



# Pharo: Live objects for complex projects

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

<http://www.pharo.org>



JPMORGAN  
CHASE & Co.



SCHMIDT  
Ingenieurbüro für Bauwesen



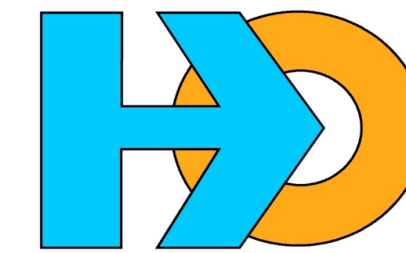
ZWEIDENKER



THALES

projector  
software

BetaNine  
software engineering



inspired!



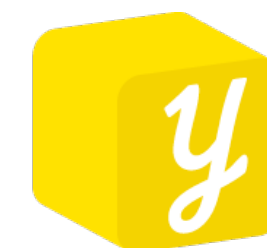
SORABITO



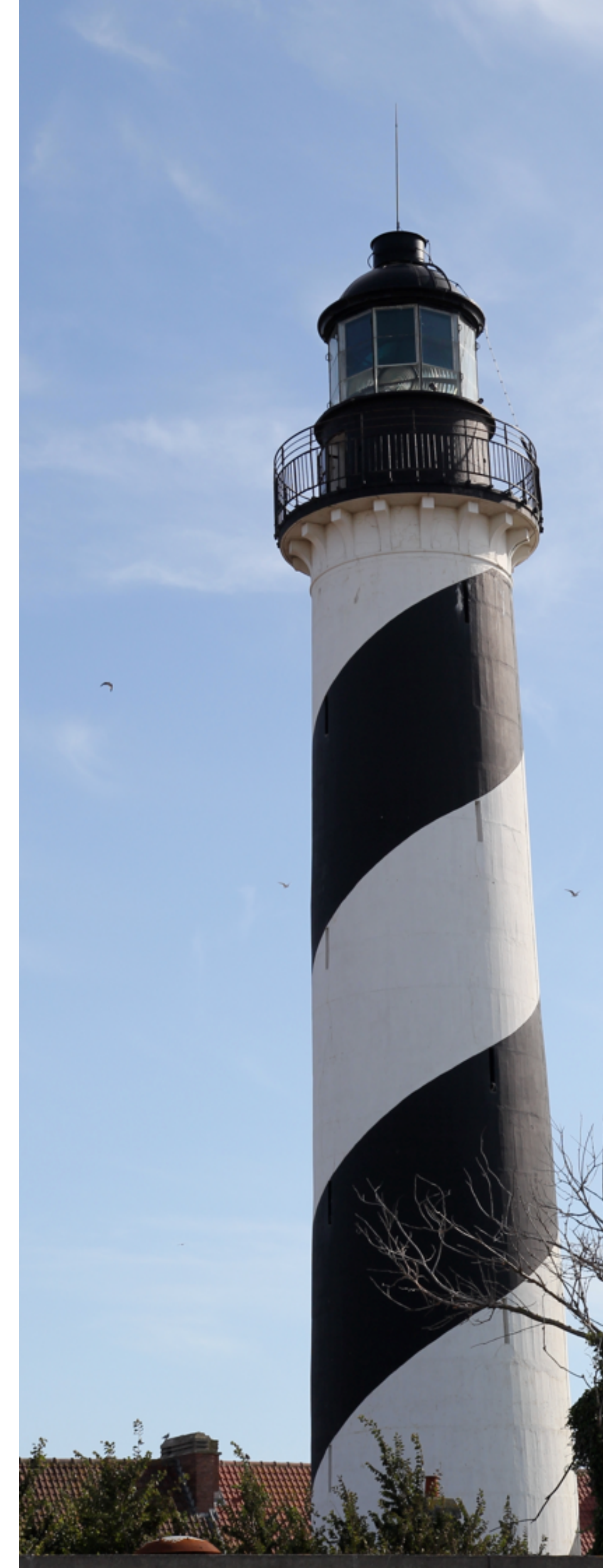
knowroaming

TA MÈRE<sup>SCRL</sup>  
BADASS MOBILE DEVELOPMENT

Systems that make sense  
Sensus



Yesplan  
Let's make it happen





**A word of presentation**



# Expert in language design

**Traits in Php7.0, Perl60  
Influenced Traits in Scala**



# Expert in maintenance

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



# synect?que

Inventive Analysis

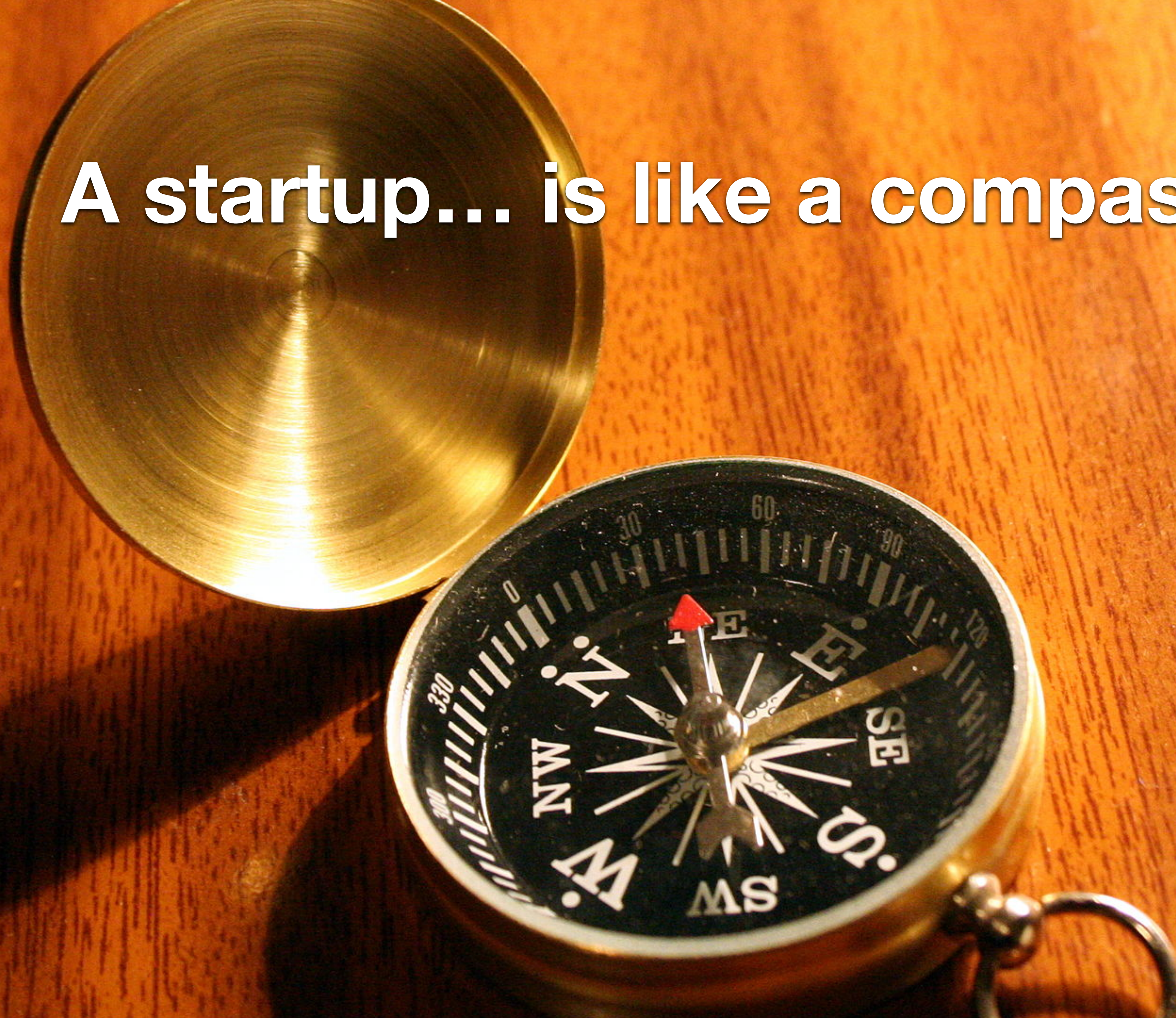
Building **specific** analysis tools for important running business software (Ada, Cobol, 4D, C, C++, Java...)

**Dedicated** tools to support decision making process





**A startup... is like a compass**











Pharo?



# 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 objet model



# Full Syntax!

exampleWithNumber: x

“A method that illustrates every part of Smalltalk method syntax”

<menu>

| y |

true & false not & (nil isNil) ifFalse: [self halt].

y := self size + super size.

#\$a #a 'a' 1 1.0)

do: [ :each | Transcript

show: (each class name);

show: (each printString);

show: ' '].

^ x < y





**Yes the full Syntax!**







# Full Syntax!

exampleWithNumber: x

“A method that illustrates every part of Smalltalk method syntax”

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show: (each class name);

show: (each printString);

show: ' '].

^ x < y





# Full Model!

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





**Focus on intrinsic complexity**

**Eliminate accidental complexity**



A hand holding a red pencil is shown in the upper half of the image, drawing a red outline of a hand holding a black pencil in the lower half. The background is a light gray gradient.

# 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**



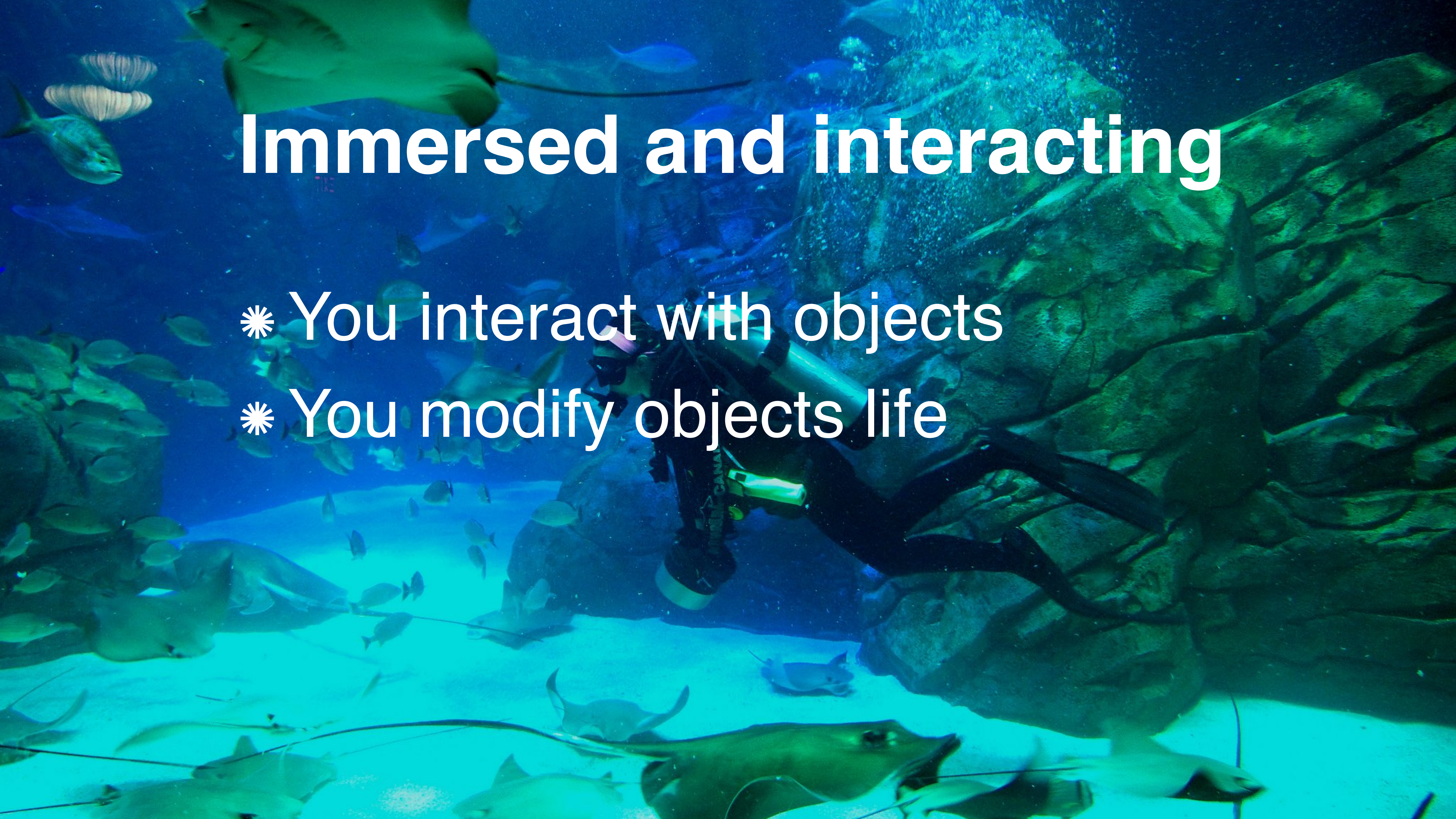
# Looking inside

- \* Pharo is not a blackbox
- \* Pharo is fully inspectable and reflective
- \* You can get immersed in



# Immersed and interacting

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





Workspace

```
| elements lay |
```

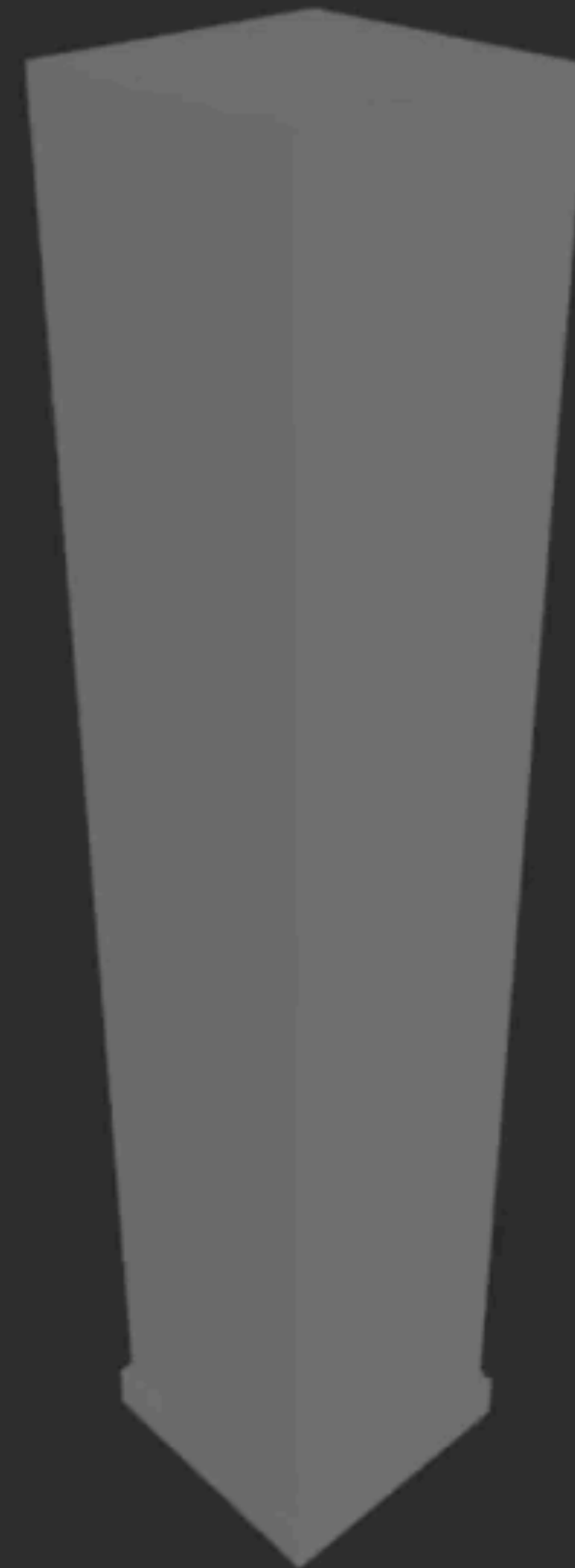
```
elements := (1 to: 5) collect: [ :ob |  
    (R3CubeShape new) elementOn: ob ].
```



```
lay := R3WallLayout new.  
lay on: elements.
```

```
UberPresenter present: elements
```

Uber Presenter



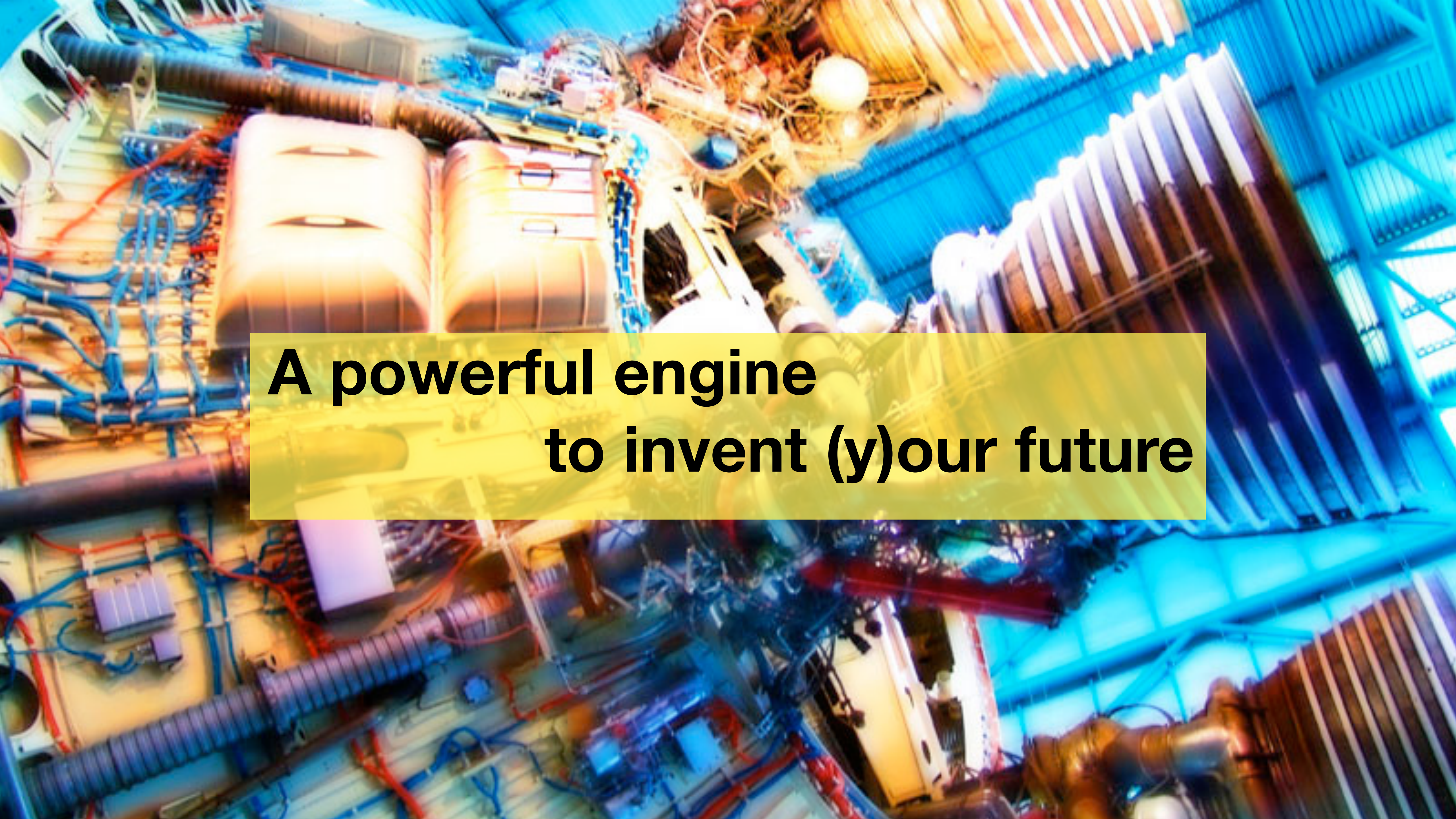


**We can do the same with  
web app, sockets, networks,  
sensors, living programming....**




**Pharo's goal...**



The background image shows a large, complex scientific facility, likely a particle accelerator. It features large, cylindrical components, possibly superconducting magnets, with intricate wiring and piping. The scene is dimly lit, with some bright spots from overhead lights. The overall atmosphere is one of high-tech engineering and scientific research.

