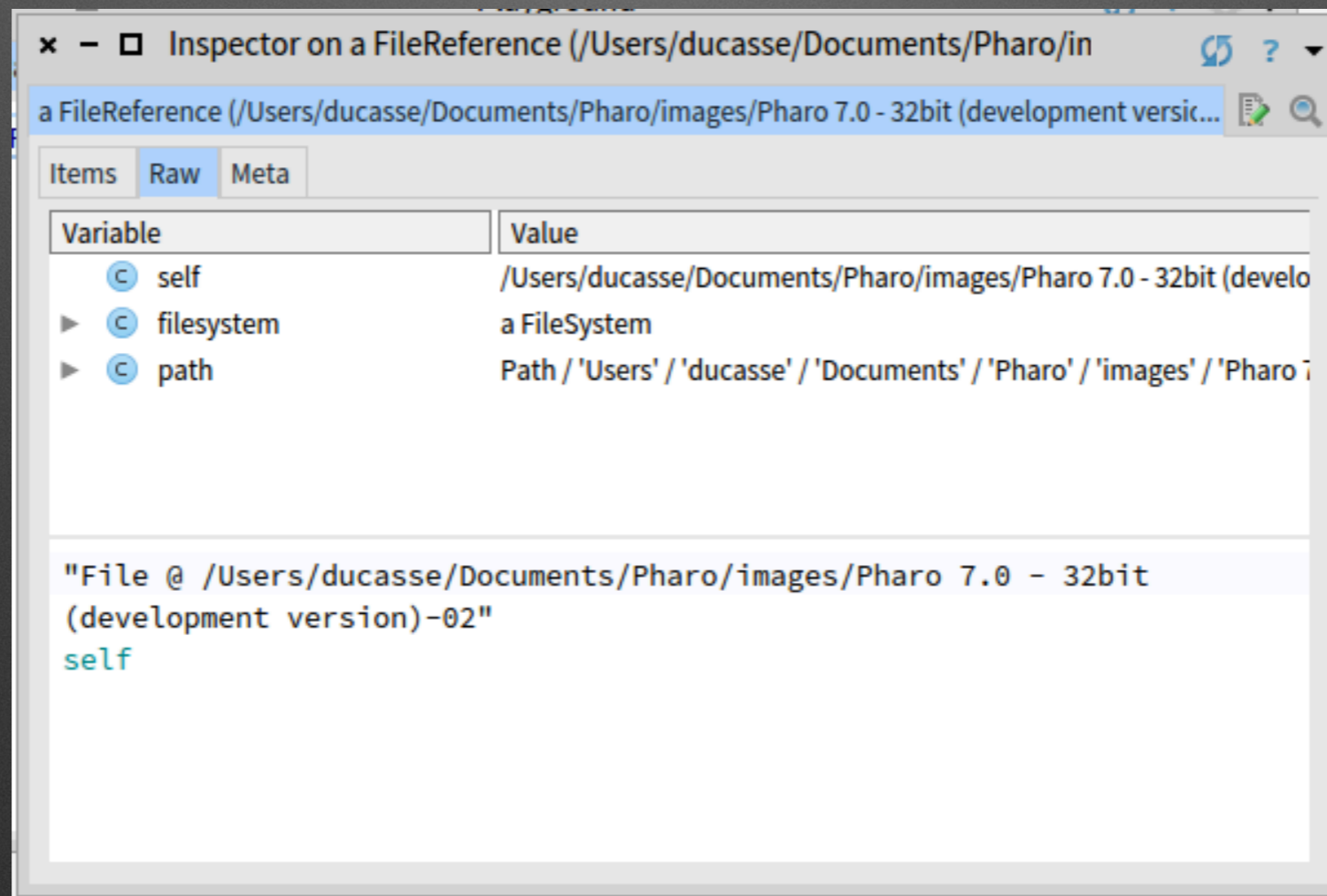
```
data := TestData new data.  
cube := MatrixCube new initWithData: data.  
cube view
```

an Array [4 items] ('2000-01-01' 'Malawi' 'France' ...)

Index	Item
1	'2000-01-01'
2	'Malawi'
3	'France'
4	'400.0'

enter search query (example: "each = 5")

Traditionally a file reference...



The screenshot shows a debugger's Inspector window for a FileReference object. The title bar reads "Inspector on a FileReference (/Users/ducasse/Documents/Pharo/in...". The main content area shows the object's path: "a FileReference (/Users/ducasse/Documents/Pharo/images/Pharo 7.0 - 32bit (development versic...". Below this, there are three tabs: "Items", "Raw", and "Meta". The "Items" tab is selected, displaying a table of variables and their values.