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





**An ecosystem where  
innovation/business bloom**

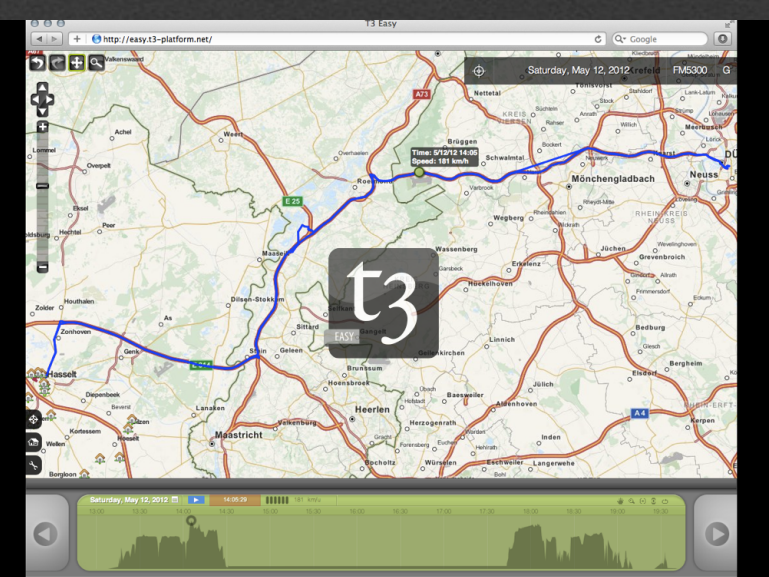
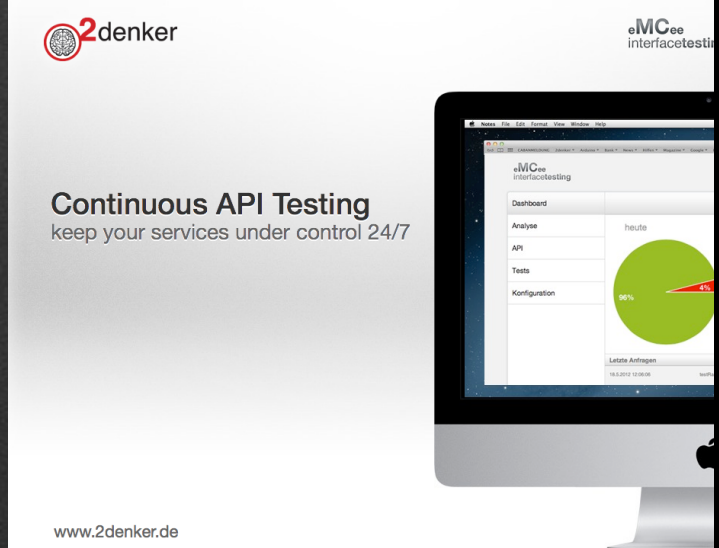
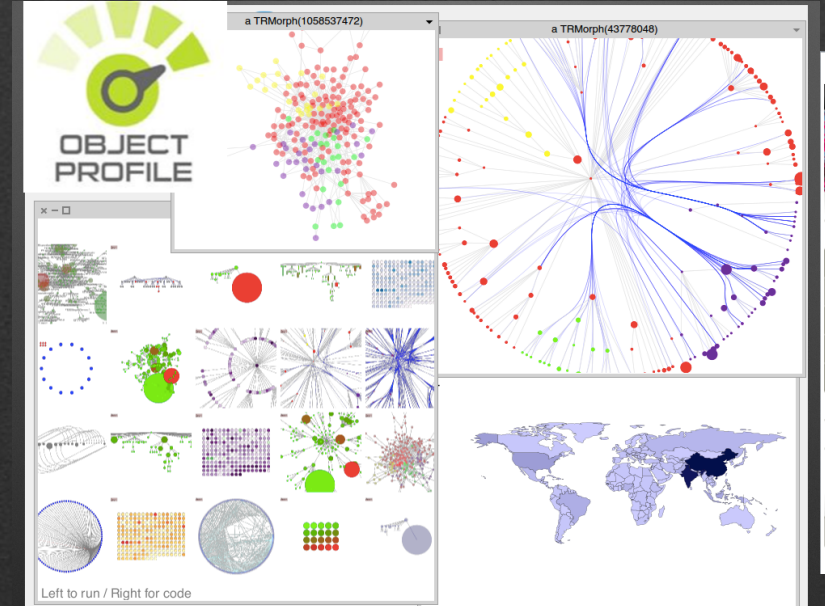
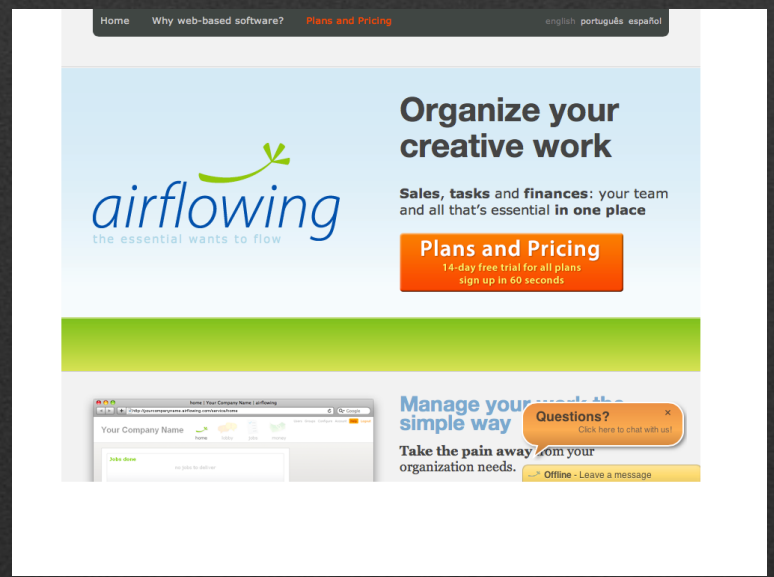
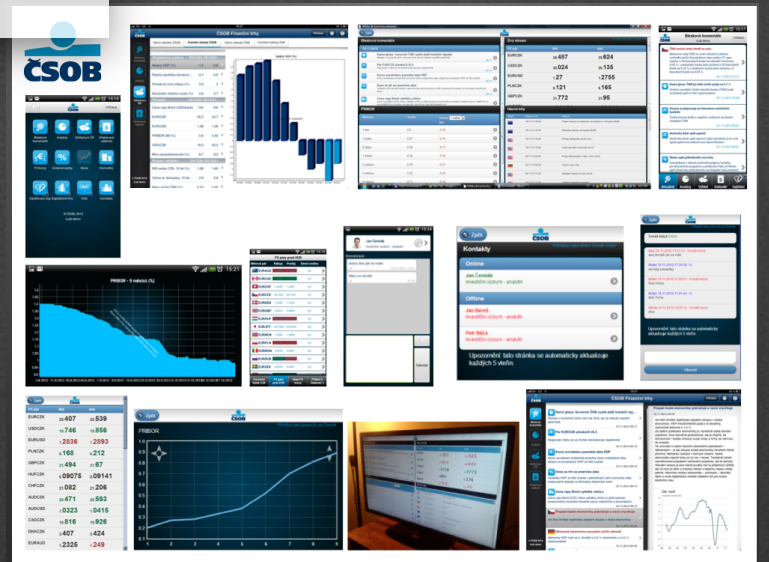
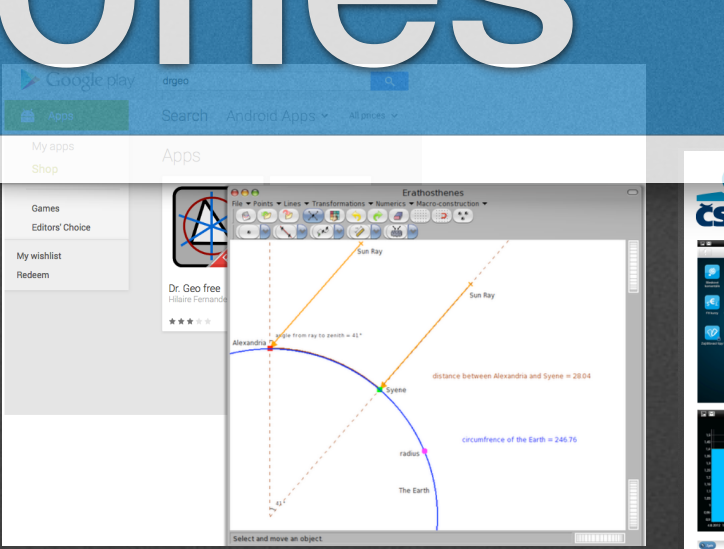
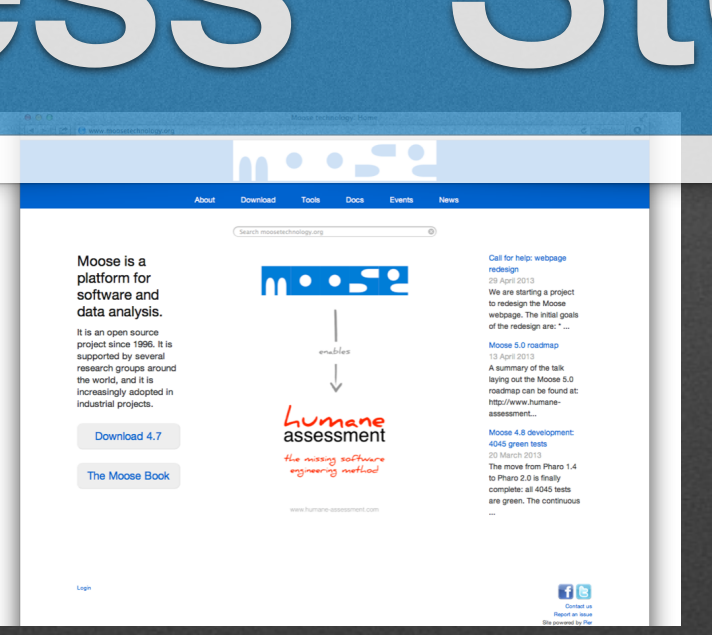
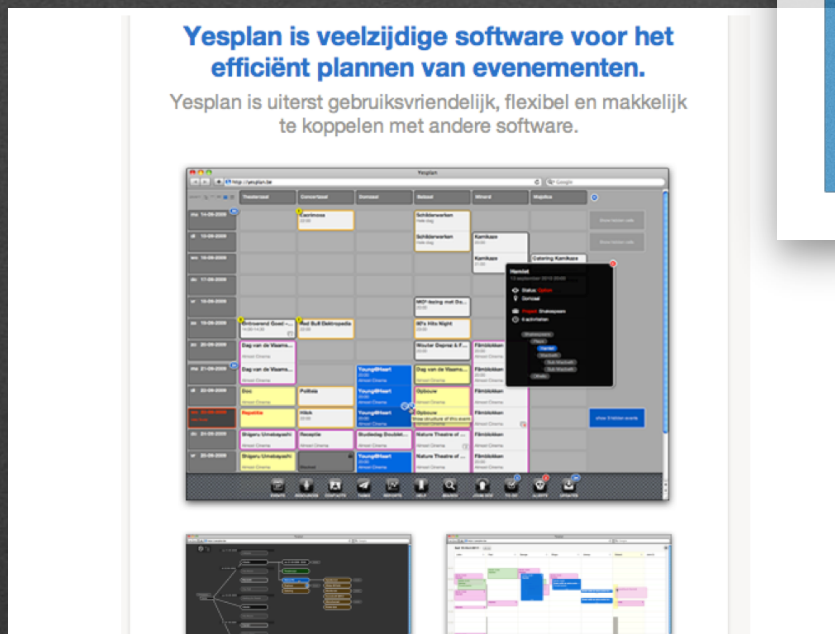
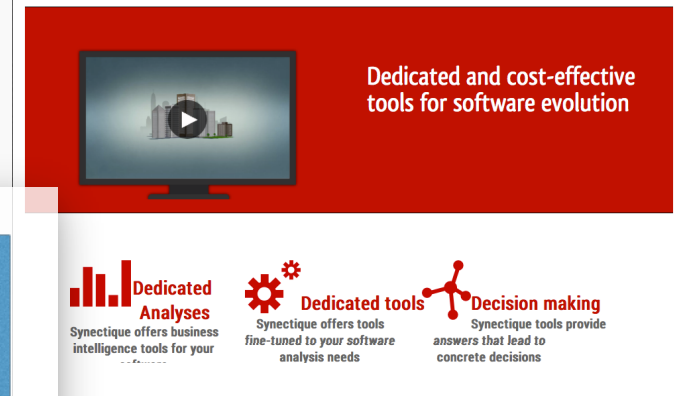
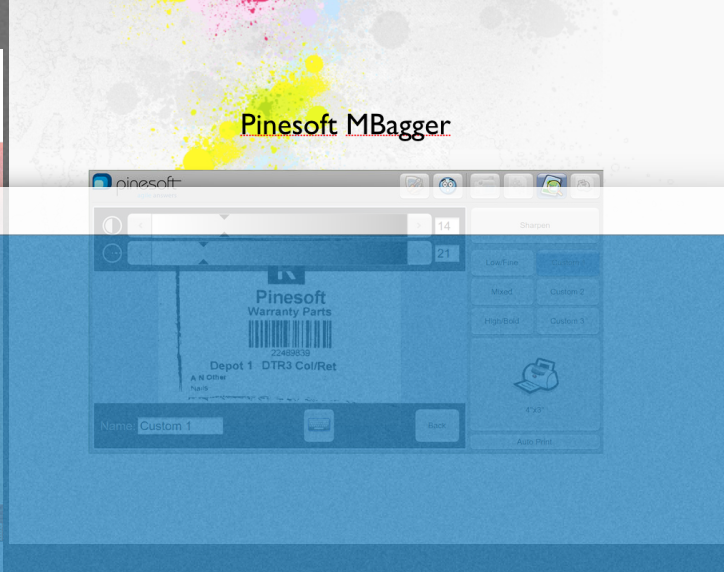
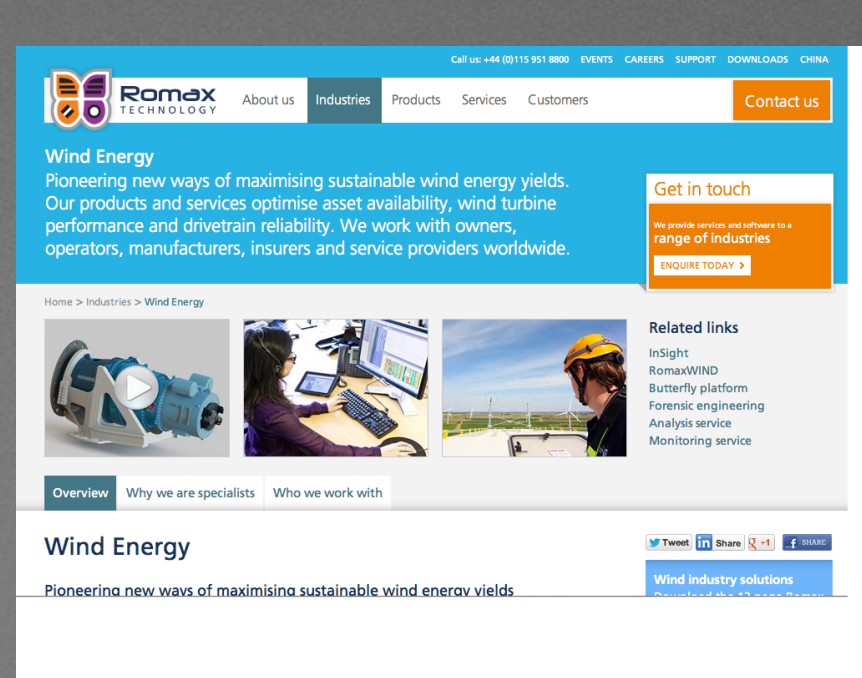
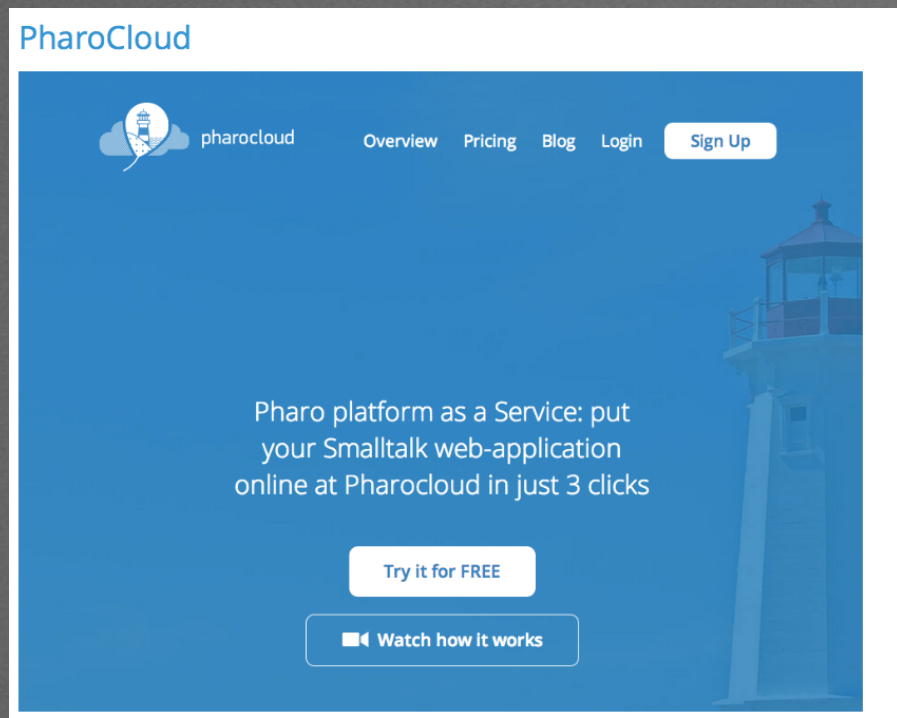


... that **\*\*you\*\*** can make money  
with Pharo.

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

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





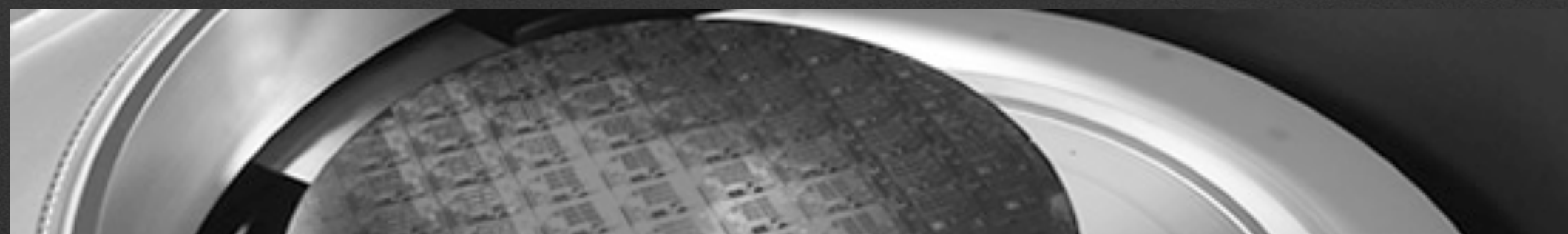


# LAMRC

## 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



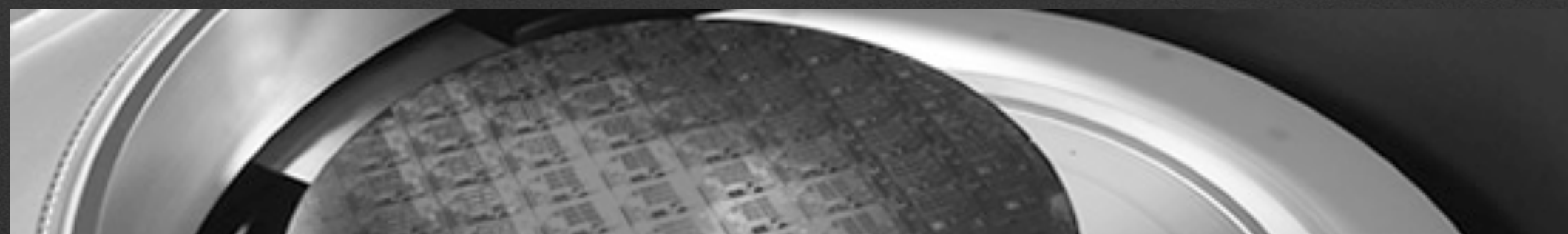


# LAMRC

## Back-End Wafer-Level Packaging

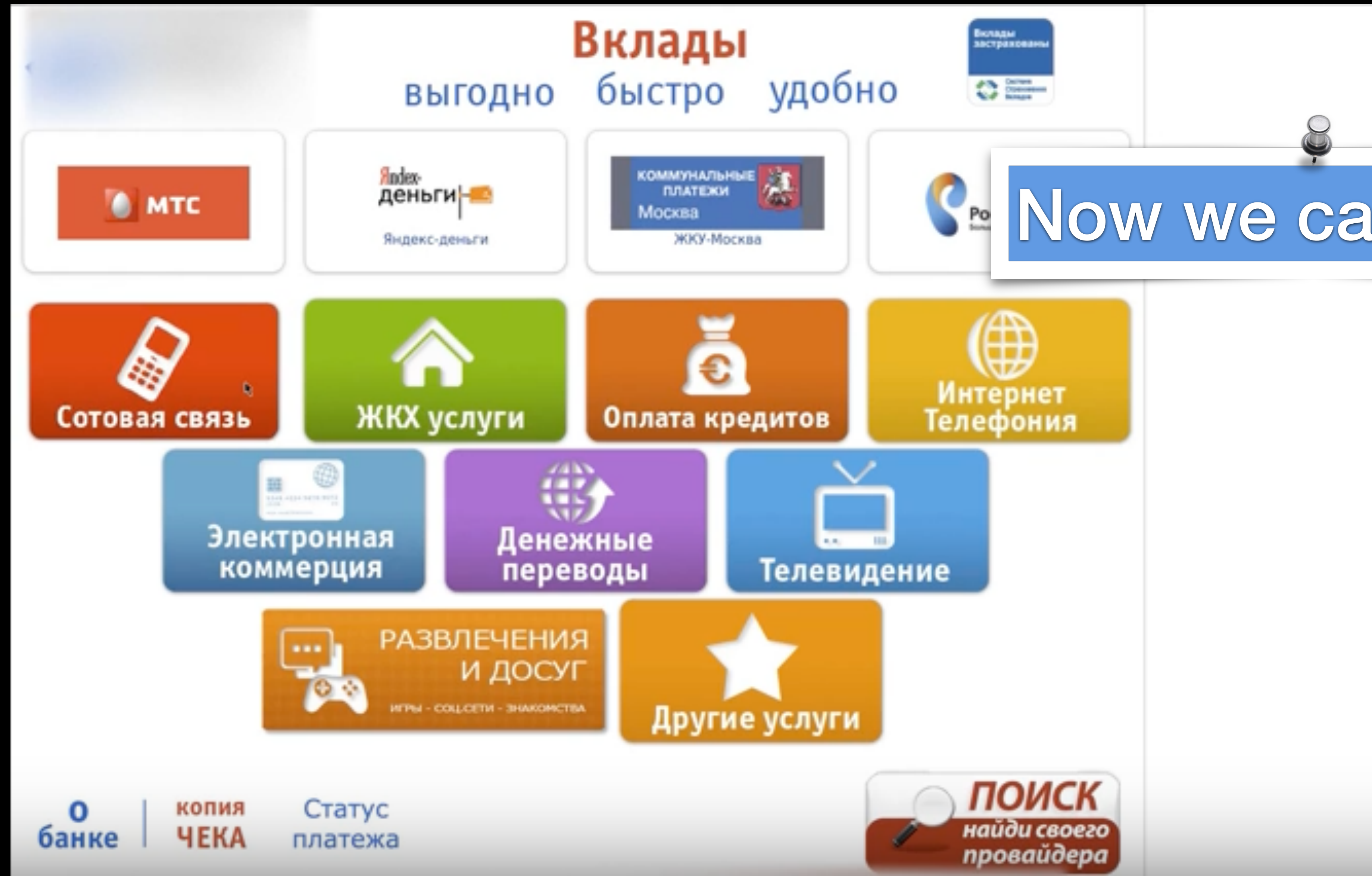
Your mobile hardware as a high-  
chance to have been  
by a robot controlled  
smalltalk

Started to experiment  
with Pharo





# Pharo in ATM like Device in Moscow

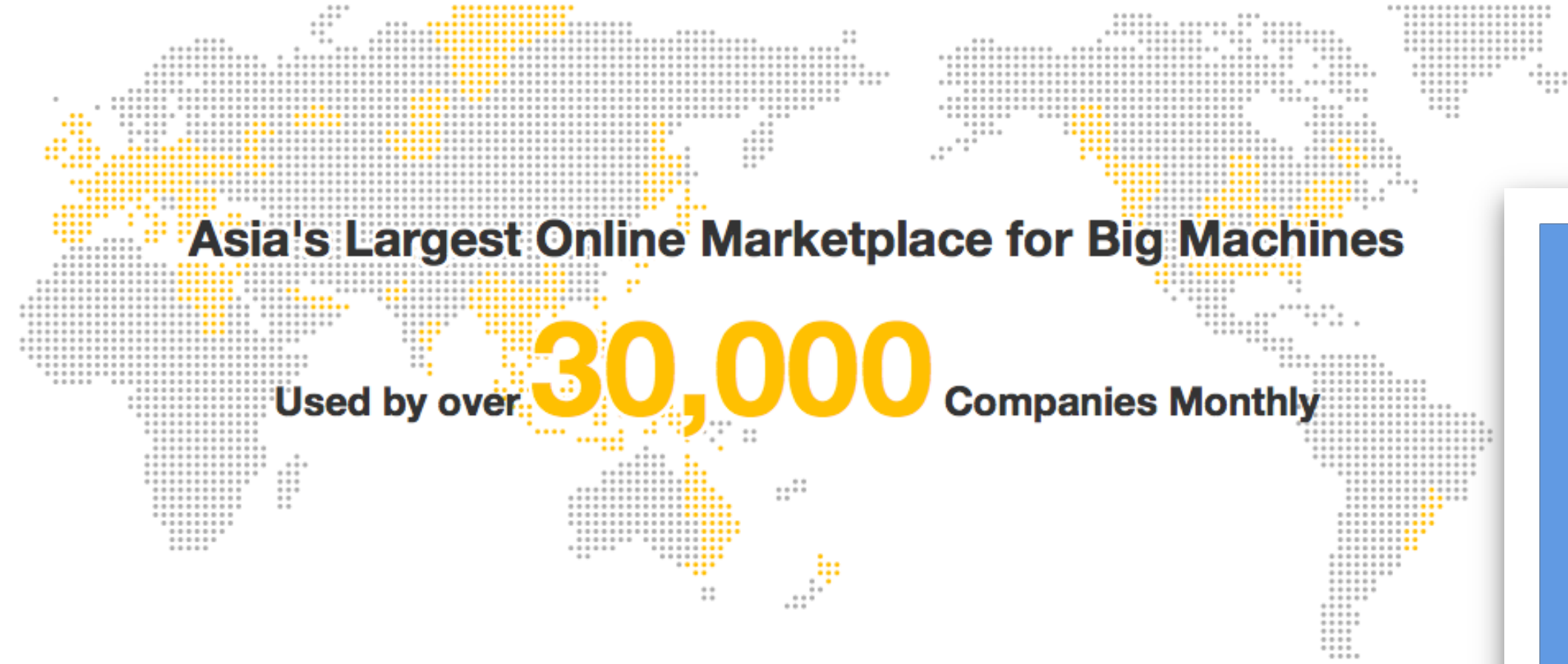




**ALLSTOCKER**

We find machines for you

+81-3-5847-8994



Asia's Largest Online Marketplace for Big Machines

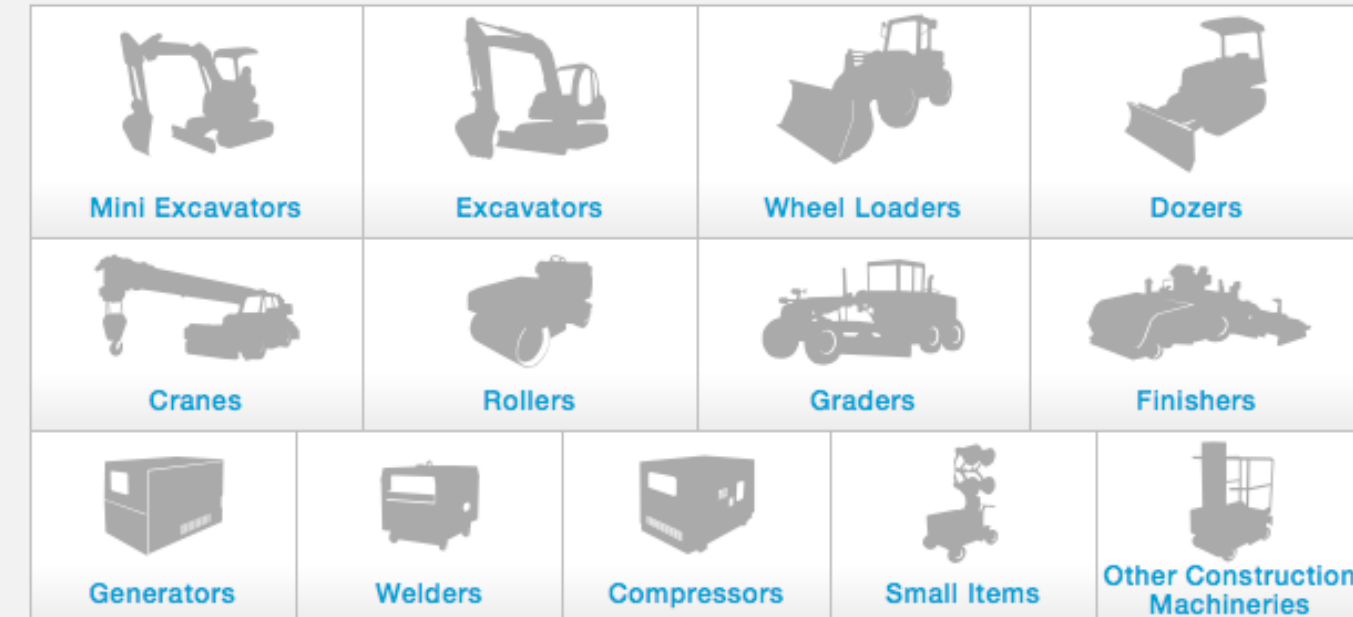
Used by over **30,000** Companies Monthly

Full Stack in Pharo  
Online marketplace  
raised 4.7 M\$

## Find Machines

### Search by Category

#### Construction Machinery



#### Material Handling



#### Farm Machinery



#### Vehicles



#### Others



### Search by Keyword

Enter a keyword (e.g. KOMATSU PC200)

Search

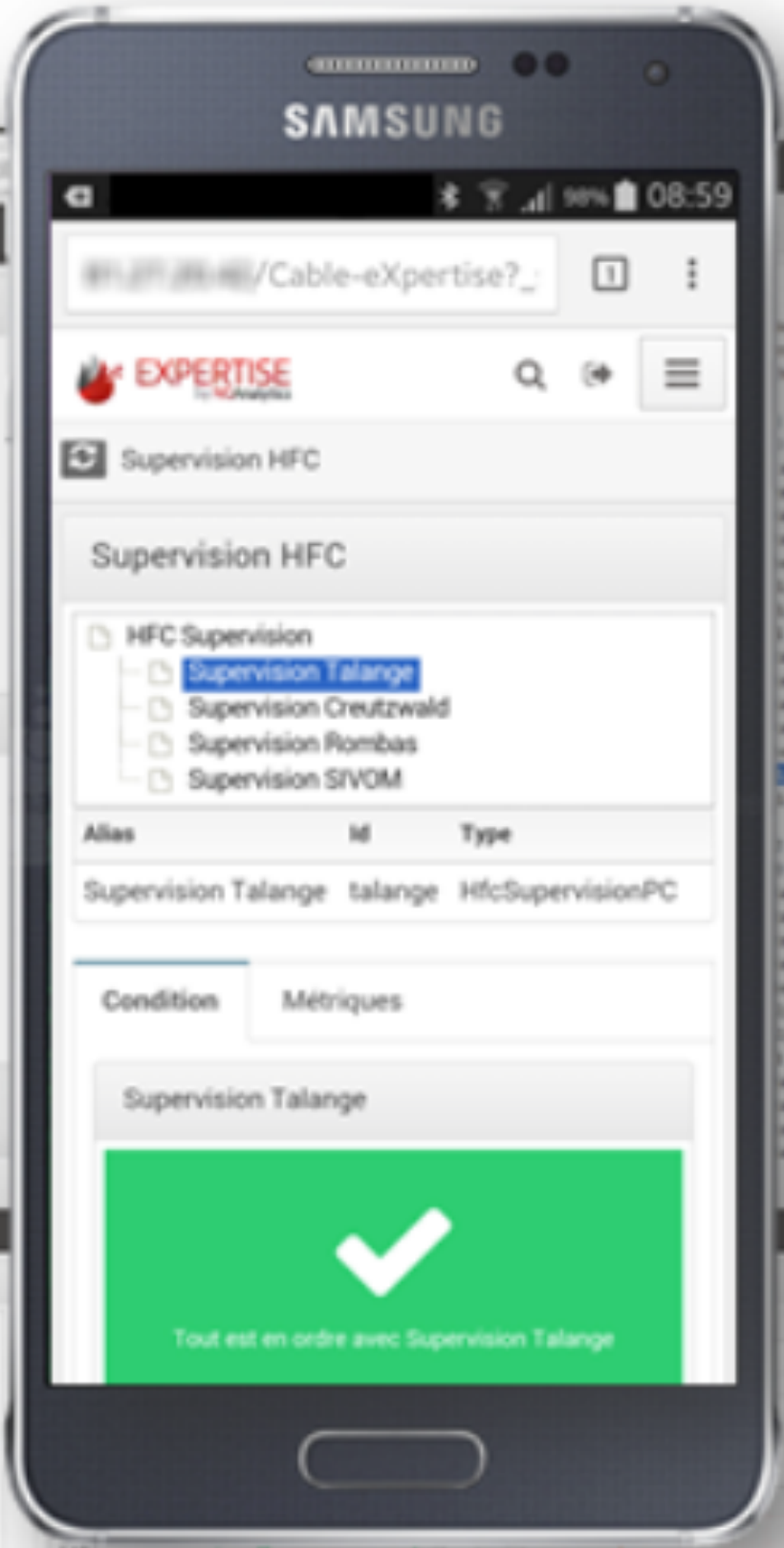
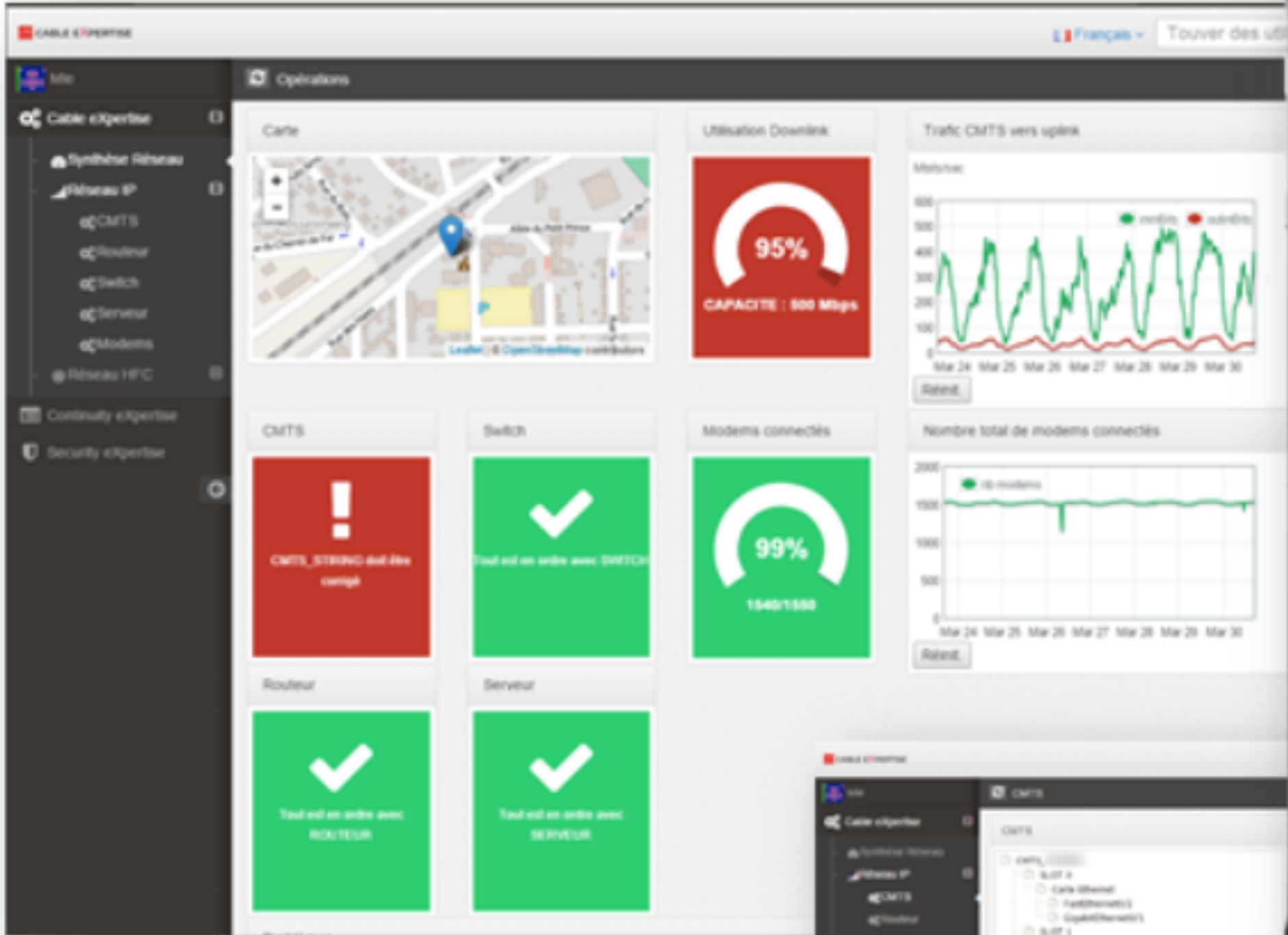
## New Machines Updated on: 2016/09/13 17:46:18 (JST)

[See More >](#)

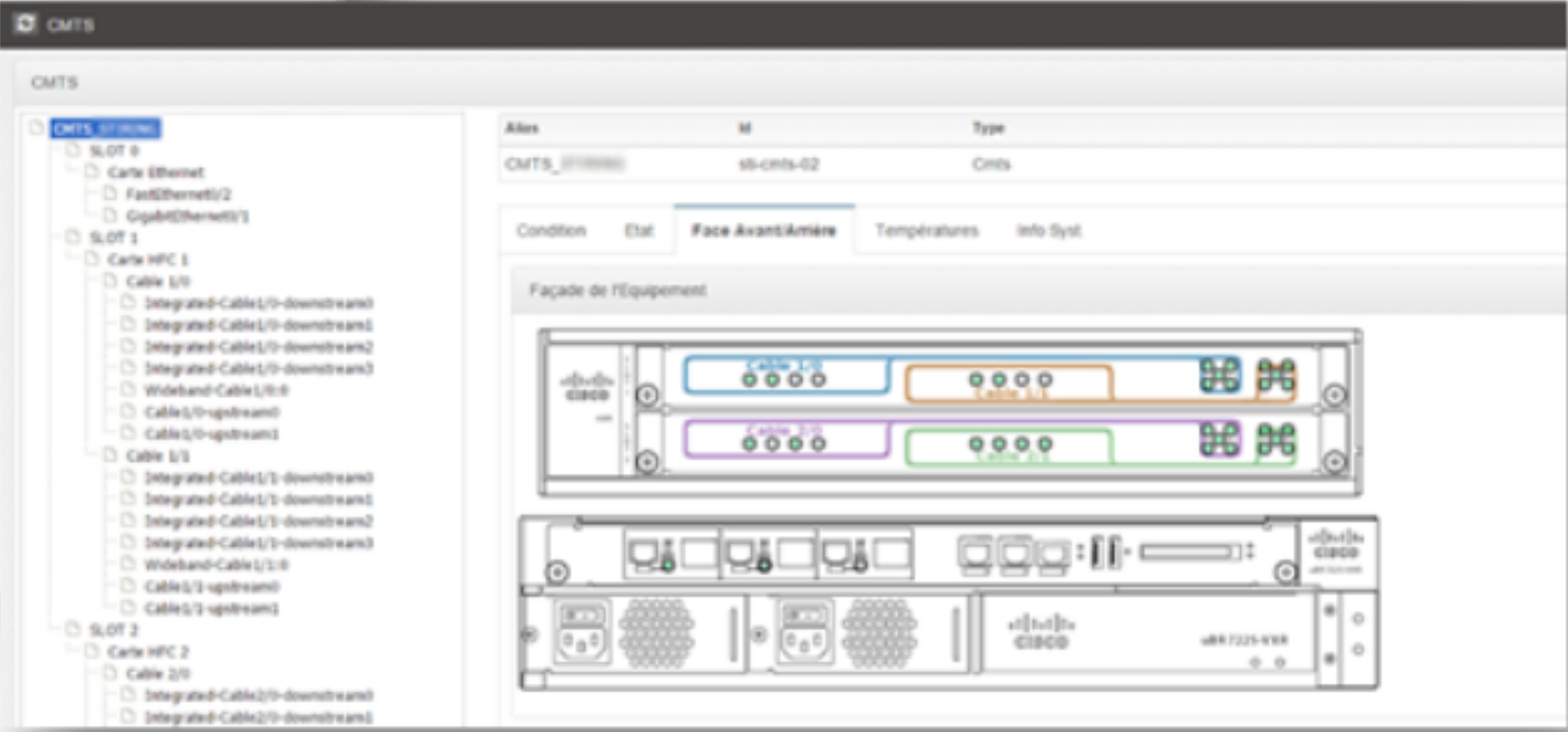
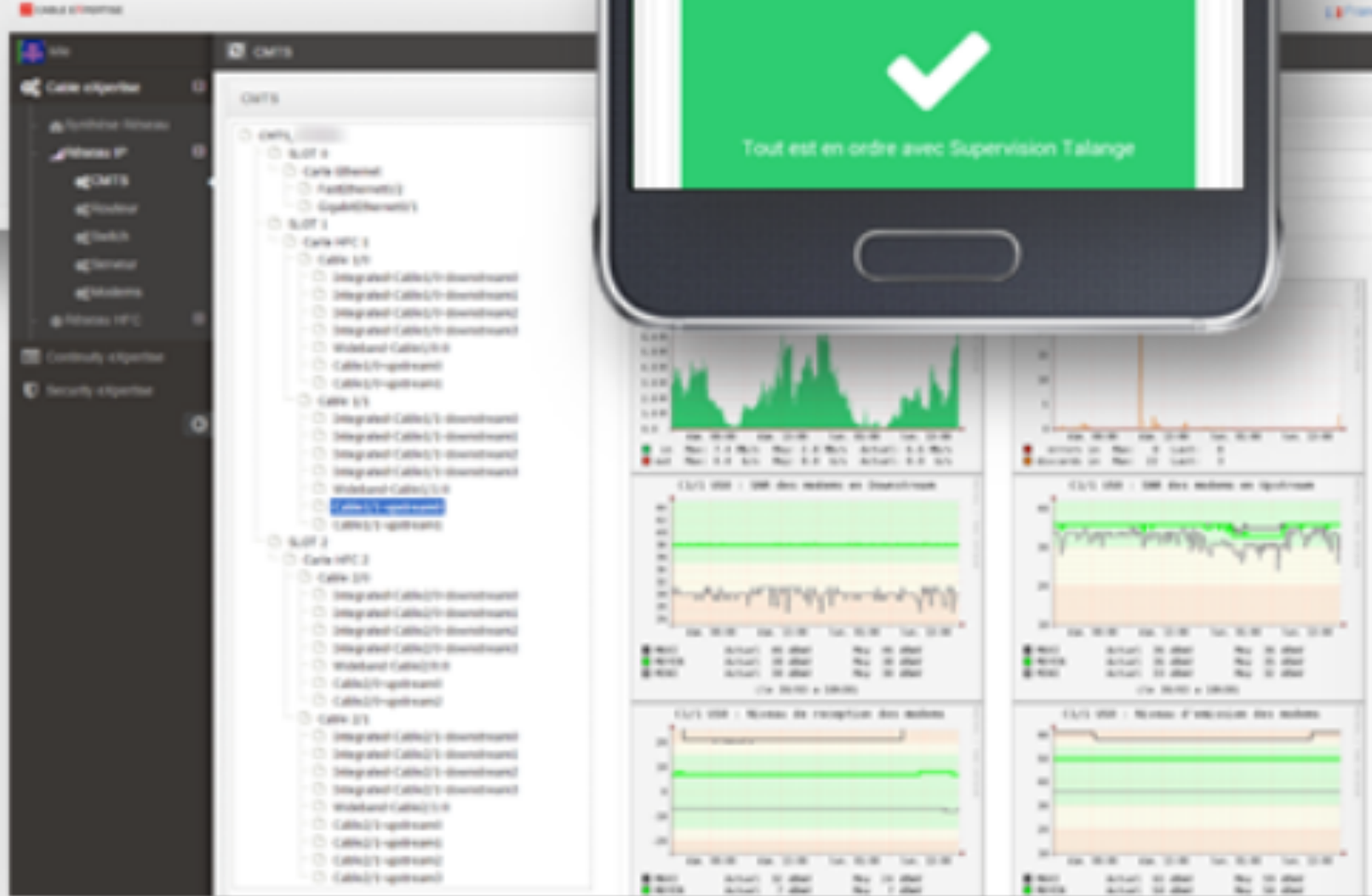
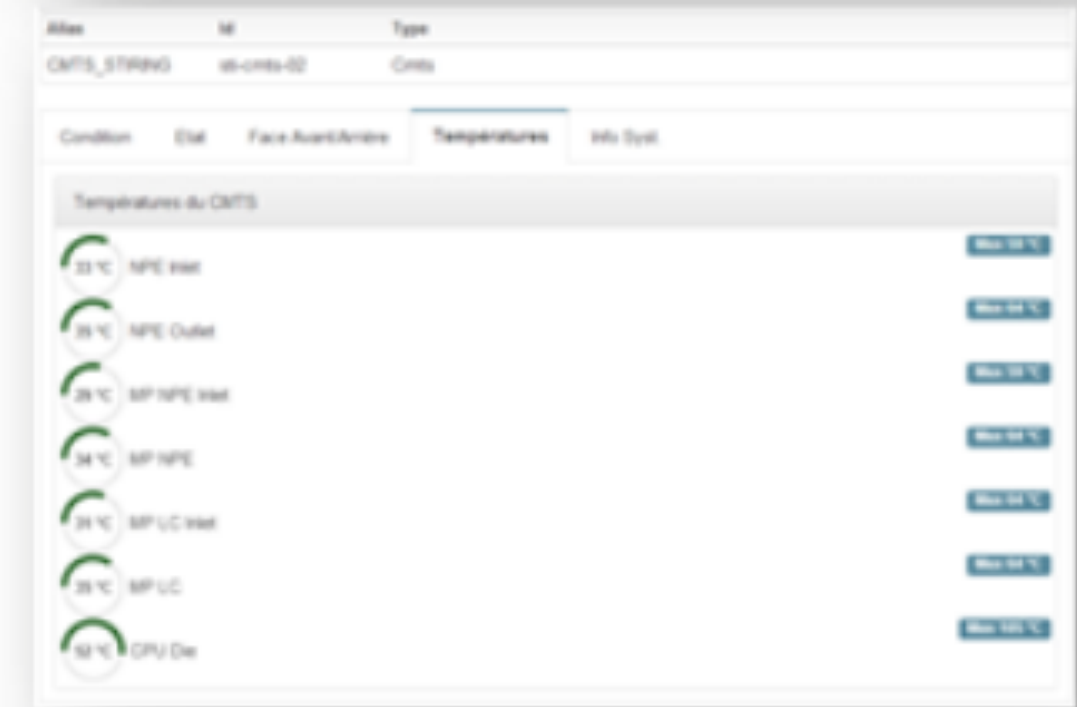




# Network Monitoring for small ISPs



Module et Firmware	Modèle et IP	Traffic Moy. V/S (Kb/s)	Préq. V/S (dBm)	Nbr. Réception V/S (dBm)	SNR sur V/S (dB)	Préq. V/S (dBm)	Nbr. Réception V/S (dBm)	SNR sur V/S (dB)
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	88F7C781080C1 10.9.6.50-89-28-147.38	00000 8854	100	14.10	35.30	36.0	40.20	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	88F7C781080C2 10.9.6.50-89-28-146.16	00000 35	114	10.60	33.20	36.0	30.50	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	88F7C7810AAA 10.9.5.108	00000 510	108	5.30	41.40	36.0	36.70	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	88F7C7810AAE 10.9.1.40-89-28-146.53	00000 1096	100	7.90	36.80	36.0	34.50	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	88F7C781080E 10.9.4.89	00000 2727	108	1.90	40.40	36.0	38.20	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	CA779C40CF5 10.9.5.229	00000 52105	108	10.30	40.40	36.0	40.50	36.10
TC7200-20 ST00-01-02 N7200-20_revolution_3_m05	8829C29C8C2 10.9.5.12-89-28-104.29	00000 109	122	3.30	37.20	36.0	32.70	36.10







pharocloud

[Overview](#)

[Pricing](#)

[Help&Docs](#)

[Log In](#)

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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

Publiziere



HOME SITEMAP DRUCKEN KONTAKT LOGIN

SYSTEM

WEBSEITE

BENUTZER

SUPPORT

Bearbeiten

Metatags

Statistik

Archiv

Neue Seite

Artikel

Formular

Tabelle

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



cmsbox rocks

Eigene Bilder und Videos direkt auf die Webseite laden

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

Suchen...

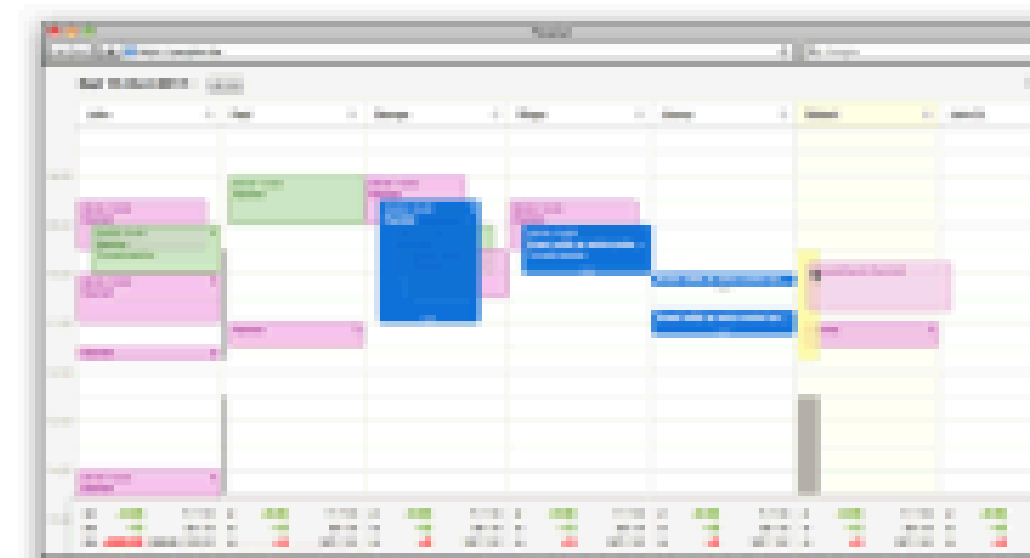
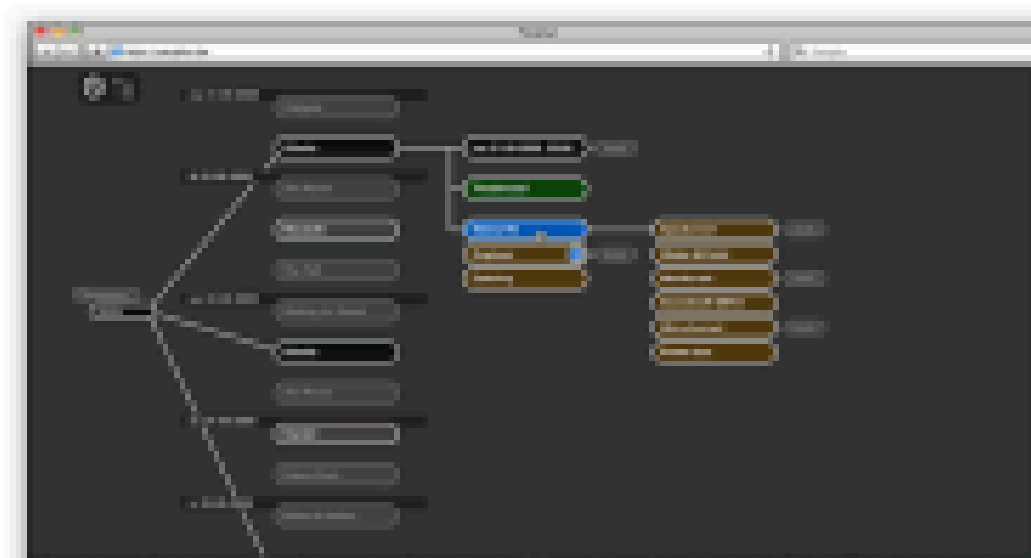
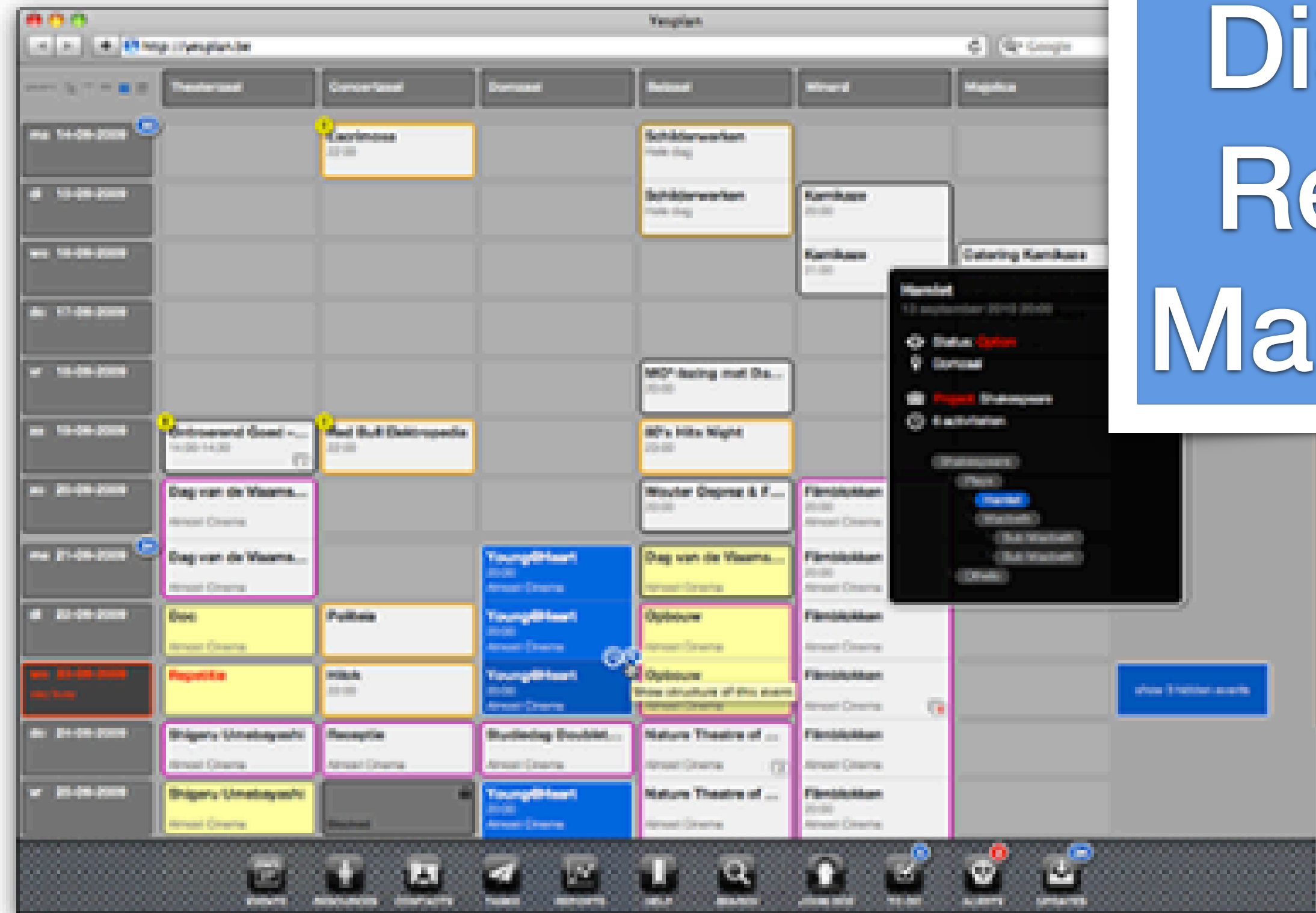
CMS with full history