Variable	Value
self	/Users/ducasse/Documents/Pharo/images/Pharo 7.0 - 32bit (develo
filesystem	a FileSystem
path	Path /'Users' /'ducasse' /'Documents' /'Pharo' /'images' /'Pharo 7

Below the table, the object's string representation is shown: "File @ /Users/ducasse/Documents/Pharo/images/Pharo 7.0 - 32bit (development version)-02". The word "self" is also visible in the lower part of the window.

A file browser...


Inspector on a FileReference (/Users/ducasse/Library/Application Support/Pharo/images/SpurForShooting6)

a FileReference (/Users/ducasse/Library/Application Support/Pharo/images/SpurForSh...)

Items Raw Meta

Name	Size	Creation
..	408 B	2016-03-04 20:23:03
current	238 B	2016-02-25 10:34:24
.DS_Store	6.15 kB	2016-02-25 10:34:44
pharo-city.png	136.55 kB	2015-06-25 17:31:20
pharo.log	155.14 kB	2015-06-30 14:51:30
photos.zip	157.78 kB	2015-06-30 16:59:24
script.st	291 B	2015-09-17 15:21:14
scripts.zip	1.53 kB	2015-07-15 01:48:50

Picture Contents Raw Meta



Inspector on a DiceHandle class (DiceHandle)

a MethodDictionary [5 items...]

It... Ke... Raw Meta

Key	Value
#add:	DiceHandle>
#initialize	DiceHandle>
#dices	DiceHandle>
#+	DiceHandle>
#roll	DiceHandle>

Quick selection field. Given your

a CompiledMethod (DiceHan...)

... f... s... lr A... Hε... Me...

- ▼ RBMethodNode(+ anHandle | |
 - RBArgumentNode(anHandle)
- ▼ RBSequenceNode(| hn | hn :=
 - RBTemporaryNode(hn)
- ▼ RBAssignmentNode(hn := D
 - ▶ RBMessageNode(DiceHar
 - RBTemporaryNode(hn)
 - ▶ RBMessageNode(self dices
 - ▶ RBMessageNode(anHandle
 - ▶ RBReturnNode(^ hn)

a RBAssignmentNode (RBAs... x

F... S... Tr... Scc... Meta

```
+ anHandle
| hn |
hn := DiceHandle new.
self dices do: [ :aDice | hn
add: aDice ].
anHandle dices do: [ :aDice |
hn add: aDice ].
^ hn
```


**Hot update on the spot
customizable debugger**

QuitanceGenerator class - #exampleJustMonthAndKentel

Halt

Bytecode ▾ ▶

Stack ▶ Proceed 🔄 Restart 🔄 Into 🔄 Over 🔄 Through ▾

PDFCellElement	getSubElementsWith:styleSheet:
PDFCellElement(PDFComposite)	generateCodeSegmentsCollectionWi
PDFCellElement(PDFComposite)	generateCodeSegmentWith:styleShe
PDFDataTableElement(PDFComposite)	generateCodeSegmentsCollectionWi [:aSubElement aSubElement generateCodeSe
Array(SequenceableCollection)	collect:

Source 🔍 Where is? 📄 Browse

```

generateCodeSegmentsCollectionWith: aPDFGenerator styleSheet: compositeStyleSheet format: aFormat
  ^ (self getSubElementsWith: aPDFGenerator styleSheet: compositeStyleSheet)
    collect: [ :aSubElement |
      aSubElement
        generateCodeSegmentWith: aPDFGenerator
        styleSheet: (aSubElement buildCompositeStyleSheetFrom: compositeStyleSheet)
        format: aFormat ]
  
```

Variables

Type	Variable	Value
implicit	self	a PDFCellElement
parameter	aFormat	a PDFFA4Format
parameter	aPDFGenerator	a PDFGenerator
parameter	compositeStyleSheet	a StyleSheet

dimension: 80 mm @ 20 mm;

debug it Bytecode GT

Parser Stack

Symbol	Value
Expression	a JSUnaryExpressionNode
"{"	{(238498,238498,#(23))}
StatementList	an OrderedCollection(a JSExpressionStatementNode a JS
"{"	{(238499,238499,#(25))}
"function"	{function(238679,238686,#(53 82))}
Identifieropt	nil
"{"	{(238687,238687,#(28))}
FormalParameterListopt	an Array(an OrderedCollection() an OrderedCollection())
"{"	{(238688,238688,#(23))}
"{"	{(238689,238689,#(25))}
SourceElements	an OrderedCollection(a JSVariableStatementNode a JSVar
MemberExpression	a JSNameExpressionNode
"."	{(274447,274447,#(38))}