# 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





# Server Testing

## Continuous API Testing

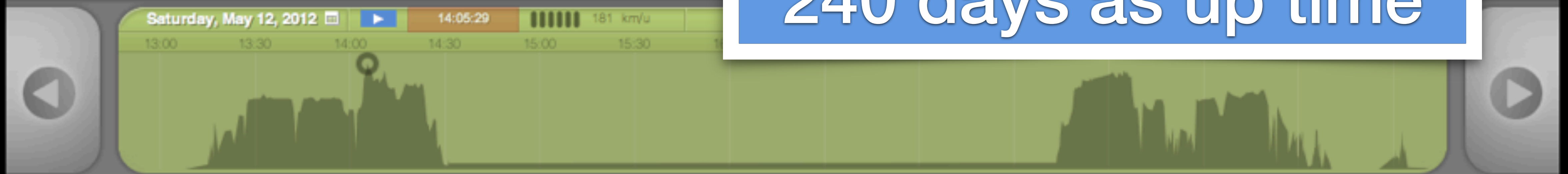
keep your services under control 24/7







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



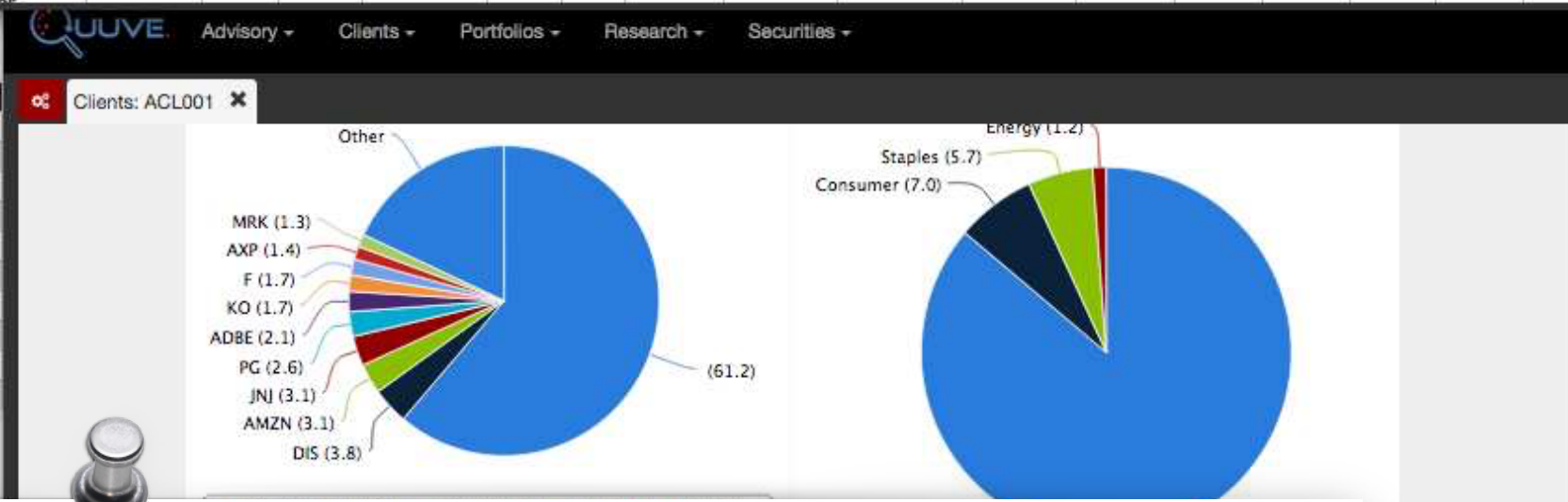
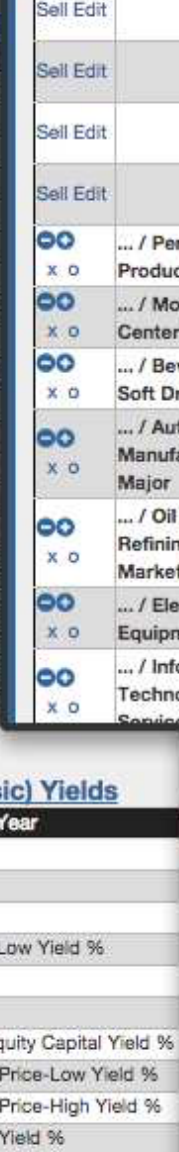
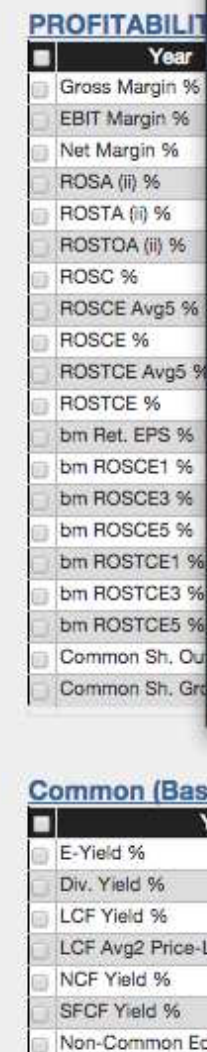


# WEBDRUCK.CH Web-To-Print Solution

- 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







Overview

Positions

Prices

Errors

Events

Special

CSV Reports

Historical

Verification

Balances

Actions

Tree View

Show Comparables?

Columns: Basic

LAC

Nothing se

RAC

Nothing se

CAC

2 Items sel

Subtotal: Industry

Update View

Actions	Subtotal Name	Asset Description	Ticker Symbol	Account Name	Num Units	Price Paid / sh	Cost / sh	Price / sh	Cost	Mkt 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
<div>show</div>	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
<div>x o</div>	... / n/a				11,019,974.10	1.084	1.08		11,942,194.4	13,139,003.60	1,196,809.22	10.0	73.2	73.2	0.00	83.4	37.3	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	100.0	
<div>x o</div>	... / Catalog & Mail Order Houses				4,505.00	143.200	143.20		645,574.0	500,000.45	145,573.55	151.0	3.1	3.1	0.00	1.2	44.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
<div></div>		Amazon.com Inc.	AMZN																									
Sell Edit		Amazon.com Inc.	AMZN																									
Sell Edit		Amazon.com Inc.	AMZN																									
Sell Edit		Amazon.com Inc.	AMZN																									
Sell Edit		Amazon.com Inc.	AMZN																									
<div>x o</div>	... / Personal Products																											
<div>x o</div>	... / Money Center Banks																											
<div>x o</div>	... / Beverages - Soft Drinks																											
<div>x o</div>	... / Auto Manufacturers - Major																											
<div>x o</div>	... / Oil & Gas Refining & Marketing				2,000.00	61.250	61.26		122,520.0	208,400.00	85,880.02	70.1	1.2	1.2	0.00	0.8	0.00	3.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	
<div>x o</div>	... / Electronic Equipment				7,000.00	24.359	24.36		170,540.0	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	
<div>x o</div>	... / Information Technology				1,070.00	155.259	155.31		166,177.0	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	

All reports are automatically generated

**Ticker**

**o%** Clients Overview x Portfolio: none x Clients x

View: Default V: 20 Select Apply to Many

OPXDownload

S#	Client Name x	Advisor x	Is Employee Portfolio x	Account Owners x	Accounts x	Benchmark Portfolio x	
			(all)	(all)			
<input checked="" type="checkbox"/>	ACL001	Founding Fathers Investment Advisors, Inc.	false	AO-002, AO-001	CL001 ET0002, CL001 ET0001, CL001 ET0003	CS - Demo - Single Stock Trade Model1 (model)	Actions
<input type="checkbox"/>	ACL002	Founding Fathers Investment Advisors, Inc.	false	AO-003, AO-004, AO-001	CL002 ET0001, CL002 ET0002, CL002 ET0003, CL001 ET0001, CL001 ET0003		Actions
<input checked="" type="checkbox"/>	ACL003	Founding Fathers Investment Advisors, Inc.	false	AO-005, AO-006	ET xxxx-0010 IRA Traditional, CL003 ET0011, CL003 ET0012		Actions
<input type="checkbox"/>	ACL023	Founding Fathers Investment Advisors, Inc.	false	AO-037, AO-038			Actions
<input checked="" type="checkbox"/>	<div>Remove Fak Bl Key  </div>	Founding Fathers Inve	<div>2 items sele</div>	<div>3 items selected</div>			Actions
<input type="checkbox"/>	BCL006	Founding Fathers Investment Advisors, Inc.	false	AO-011, AO-010			Actions
<input checked="" type="checkbox"/>	BCL007	Founding Fathers Investment Advisors, Inc.	false	AO-012	ET XXXX-0002 ✓ ET xxxx-0003 IRA Traditional ✓ ET xxxx-0004 IRA Traditional ✓		Actions
<input type="checkbox"/>	BCL026	Founding Fathers Investment Advisors, Inc.	false	AO-042, AO-041			Actions
<input checked="" type="checkbox"/>	BCL027	Founding Fathers Investment Advisors, Inc.	false	AO-043			Actions
<input type="checkbox"/>	CL099	Founding Fathers Investment Advisors, Inc.	false	CL099	CL099 ET0123		Actions

Total: 10 Total in page; 10 Satisfying filters and selection; 10 Currently selected; 0 Selected and Filtered; 0

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




# Free Software Mobile Communication solutions



MobileTerminated ForwardSM

```
plan: SCCPGlobalTitle npISDN;  
addr: destGT;  
translation: 0;  
yourself);  
  
yourself.  
  
forwardSM := ASN1Dictionary new  
  at: 'sm-RP-DA' put: (ASN1Dictionary new  
    at: 'imsi' put: destIMSI toTBCD;  
    yourself);  
  at: 'sm-RP-OA' put: (ASN1Dictionary new  
    at: 'serviceCentreAddressOA' put: sourceSMSC toE164;  
    yourself);  
  at: 'sm-RP-UI' put: (ByteArray readHexFrom: '240c9194814813654200005110712195534010c8329bfd0699e5ef3'  
    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 .
```

 MobileTerminated ForwardSM

Do again  
Undo

Apply a display filter... <56/>

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	0	2000	GSM S...	236	invoke forwardSM

Frame 1: 236 bytes on wire (1888 bits), 236 bytes captured (1888 bits)  
Linux cooked capture  
Internet Protocol Version 4, Src: 208.208.208.208, Dst: 208.208.208.208  
Stream Control Transmission Protocol, Src Port: 2985 (2985), Dst Port: 2985 (2985)  
MTP 3 User Adaptation Layer  
Signalling Connection Control Part  
Transaction Capabilities Application Part  
GSM Mobile Application  
GSM SMS TPDU (GSM 03.40) SMS-DELIVER  
0... .. = TP-RP: TP Reply Path parameter is not set in this SMS SUBMIT/DELIVER  
..0.. .. = TP-UDHI: The TP UD field contains only the short message  
..1. .... = TP-SRI: A status report shall be returned to the SME  
.... 0... = TP-LP: The message has not been forwarded and is not a spawned message  
.... .1.. = TP-MMS: No more messages are waiting for the MS in this SC  
.... ..00 = TP-MTI: SMS-DELIVER (0)  
TP-Originating-Address - (401884315624)  
TP-PID: 0  
TP-QCS: 0  
TP-Service-Centre-Time-Stamp  
TP-User-Data-Length: (16) depends on Data-Coding-Scheme  
TP-User-Data  
SMS text: Hello from Pharo

0000 62 64 40 04 01 00 00 09 6b 1e 20 1c 06 07 00 11 bin.... k.(....  
0008 85 85 01 01 01 a8 11 60 0f 80 02 07 80 a1 00 06 .....  
000e 07 04 00 00 01 00 10 02 6c 41 a1 3f 02 01 01 02 ..... 1A.?....  
0014 01 2e 30 37 80 08 02 02 43 08 10 91 50 19 84 08 ..07..b. Ch..P...  
001c 91 94 51 97 10 00 00 00 04 21 24 0c 91 94 81 48 ..0..... !S.....H  
0024 13 65 42 00 00 51 10 71 21 95 53 48 10 c0 32 9b -e0..0.q |.50..2.  
002c fd 06 99 e5 ef 36 00 0a 0e 0b df 00 .....6.....



# Programming environment for Programmable Logic Controllers

Software PLC  
CIAA  
IDE4PLC  
powered by Pharos

Board

POU

Board

EDU-CIAA-NXP

Picture

Program Organization Units (POU) editor

MAIN\_PROG

VAR

Network 1

TEC1

TEC2

TEC3

TON TIME

IN

PT

Q

ET

var0

LED2

MUL INT

EN

IN1

IN2

ENO

OUT

var1

EQ INT

EN

IN1

IN2

ENO

OUT

LED2

POU Variable Declarations Editor

MAIN\_PROG

Interface Variables

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

Internal and External Variables

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





# 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	<div></div>
Patient 2	Verbrennungen 3. Grad	Verbrennungen 3. Grad	SK I	0MTH	<div></div>
Patient 3	Verbrennungen 3. Grad	Verbrennungen 3. Grad	SK I	VYW6	<div></div>
Patient 4	Offener Oberschenkel#	Offener Oberschenkel#	SK I	Z19K	<div></div>
Patient 5	KoplaWu + SHT 1°	KoplaWu + SHT 1°	SK II	G7DE	<div></div>
Patient 6	Verbrennungen 2°	Verbrennungen 2°	SK II	WM4G	<div></div>
Patient 7	Schürfwunde	Schürfwunde	SK III	1S5T	<div></div>
Patient 11	Betroffener	Betroffener	SK III	W5UR	<div></div>

To simulate disaster response

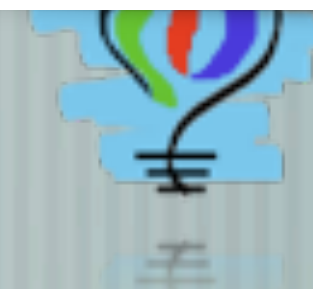


# iBizLog - <http://www.ibizlog.com>



Full system developed  
in 5 months one dev  
(discontinued)

A product by Smallworks





My apps

Shop

Games

Editors' Choice

My wishlist

Redeem

## Apps

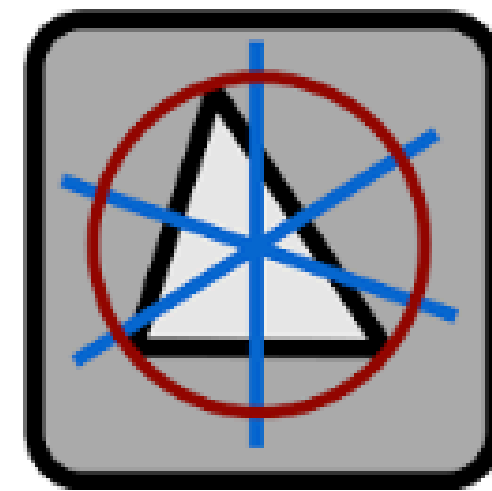


Dr. Geo free

Hilaire Fernandes & Dimi

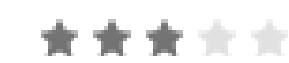


FREE

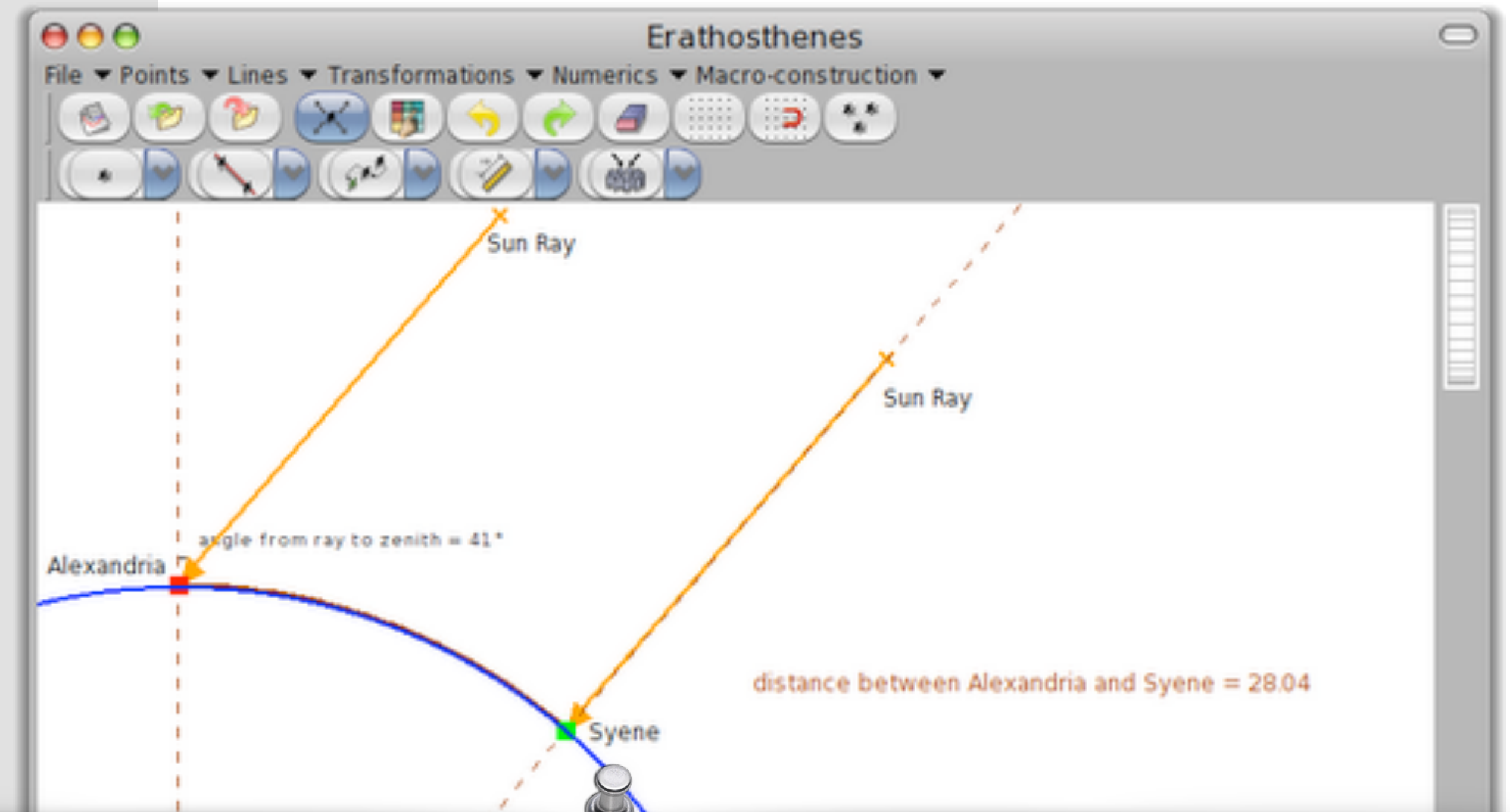


Dr. Geo

Hilaire Fernandes & Dimi



AR\$28.70



Works on linux, mac, windows,  
android, OLPC





Moose technology: Home

www.moosetechnology.org

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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.

[Download 4.7](#)

**m o o s e**

enables

**Humane assessment**

*the missing software*

[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  
... from Pharo 1.4  
... is finally  
... 4045 tests  
... the continuous

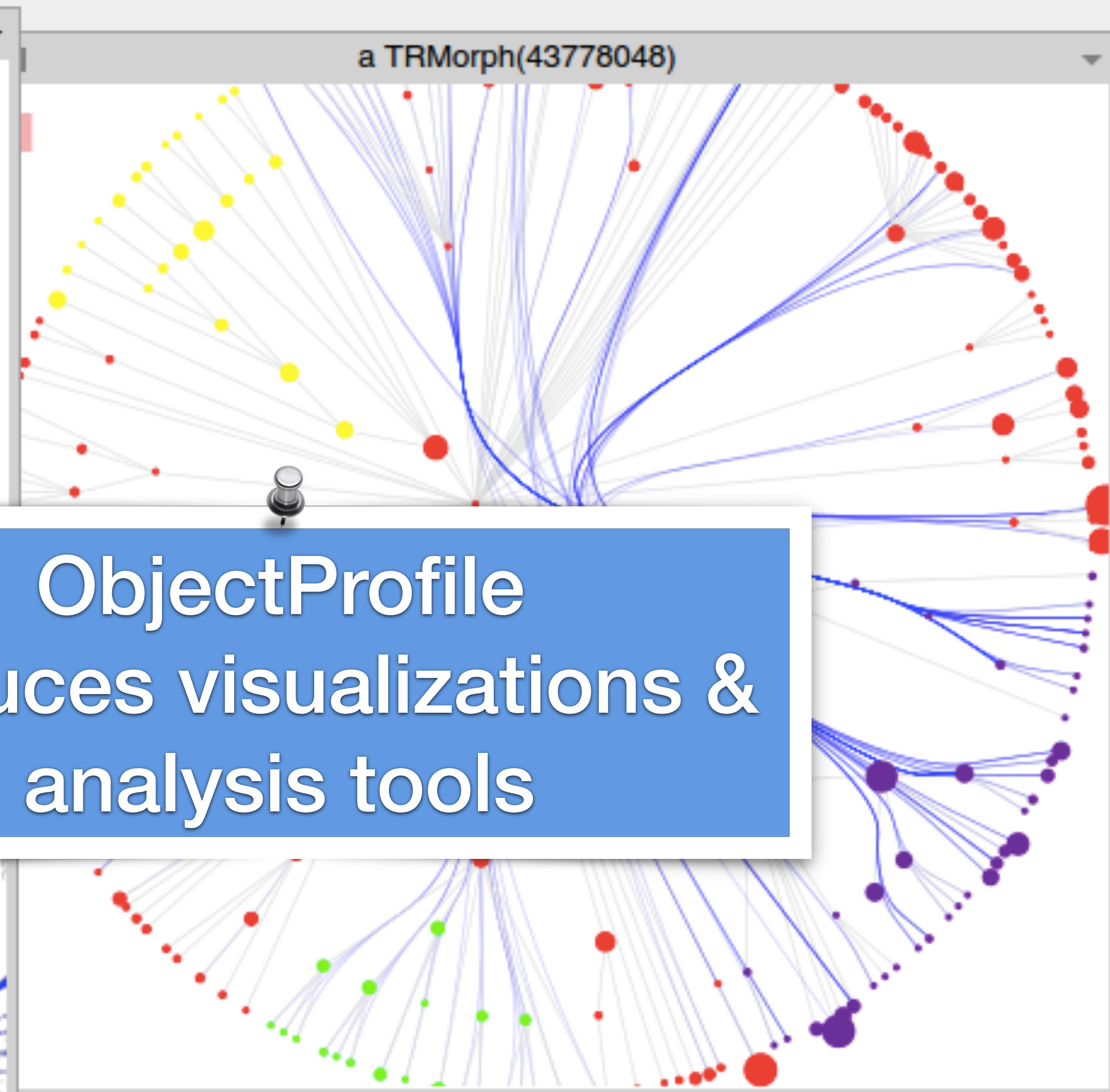
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**Sophisticated analysis platform  
more than 200 men/years**



The screenshot shows a software window titled "a TRMorph(1058537472)". Inside the window, there is a network graph visualization. The graph consists of numerous nodes, each represented by a colored circle. The nodes are colored in four distinct groups: red, yellow, green, and purple. These nodes are interconnected by a dense web of thin grey lines, which represent the edges or relationships between the nodes. The layout of the graph is somewhat circular and dense, with many nodes clustered together. In the top-left corner of the window, there is a button labeled "Zoom". In the bottom-right corner, there is a blue rectangular area with the word "produ" in white text, which is partially cut off.



ObjectProfile  
uces visualizations &  
analysis tools





## The world's first online platform fully supporting risk-based test management.

- Your IT is critical to your company.
- Would you dare not to control your risks and neglect the possible impact for your company and customers?
- Start controlling your risks in a standardized and easy way !!!

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### 1 BETTER

**NORIZZK.COM** guides you in composing the most effective and efficient end-to-end test strategy, starting from identified product risks. It helps you focus on the critical aspects of your projects and products.

**NORIZZK.COM** is the only platform for risk based test management showing you a comprehensive and visual overview on the risk status of your project.

[▶ YOUR ADDED VALUE](#)

### 2 FASTER

**NORIZZK.COM** is the fastest way to compose your master and detailed test plan. It comes with a predefined knowledge base containing best practices for building your test plan, thus giving you a head start.

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As from now, wasting time and money by re-inventing the wheel is history. **NORIZZK.COM** gives you significant savings in creating your test plans.

It provides an intelligent and complete approach for all test managers. **NORIZZK.COM** contains sustainable testing intelligence maintained.

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# Digitalizing business

## COMPONENTS



### Risk Assessment

Identify, categorize, prioritize and mitigate your risks with one single tool.



### Test strategy

Write your master and detailed test plan in a faster way.



### Test Estimations

Estimate all the required testing effort on one single page.



### Test Results

Capture all the test results to monitor the progress.



### Reporting

Monitor the progress using the Risk



### Export

Export your test plan to a docx file.

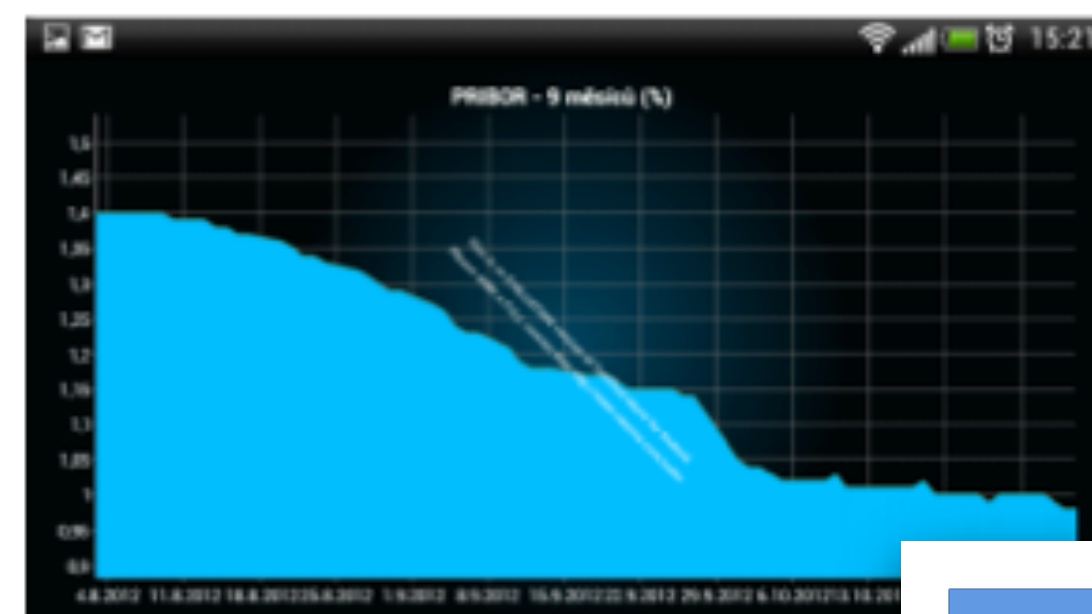
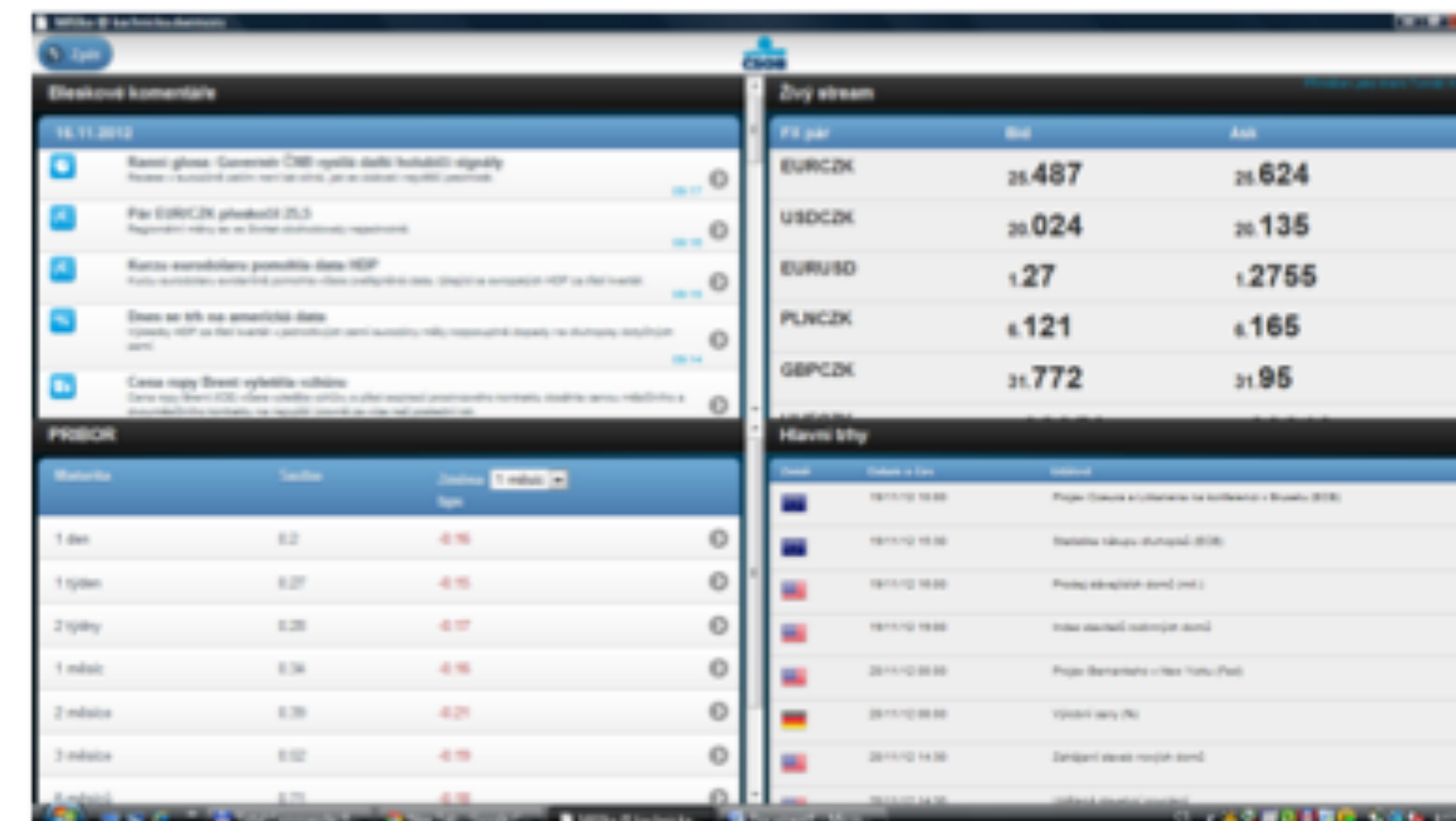
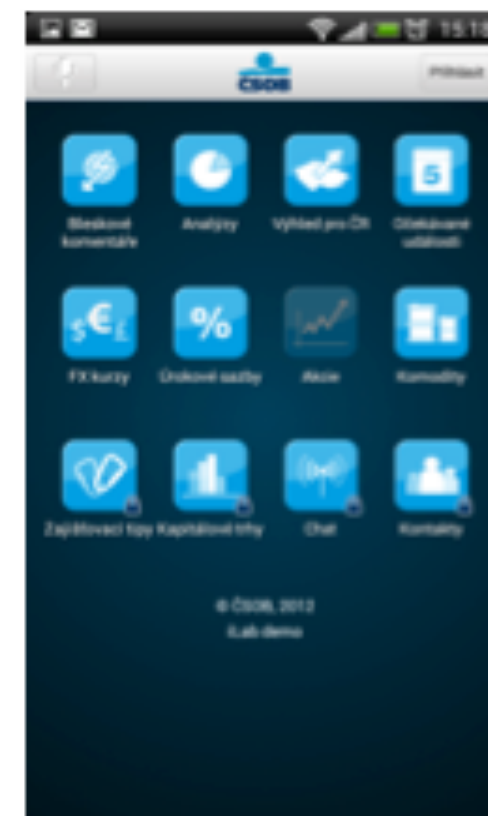


### Business Intelligence

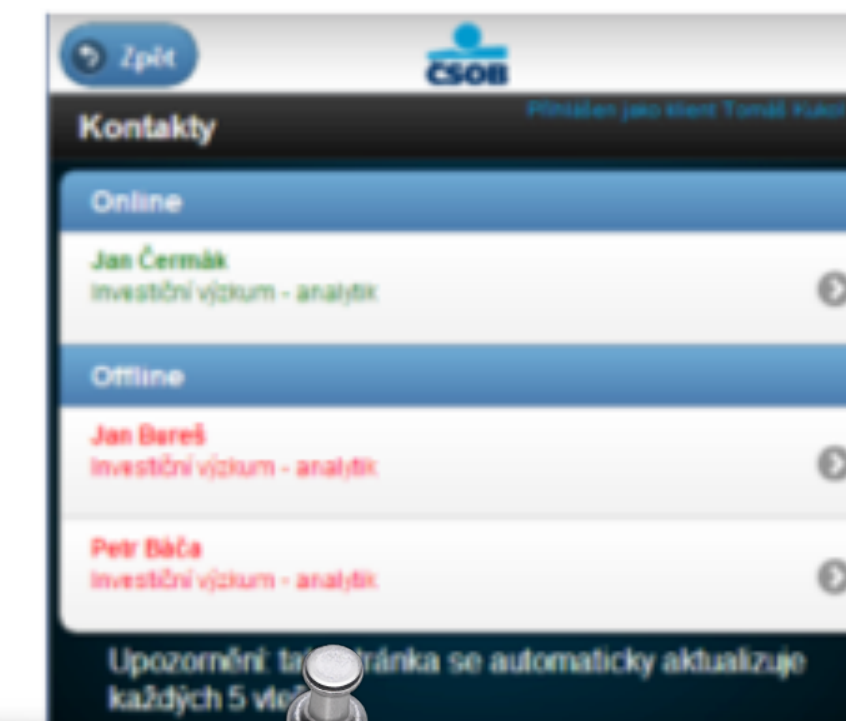
Discover intelligence in your testing

[▶ LEARN MORE](#)





Měnový pár	Nákup	Prodej	Čistá změna
EURAUD	1.26	1.26	0
EURCAD	1.26	1.26	0
EURCHF	1.26	1.26	0
EURCZK	25.487	25.624	0
EURDKK	1.44	1.45	0
EURGBP	31.77	31.95	0
EURHUF	1.26	1.26	0
EURJPY	100.00	100.00	0
EURKOR	1.26	1.26	0
EURPLN	6.121	6.165	0
EURRON	1.26	1.26	0
EURRUB	1.26	1.26	0
EURSEK	1.26	1.26	0



FX pár	Bid	Ask
EUR/CZK	25.407	25.539
USD/CZK	19.746	19.856
EUR/USD	1.2836	1.2893
PLN/CZK	6.168	6.212
GBP/CZK	31.494	31.67
HUF/CZK	6.09075	6.09141
CHF/CZK	21.082	21.206
AUD/CZK	20.471	20.593
AUD/USD	1.0323	1.0415
CAD/CZK	19.816	19.926
DKK/CZK	3.407	3.424
EURAUD	1.2325	1.249



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





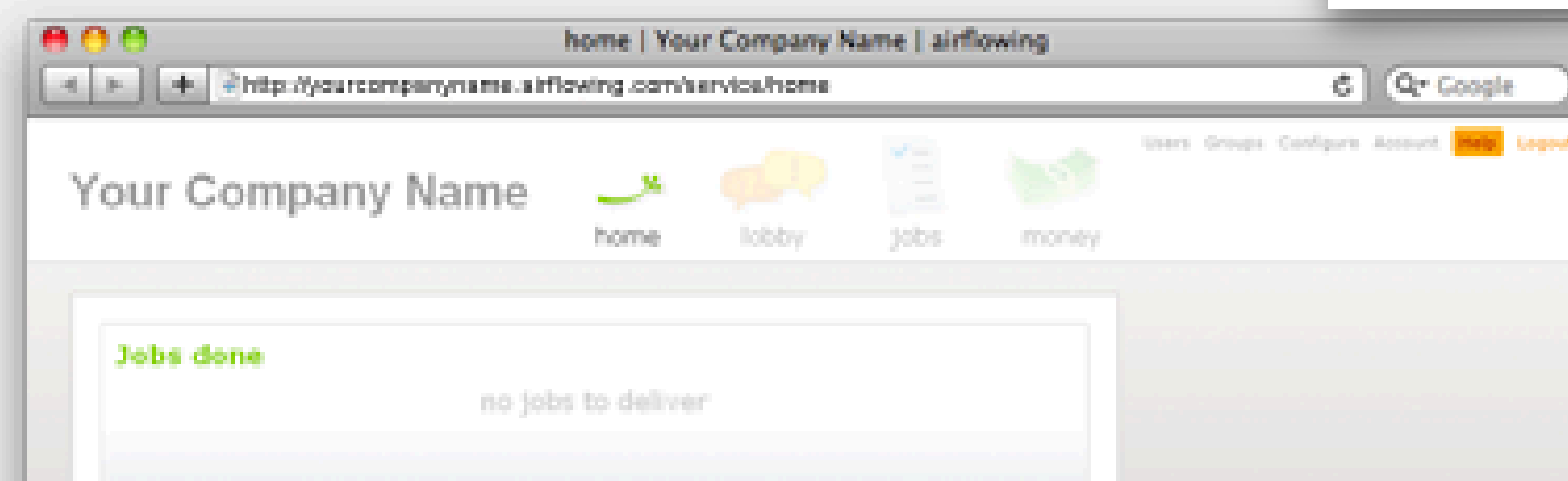
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Deployed business model  
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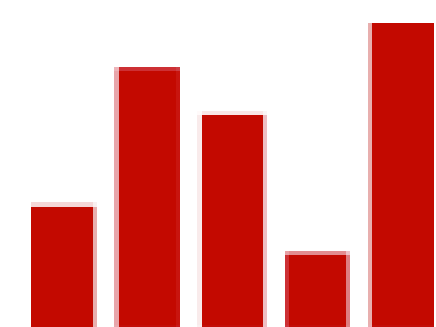
Offline - Leave a message



Can develop a complex  
analysis in 3 months

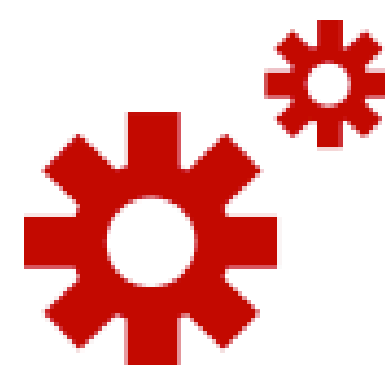


Dedicated and cost-effective  
tools for software evolution



**Dedicated  
Analyses**

Synectique offers business  
intelligence tools for your



**Dedicated tools**

Synectique offers tools  
*fine-tuned to your software*



**Decision making**

Synectique tools provide  
*answers that lead to*



# Manage travel costs

## Spesenfuchs

Spesenfuchs ist eine Reisekostensoftware für jedermann. Einfach, schnell und kostenlos. Alle Pauschalen und gesetzlichen Regelungen sind hinterlegt. Es ist keine Registrierung notwendig!

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## Wind Energy

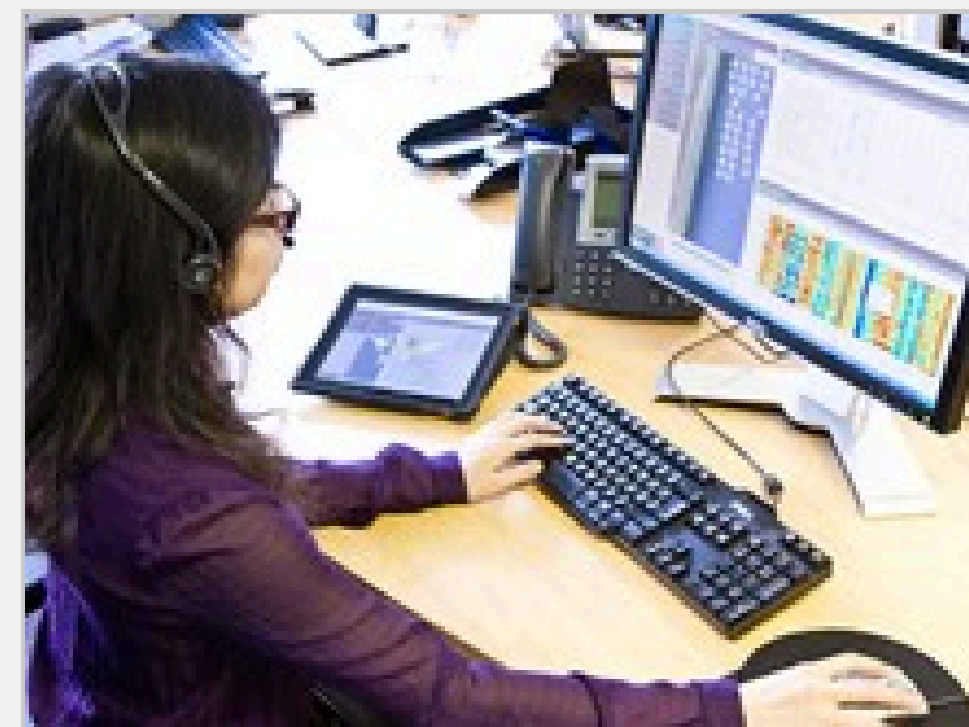
Pioneering new ways of maximising sustainable wind energy yields. Our products and services optimise asset availability, wind turbine performance and drivetrain reliability. We work with owners, operators, manufacturers, insurers and service providers worldwide.

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## Wind Energy

Pioneering new ways of maximising sustainable wind energy yields



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+1



SHARE

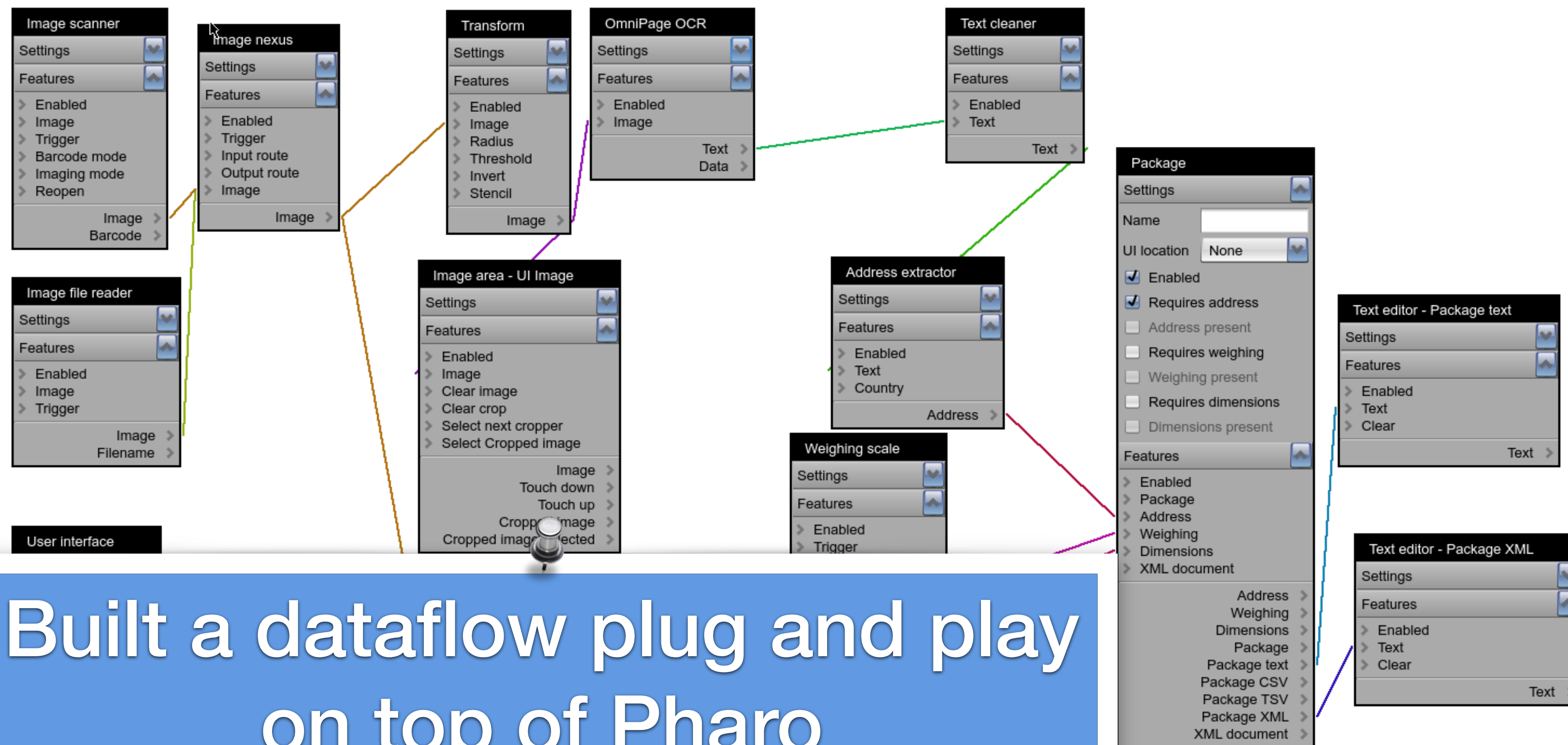
**Wind industry solutions**

Download the 42 page Romax





Handle return mails  
in Switzerland



Built a dataflow plug and play  
on top of Pharo



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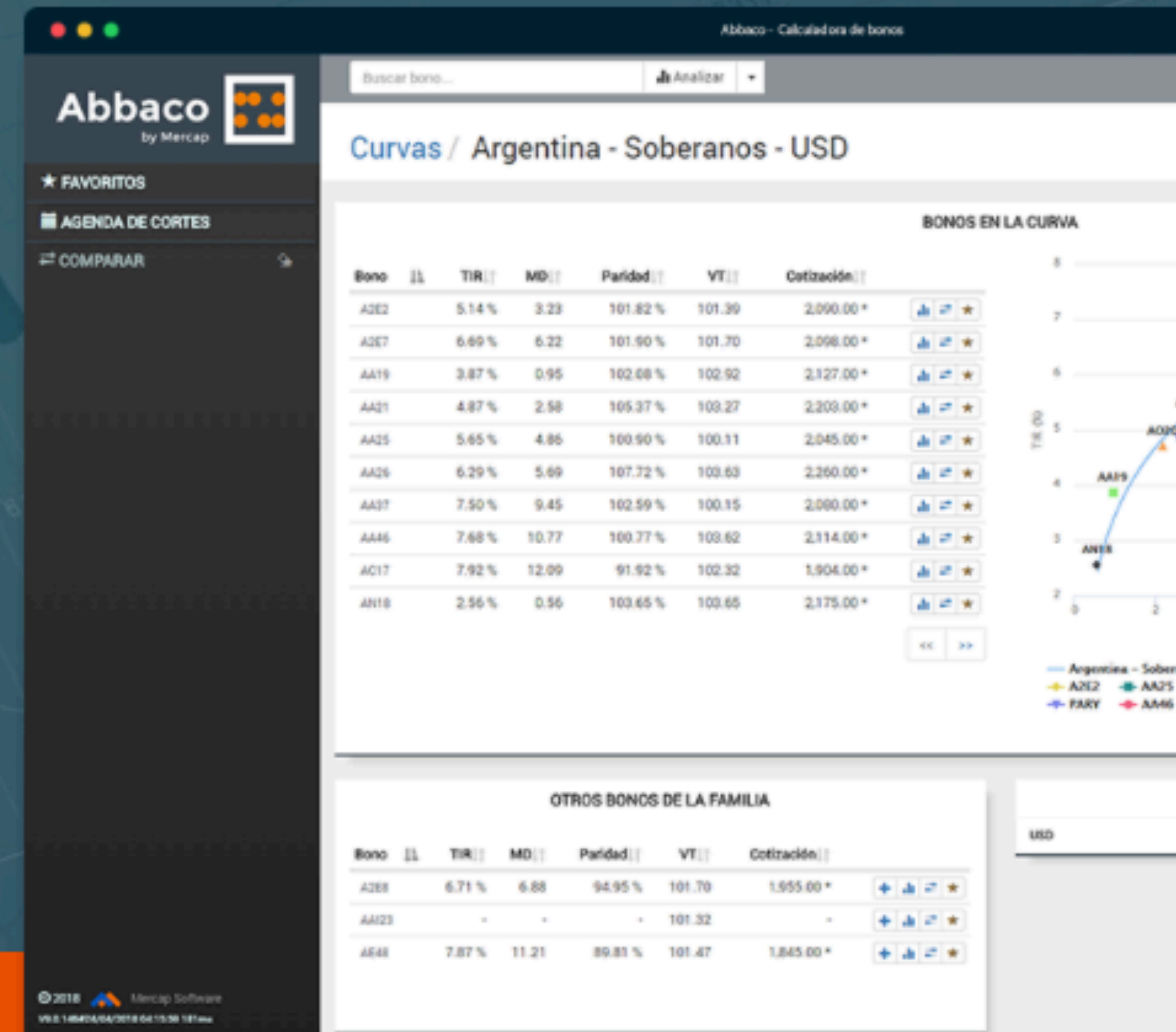
4G LTE coverage