Possible Actions

Symbol	Action
<identifier>	Shift
IdentifierName	Shift

GLR 1

Input

```

return t._stash(this); // dojo.NodeList
}
});
nl.events = [
// summary:
// list of all DOM events used in NodeList
"blur", "focus", "change", "click", "error", "keydown", "keypress",
"keyup", "load", "mousedown", "mouseenter", "mouseleave", "mousemove",
"mouseout", "mouseover", "mouseup", "submit"
];
// FIXME: pseudo-doc the above automatically generated on-event functions
// syntactic sugar for DOM events
d.forEach(nl.events, function(evt){

```

Scanner

Name	Value
State	default

Stack

- JSParser(SmaCCGLRParser) performParsingStep
- JSParser(SmaCCGLRParser) performParsingLoop
- JSParser(SmaCCParser) parse
- JSParser class(SmaCCParser class) parseStream:startingAt:
- JSParser class(SmaCCParser class) parseFile: [self parseStream
- BlockClosure ensure:
- JSParser class(SmaCCParser class) parseFile:
- UndefinedObject Doit
- CompiledMethod valueWithReceiver:arguments:
- RubSmalltalkEditor debug:receiver:in: [aCompiledMetho
- BlockClosure newProcess [self value.Proces

Source

```

self restoreState: currentState.
(trialAllStates and: [ self isEOFToken ])
ifTrue: [ ^ self processEOFToken ].
currentToken isPattern
ifTrue: [ ^ self splitForPatternToken ].
[ actions := self actionsForCurrentToken.
actions isEmpty
ifTrue: [ self killState.
currentToken := nil.
^ self ].
2 to: actions size do: [ :i | self splitWithAction: (actions at: i) ].
action := actions first.
action = self acceptAction
or: [ self performAction: action.
currentToken isNil ] ] whileFalse.
action = self acceptAction
ifTrue: [ currentState markAccepted ]

```


Working on future debuggers

- Object-centric: halt on specific object life time actions
- Replay
- Fully Scriptable
- Open research
 - Back in time debuggers for real
 - First class execution operators

**Pharo is
research friendly**

**We are ready
to help you
validate
your ideas**

**We can be
guinea pigs,...
well kind of**

Actively supporting research

Spotter

Search

#Menu 15/62 →

- System Browser ✓ →
- Playground
- Test Runner
- Spotter
- Iceberg
- Monticello Browser

No diagnostic and usage data is being sent. Would you like to send diagnostic and usage data to help us improve Pharo? [Go to settings](#)

NumberParser

Scoped Variables

Type: Pkg1|^Pkg2|Pk.*Co

- Last Modified Metho
- Configurations
- Work
- AST-Core
- AST-Tests-Core
- Alien

- ASTCache
- ASTCacheReset
- ManifestASTCore
- NumberParser
- RBComment
- RBParseTreeRule

Hier. Class Com.

History Navigator

- all --
- accessing
- error
- initialize-release
- parsing-large int
- parsing-private
- parsing-public

```
Object subclass: #NumberParser
  instanceVariableNames: 'sourceStream base neg integerPart fraction
nDigits lastNonZero requestor failBlock'
  classVariableNames: ''
  package: 'AST-Core-Parser'
```

1/5 [1]

No diagnostic and usage data is being sent. Would you like to send diagnostic and usage data to help us improve Pharo?

SCG (Uni. Bern)

1/9 [1]