# Bond calculator for experts investors

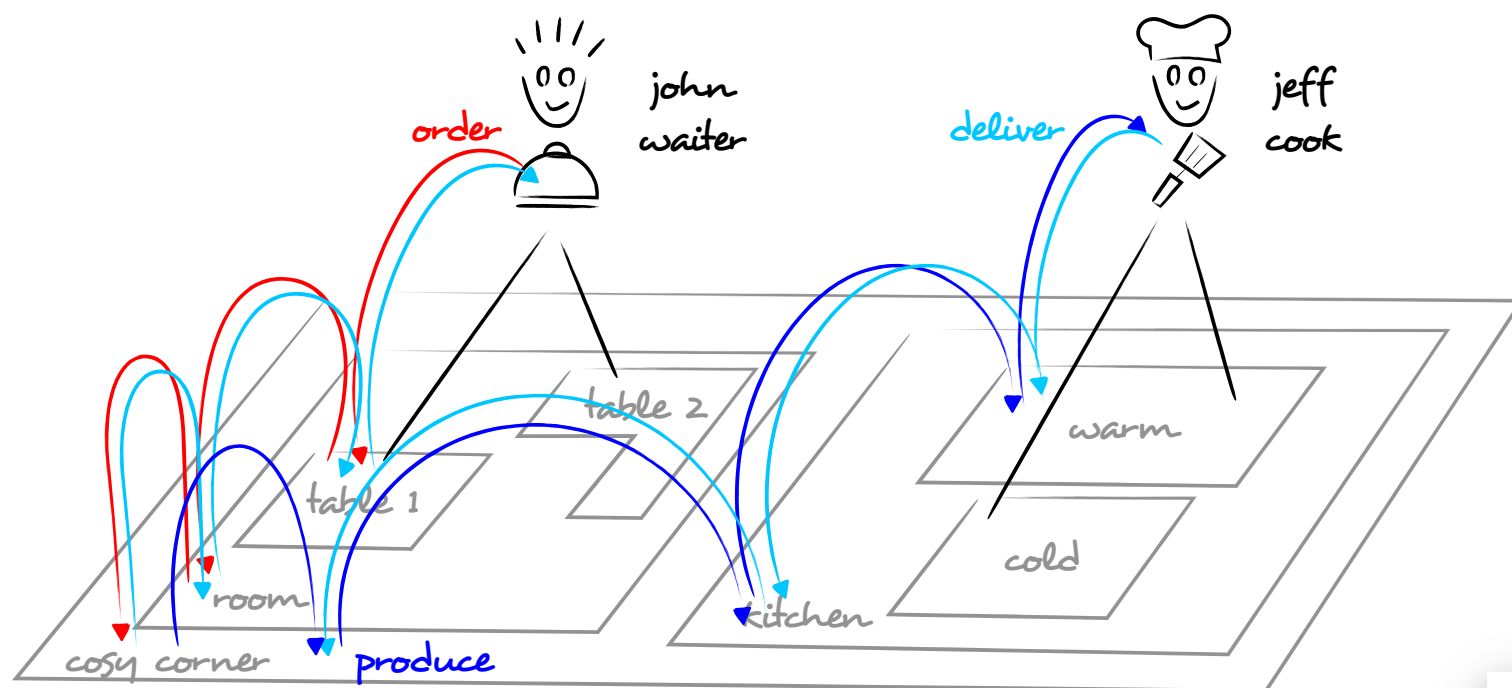
Your own research tool for  
making intelligent decisions.

from Argentina





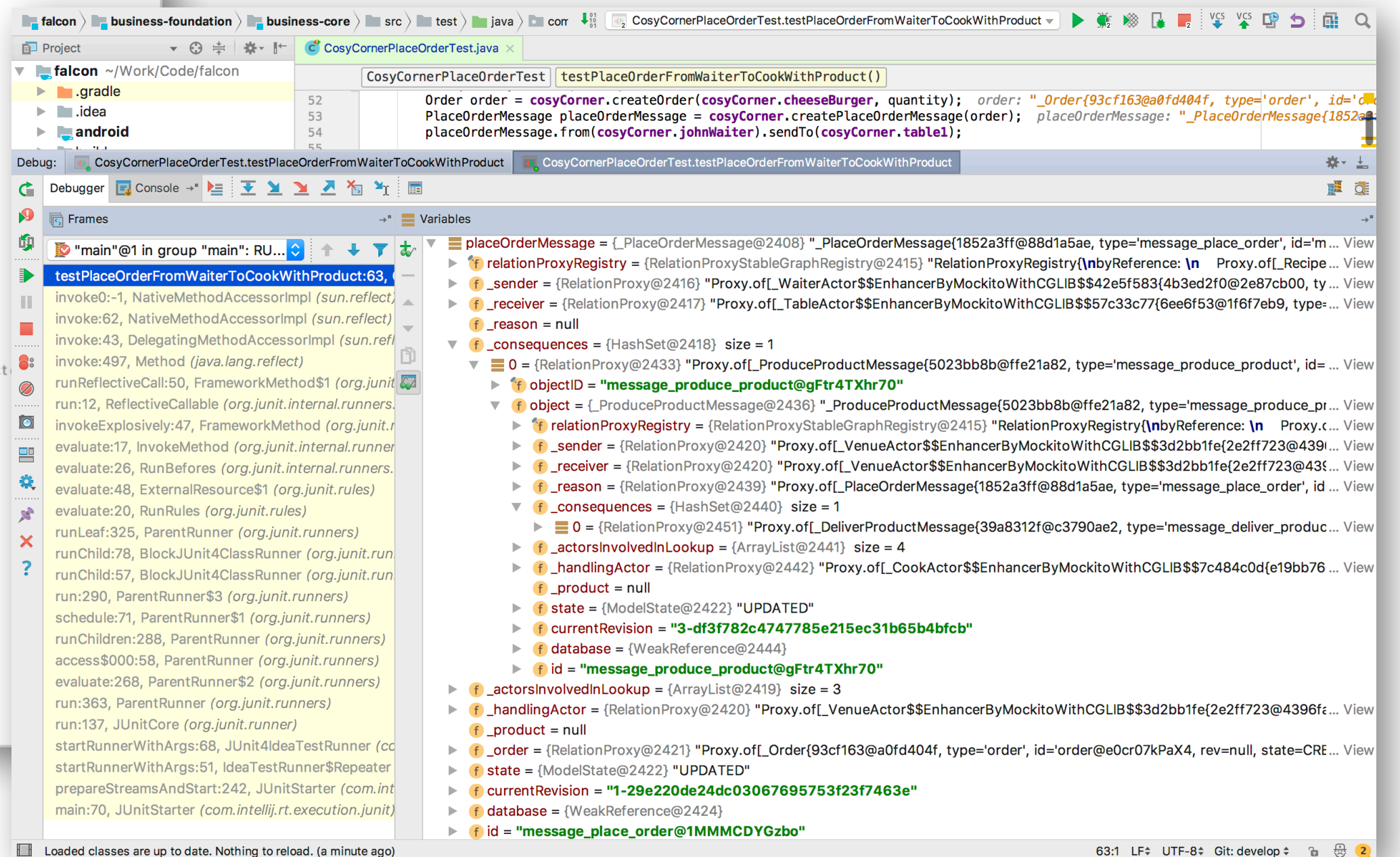
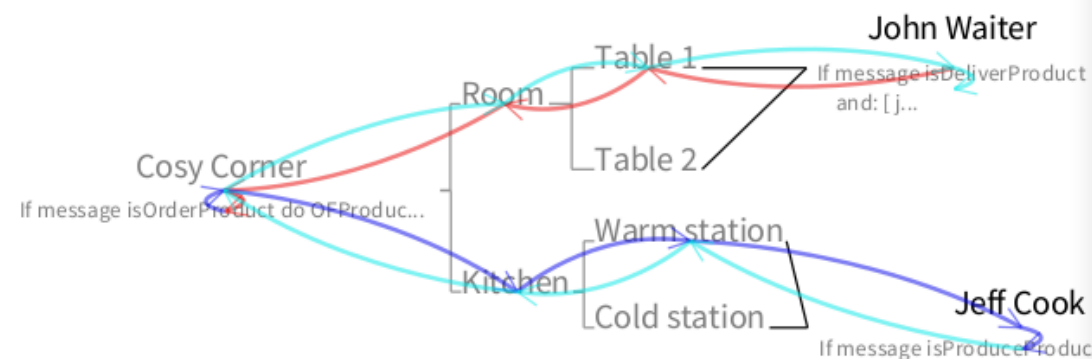
# feenk



## Help growing startups Get back control on software

```
ofdemo2
Playground
an OFOrderProductMessage (Order Steak) x
Propagation Raw Lookup Consequence C... Consequences I

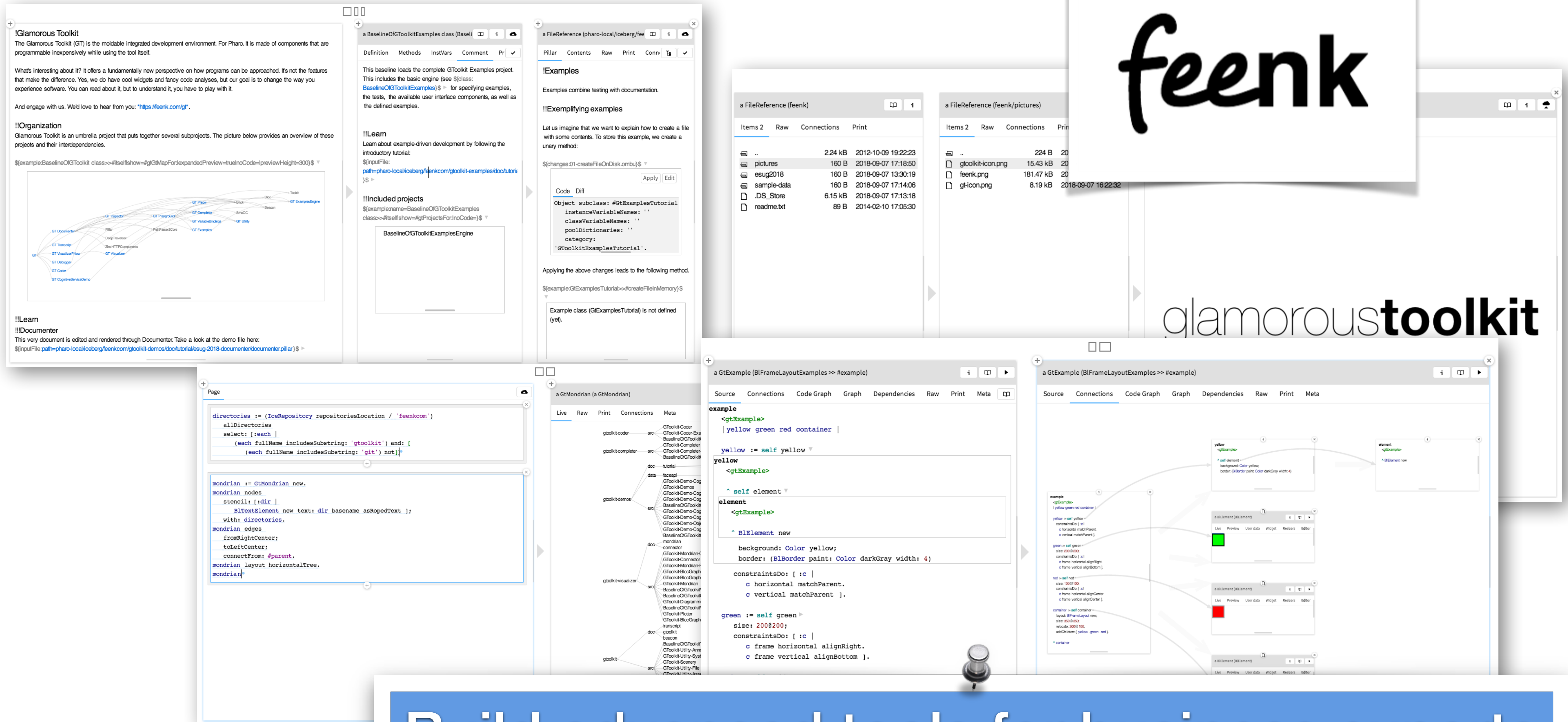
"CONTRIBUTORS"
jeffCook := OFCookActor new name: 'Jeff Cook'.
johnWaiter := OFWaiterActor new name: 'John Waiter'.
"AREAS"
cosyCorner := OFVenueActor new name: 'Cosy Corner'.
kitchen := OFRoomActor new name: 'Kitchen'; parentArea: cosyCorner.
warmStation := OFKitchenActor new name: 'Warm station'; parentArea: 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: {OFWarm}.
sandwich := OFProduct new name: 'Sandwich'; characteristics: {OFCold}.
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!' ] ].
cosyCorner.
"ORDERS"
orderSteak := OFOrderProductMessage new product: steak; sendBy: johnWaiter to: table1.
orderSandwich := OFOrderProductMessage new product: sandwich; sendBy: johnWaiter to: table1.
cosyCorner
```





feenk.co  
m/gt

Build advanced tools for business experts  
and CEOs of large companies





# Thales prototyping VR



Playground

```
tmp := OVRWDemoAircraftCarrier open.  
tmp
```

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
  - WDAApplication
  - WDFPSEExample
  - OVRWEmptyExample
  - 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:
- addPlayableAreaToScene
- addRadar

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

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

Controls:

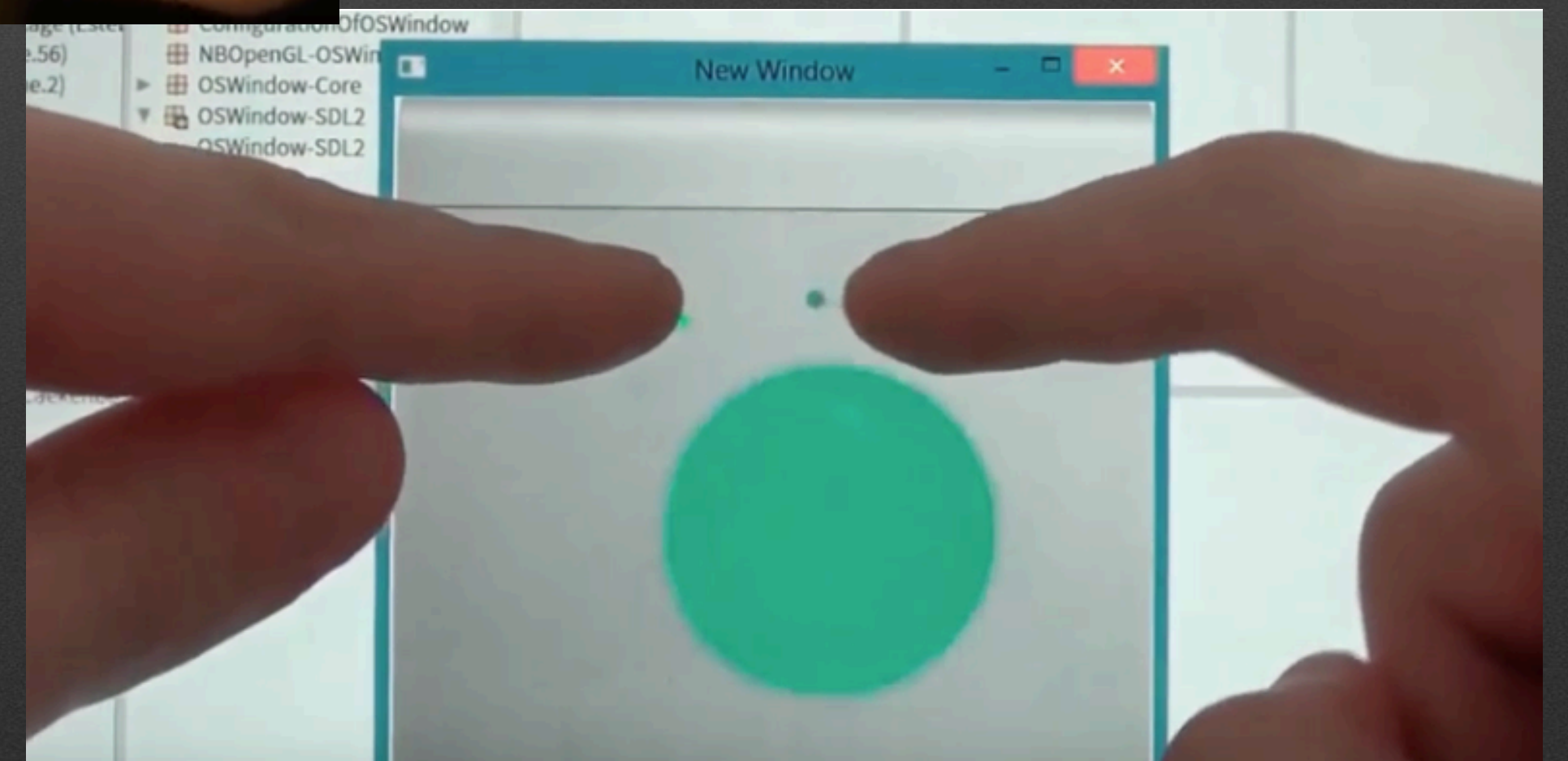
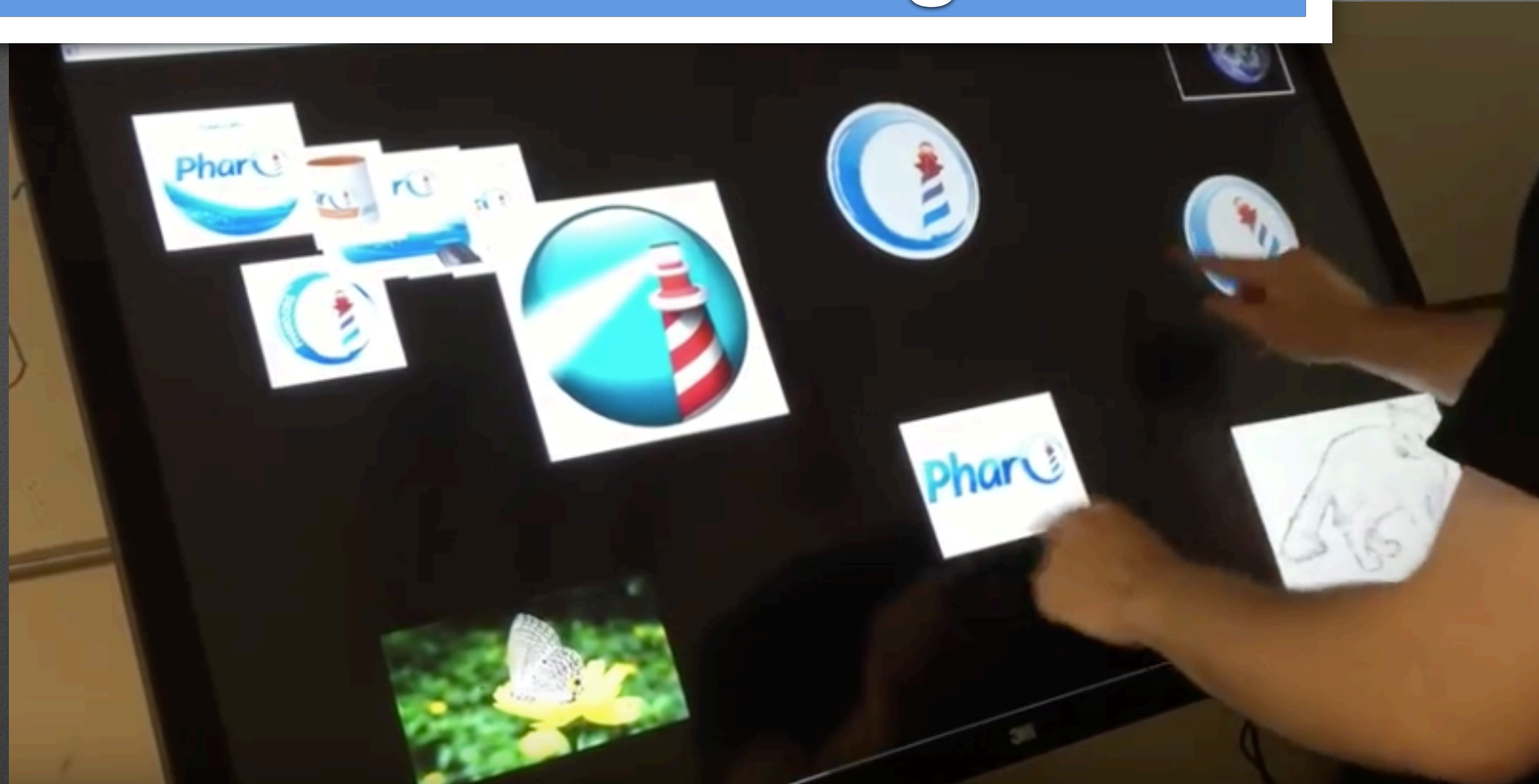
- Big front button for teleportation
- Menu button to change the color of the sea

1/3 [1] W +L

Helpful? ☐ ☒ ☐  
Helpful? ☐ ☒ ☐  
Helpful? ☐ ☒ ☐



# Thales prototypes advanced interaction design





# Mobility Map: a broker for mobility services

## multi-modal routing search

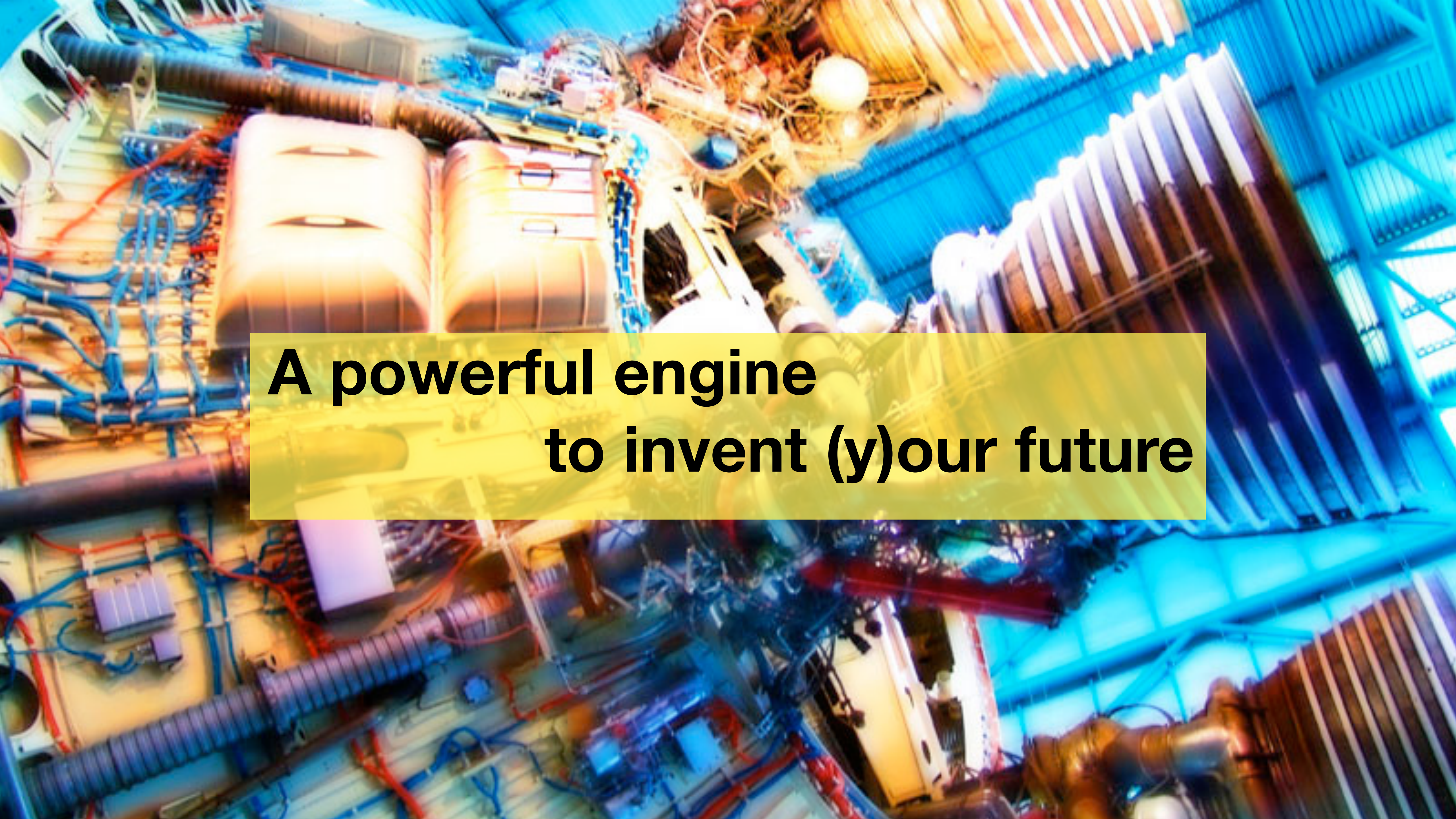
## docker running dozens of pharo






**Remember?**  
**Our goal...**





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





**An ecosystem where  
innovation/business bloom**



**You are not alone...**



**Industrial consortium**

**consortium.pharo.org**



**No marketing**

**No hype**

**Adults deciding to use**

**Understanding strengths and  
weaknesses**



We are a cool community





# 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. Cat del Sacro Cuore of Brescia • Uni. of Yaounde • Uni. of Saint-Louis • INFTI • Uni. of Lyon • Univ. Montpellier • Uni. of Cordoba



# 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)

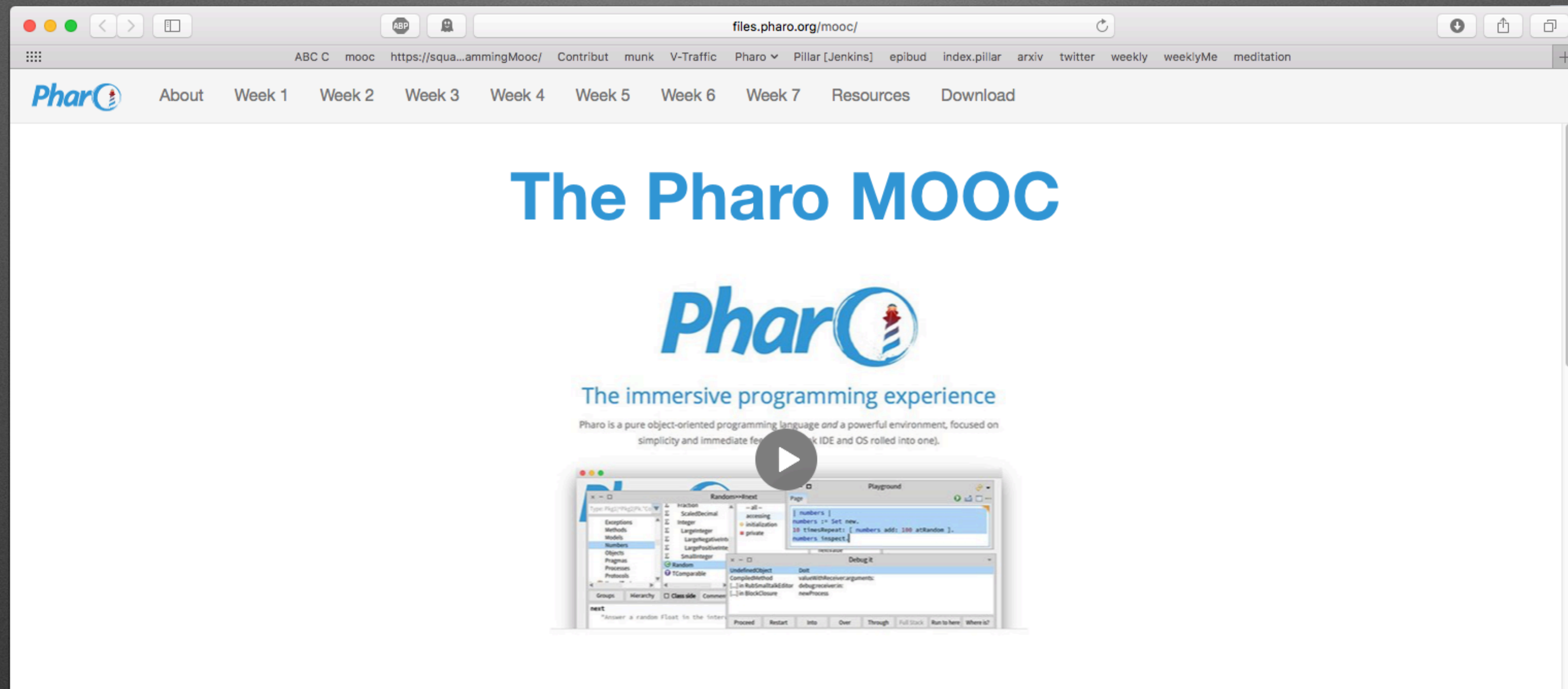
ASERG (BR)

Pleiad (CL)

SoftQual(Serb)



# <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

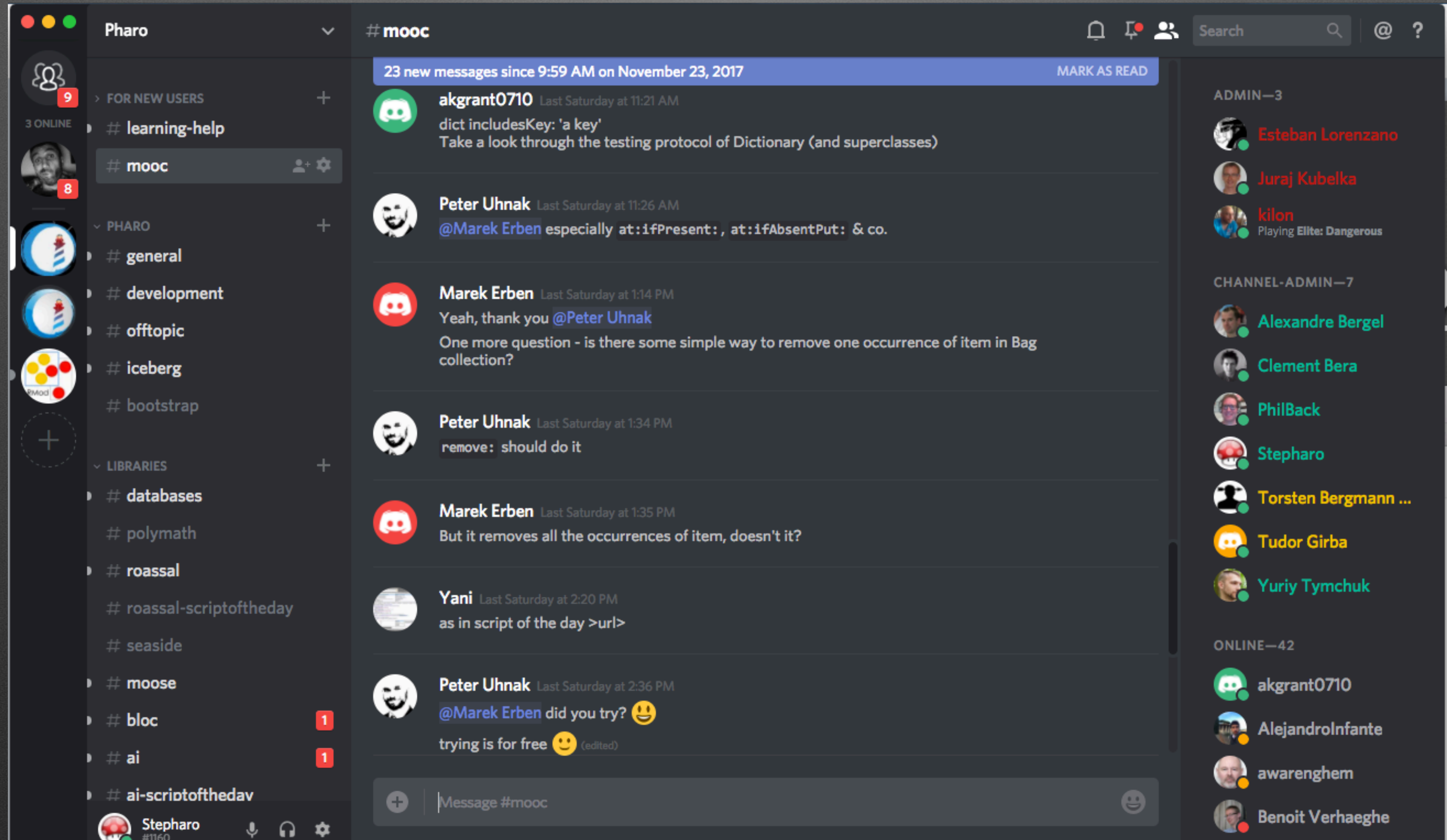
We strongly suggest to follow the MOOC during the next session on [France Université Numérique](#) that will start **October 16th, 2017** because you will have support from the teaching team.

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:



# http://discord.gg/Sj2rhxn





# 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, ...



**Domain Driven Modeling =  
Focus on your domain**

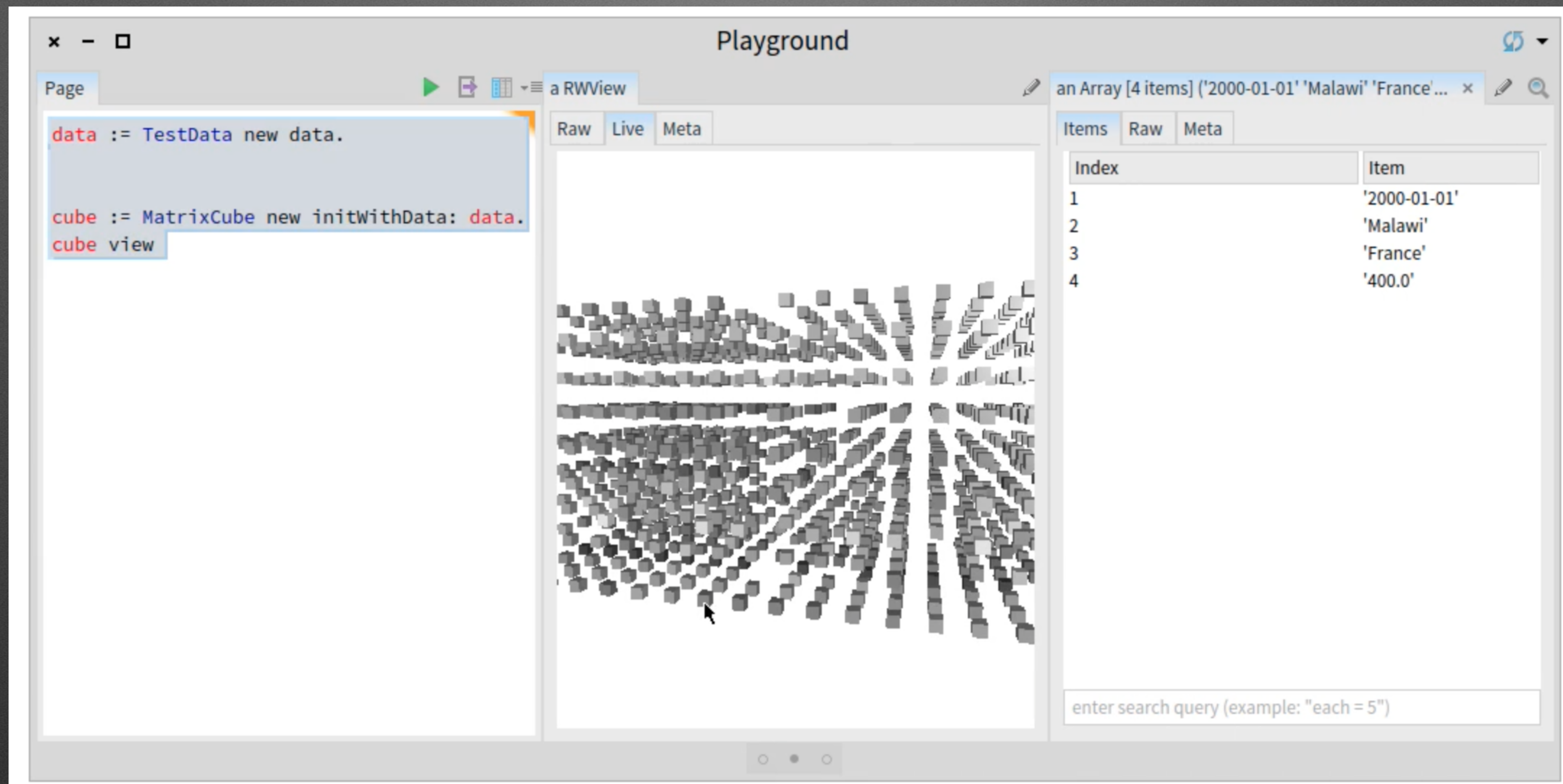


**Amazing moldable  
tools**



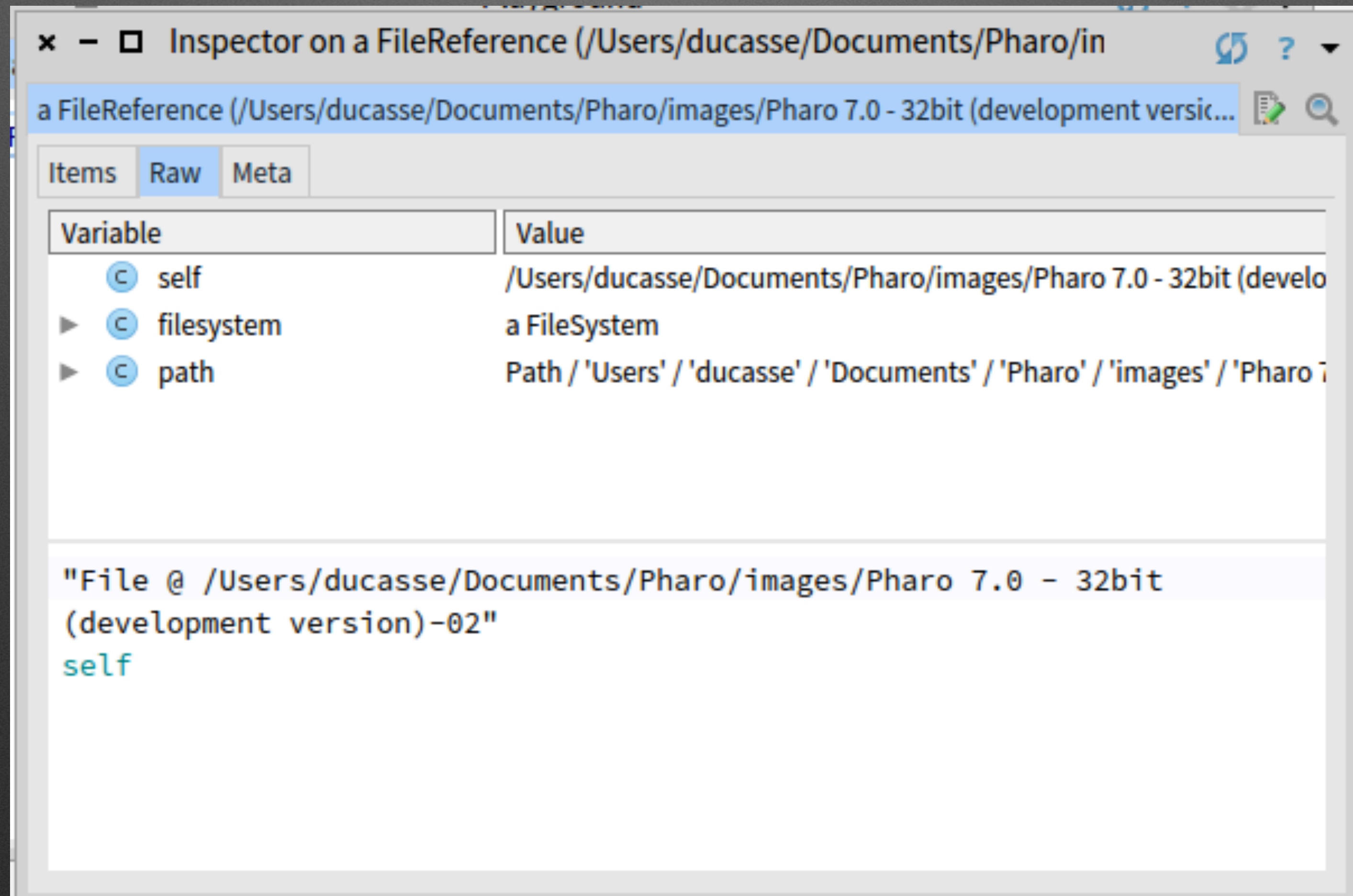
**Customize object  
interaction/presentation  
to focus on YOUR  
domain**







# Traditionally a file reference...





✕ - □

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

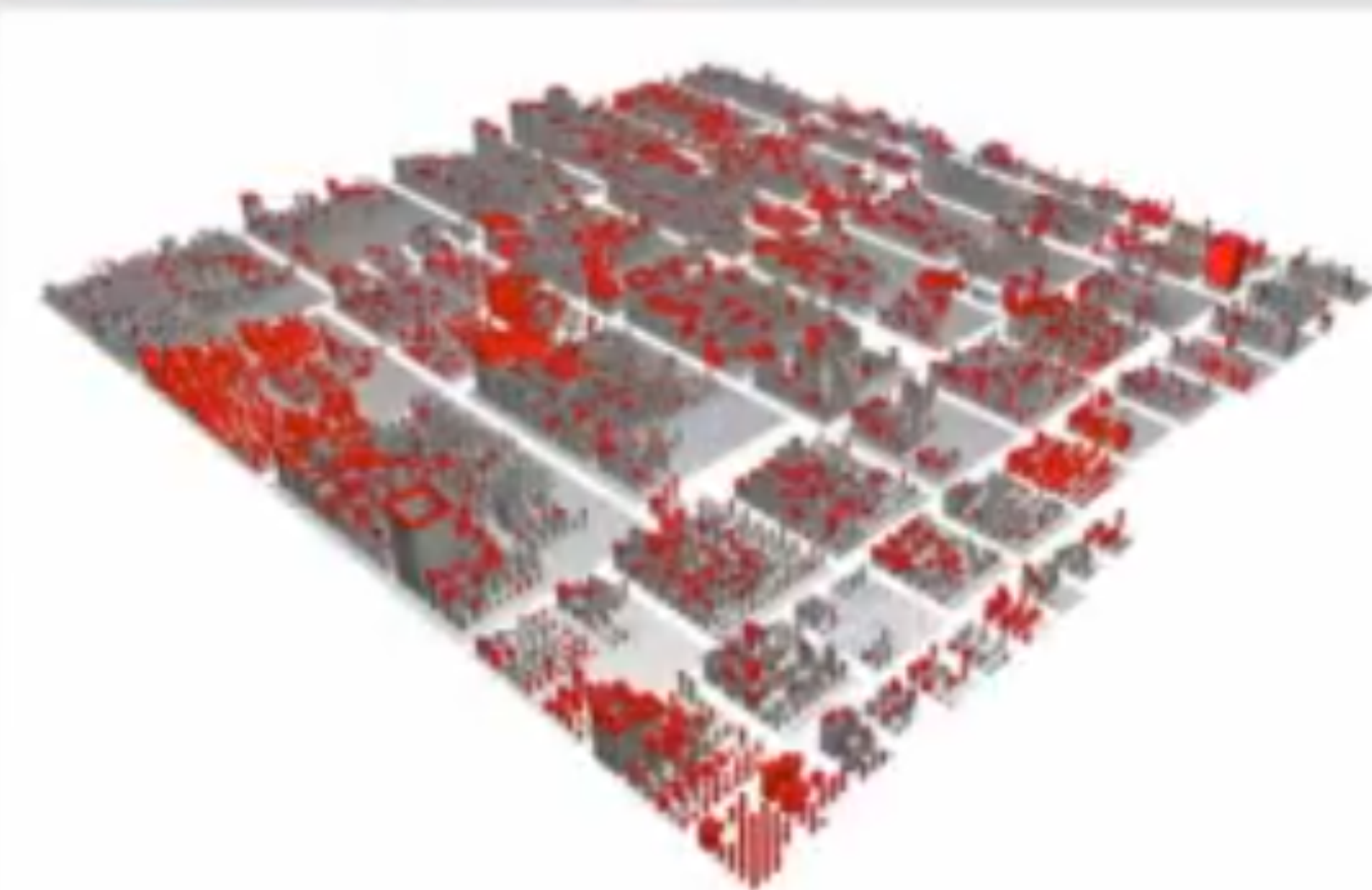
a FileReference (/Users/ducasse/Library/Application Support/Pharo/images/SpurForSh...

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

a FileReference (/Users/ducasse/Library/Application Support/Pha

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...]

... E... S... Ir 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...]

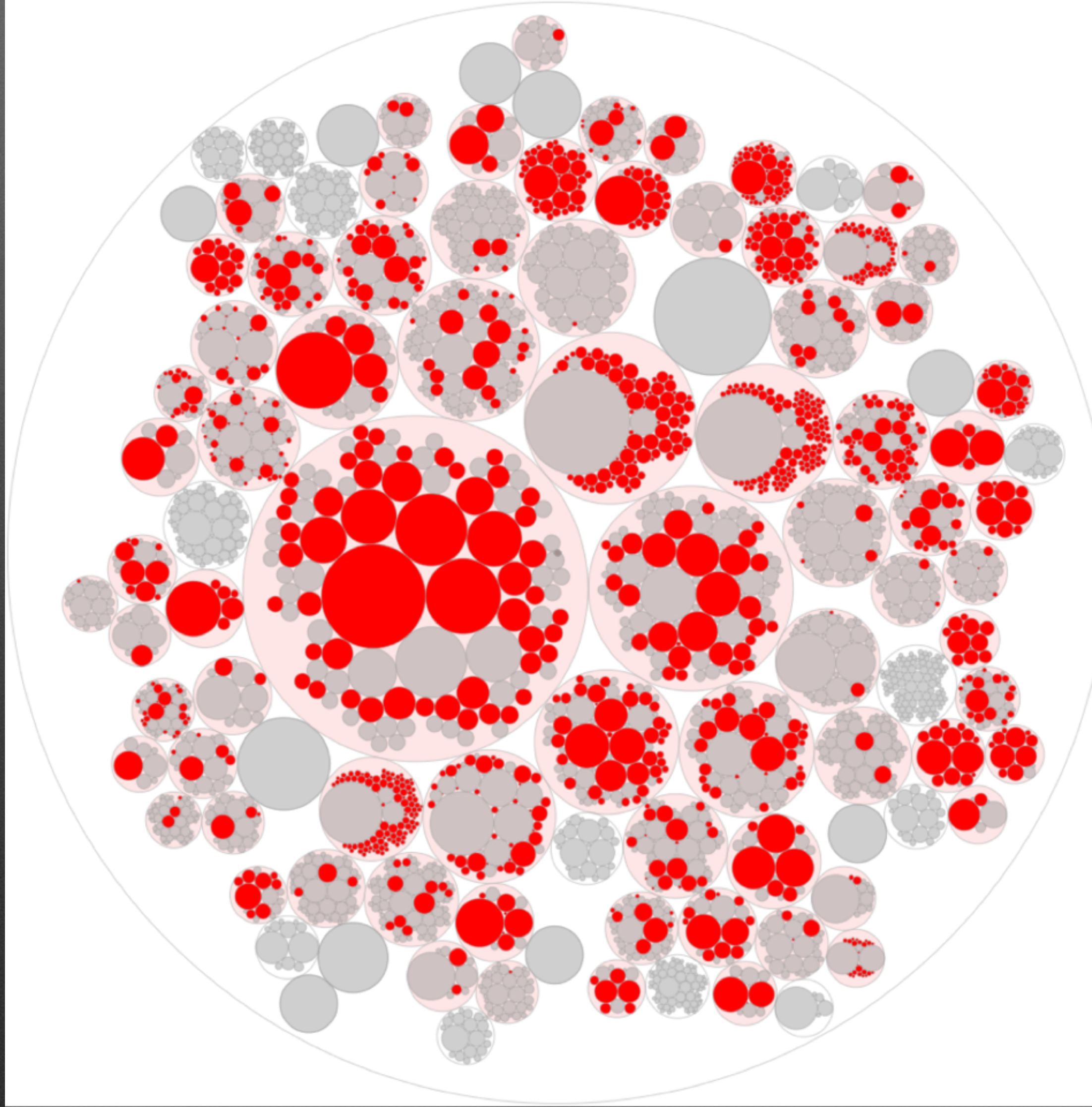
F... S... Tr... Scc... Meta

+ anHandle

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



**# of specific views developed  
by the community**





**Hot update on the spot  
customizable debugger**



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 PDFA4Format
parameter	aPDFGenerator	a PDFGenerator
parameter	compositeStyleSheet	a StyleSheet

dimension: 80 mm @ 20 mm;



debug it

Bytecode GT

Parser Stack

Through ActionInto ReduceNext Token

Possible Actions

GLR

Symbol	Value
Expression	a JSUnaryExpressionNode
"")	{(238498,238498,#(23))}
"{"	{{(238499,238499,#(25))}}
StatementList	an OrderedCollection(a JSExpressionStatementNode a JS
"("	{{(238678,238678,#(28))}}
"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 JSVari
MemberExpression	a JSNameExpressionNode
"."	{.(274447,274447,#(38))}

Symbol	Action
<identifier>	Shift
IdentifierName	Shift

1

Input

Step to Cursor

Scanner

Step Next Character

```
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){
```

Name	Value
State	default

Stack

ProceedRestartIntoOverThrough

Source

Where is?Browse

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	Dolt	
CompiledMethod	valueWithReceiver:arguments:	
RubSmalltalkEditor	debug:receiver:in:	[ aCompiledMetho
BlockClosure	newProcess	[ self value.Proces

```
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 ]
```



# Since may 2008

---

Pharo 7.0 - Nov 2018 ... 63 contributors - 111 Forks.