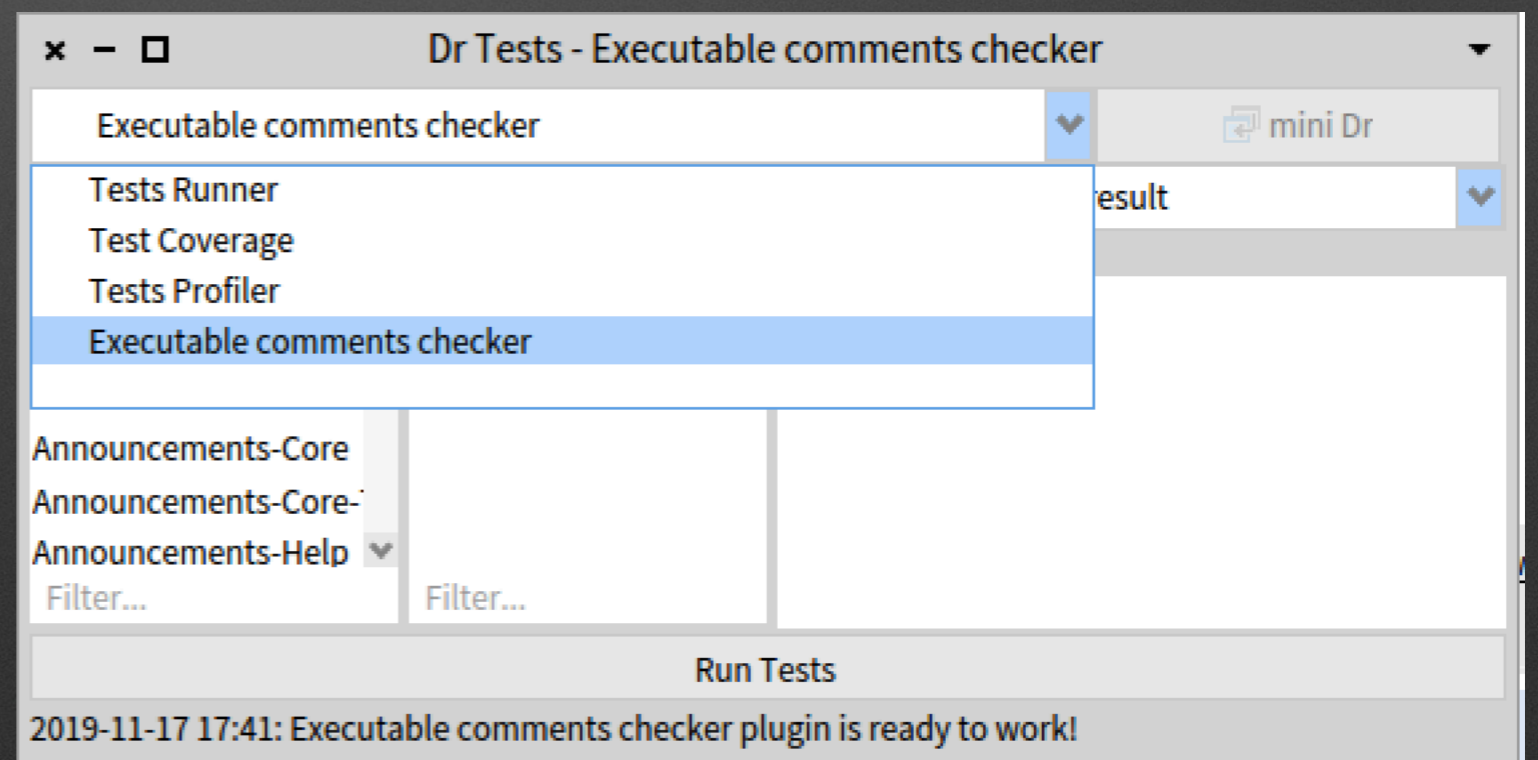
Utility methods ? X

Helpful? 👍 🗑️

Best Paper Award @ ICPC'19

**Kubelka, Bergel, Robbes,
“Live Programming and Software Evolution:
Questions during a Programming Change Task”**

DrTests: a plugin-based architecture to plug test analyses...



**We validated our 25000
tests for Rotten Green
Tests (ICSE'19)**

Test Amplification

by S. Demeyer, H. Rocha, M. Abdi

Code Review

by A. Bachelli, ObjectProfile

**Some last moments
of fun...**

**I want my halt to only
stop when called from
THAT test!**

mycode

self haltlf: #testMy

...

**How to define a
control flow halt in 5
lines of code?**

haltIf: aSelector

| cntxt |

cntxt := thisContext.

[cntxt isNil] whileFalse: [

cntxt selector = aSelector

ifTrue: [self halt].

cntxt := cntxt sender]

**Dynamically rewriting
deprecated calls @
runtime?**

**You run your tests
and your code and
your tests use the
new API!**

crLog: aString

self

deprecated: 'Please use trace* methods instead.'

transformWith:

`@receiver crLog: `@statements1'

-> `@receiver crTrace: `@statements1'.

self crTrace: aString

**You run your tests
and your code and
your tests use the
new API!**

transform

| node rewriteRule aMethod |

aMethod := self contextOfSender method.

node := self contextOfSender sourceNodeExecuted.

rewriteRule := self rewriterClass new

replace: rule key with: rule value.

(rewriteRule executeTree: node)

ifFalse: [^ self signal].

node replaceWith: rewriteRule tree.



Ready to collaborate

- Provide qualitative assessment of results when analyses are performed on Pharo
- Explain how to collect data from our users
- Provide feedback on articles :)