Pharo 6.0 - Apr 2017 100 committers (1700 issues closed)

Pharo 5.0 - Apr 2016 90 committers (1600 issues closed)

Pharo 4.0 - Apr 2015 70 committers (1271 issues closed...)

Pharo 3.0 - Apr 2013 (2364 issues closed)

Pharo 2.0 - Apr 2013 (1727 issues closed)

Pharo 1.4 - Apr 2012 (860 updates)

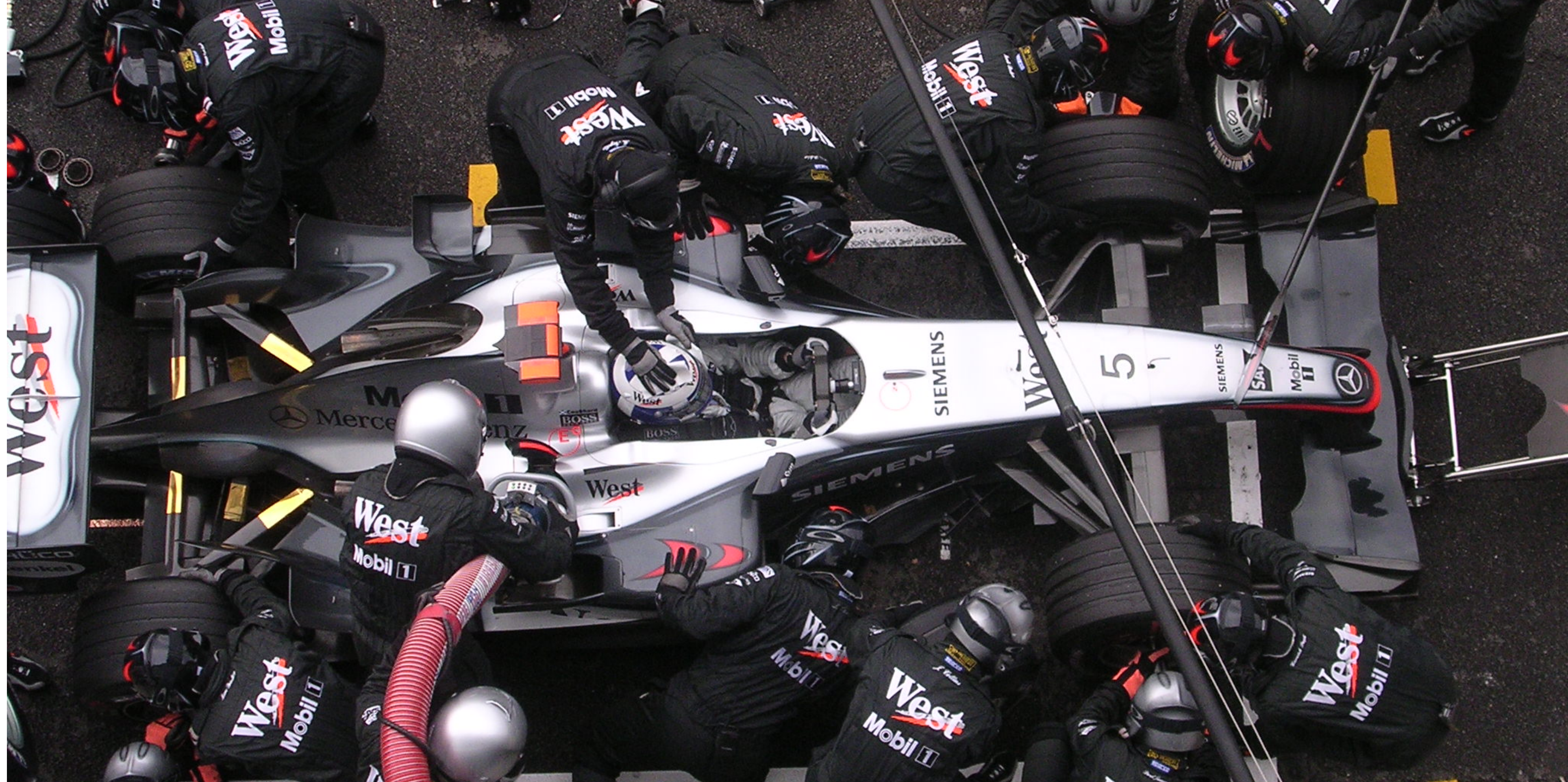
Pharo 1.3 (700 updates)

Pharo 1.2 - mar 2011 (500 updates)

Pharo 1.1 - jul 2010 (410 updates)



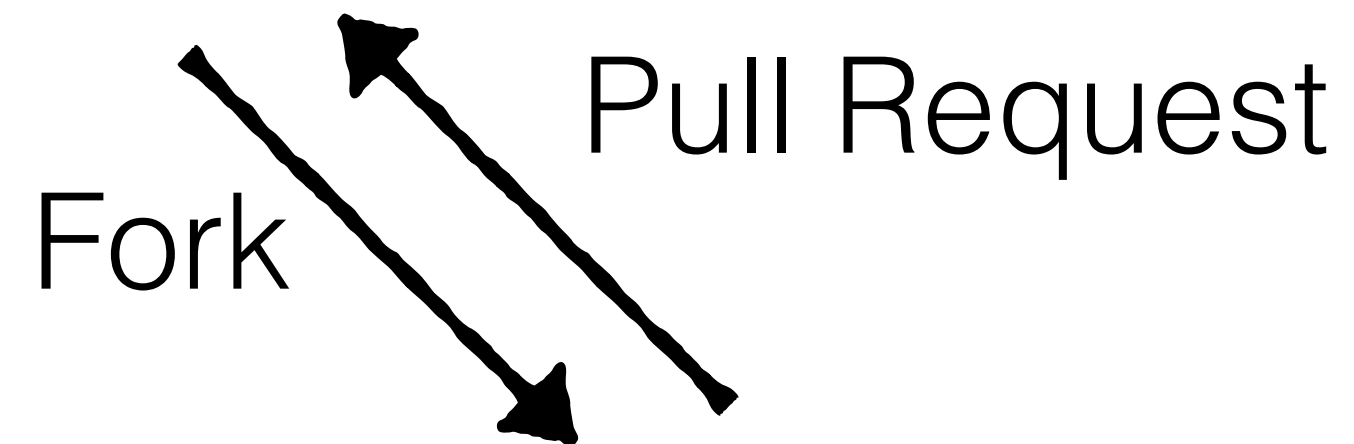




**Pharo is our vehicle  
We improve it everyday**



# Starting to get GitHub exposure



Push

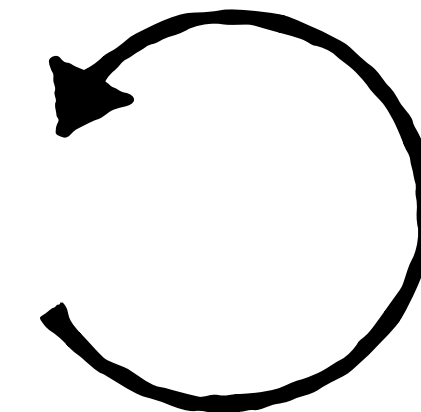
Clone



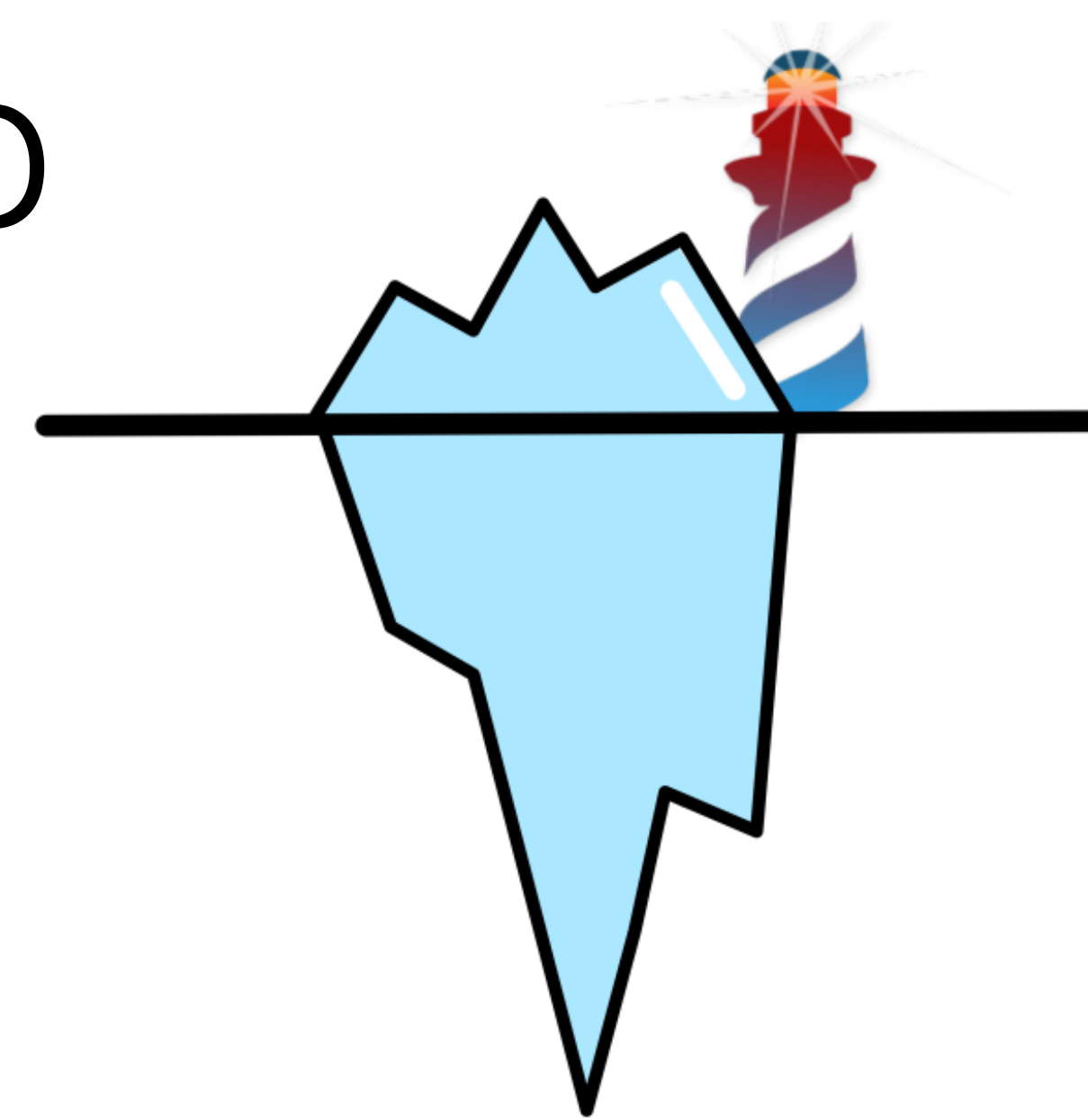
+



Commit



's Machine





Of course not  
everything  
is perfect :)  
But it feels like





Pharo

is **yours**



<http://books.pharo.org>

# Pharo Books

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

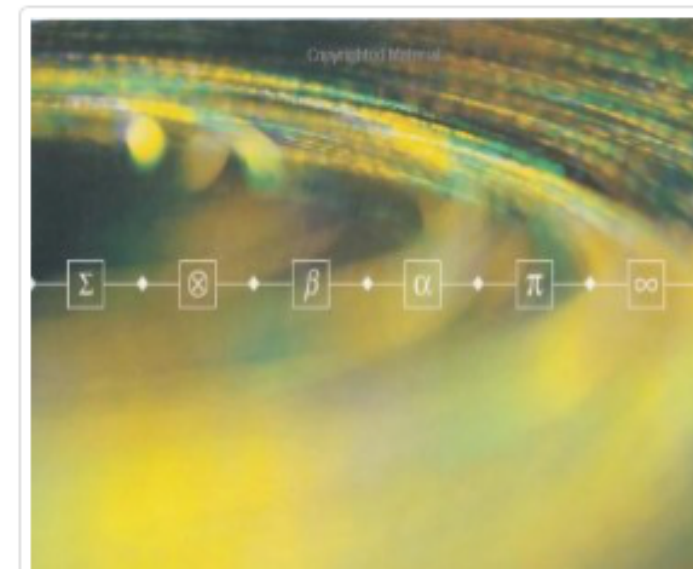
Contribute to the SquareBracketsAssociates community free books  
<https://github.com/SquareBracketAssociates/>

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 »](#)



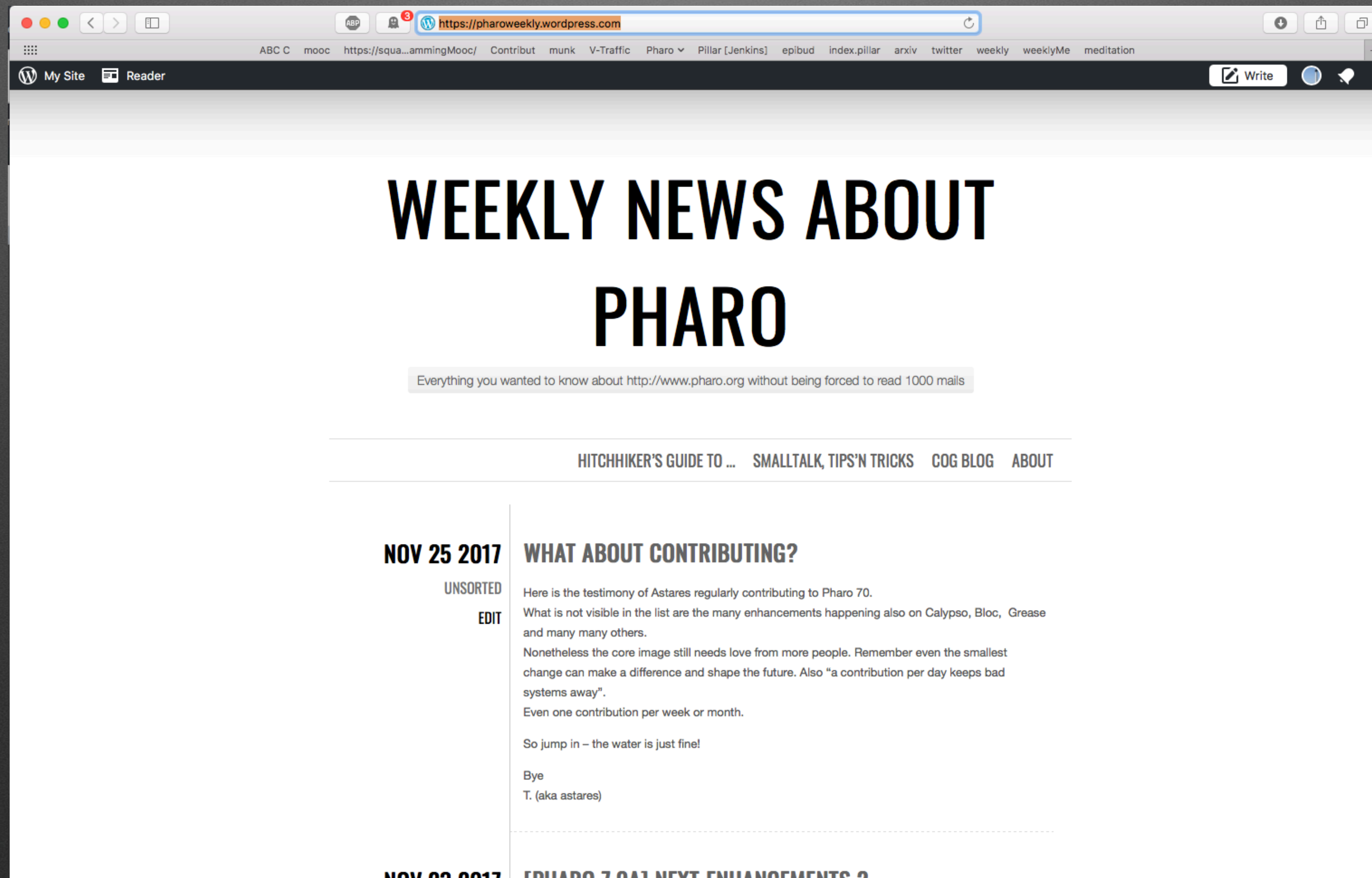
*Enterprise Pharo* is the third volume of the series. This book covers libraries and frameworks for enterprises, and in particular those doing web development.

[View details »](#)





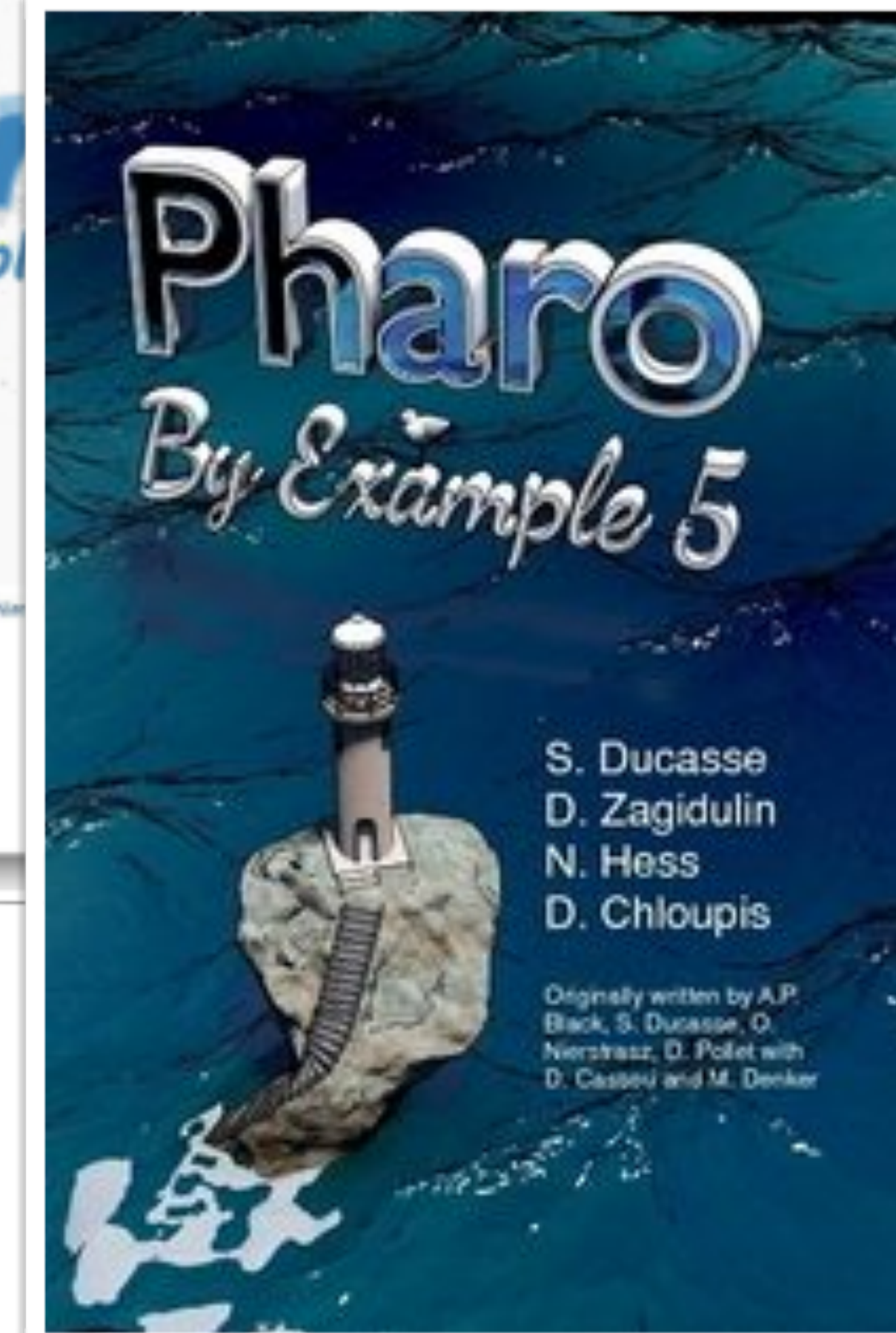
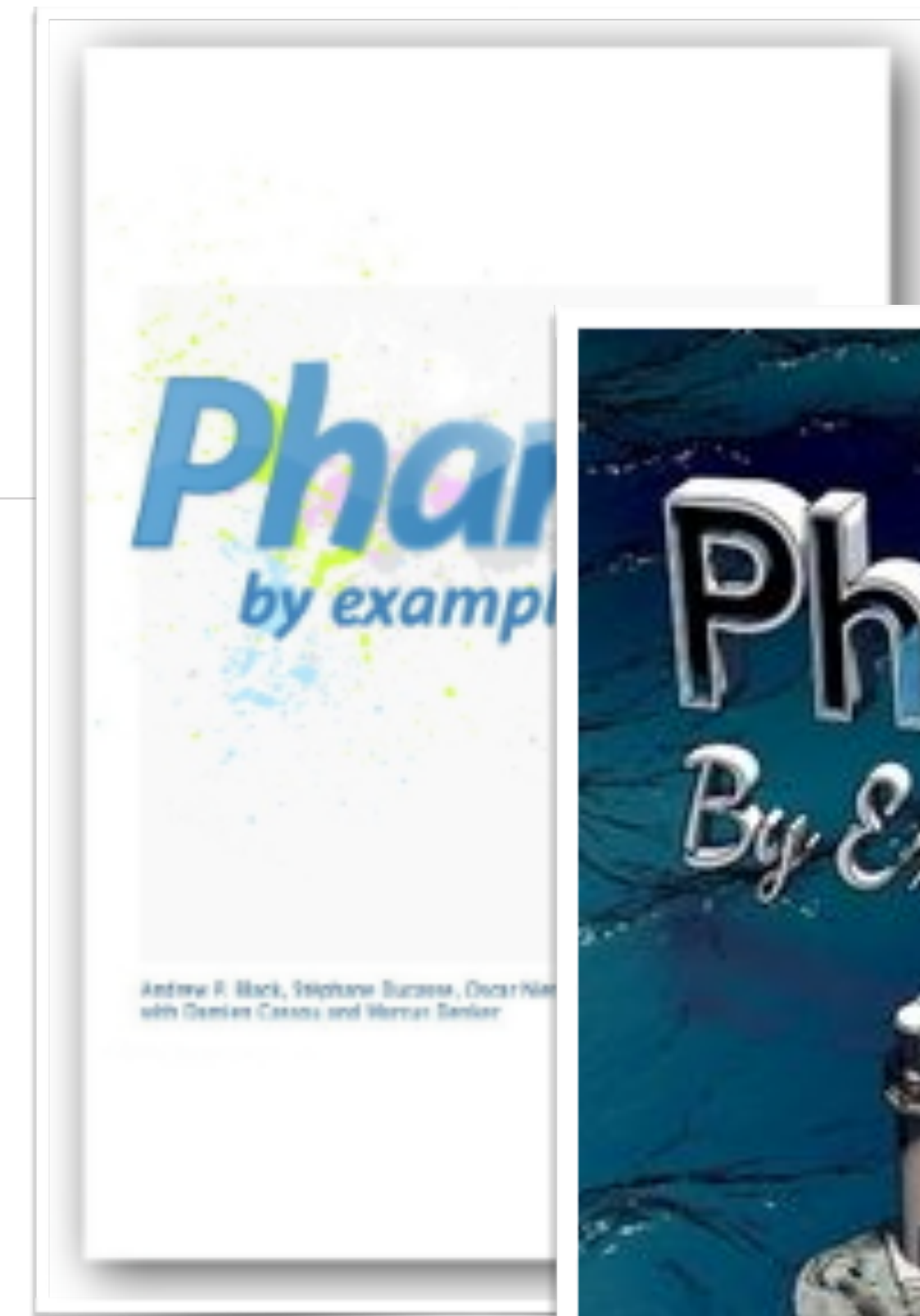
# https:// pharoweekly.wordpress.com





# Pharo by Example

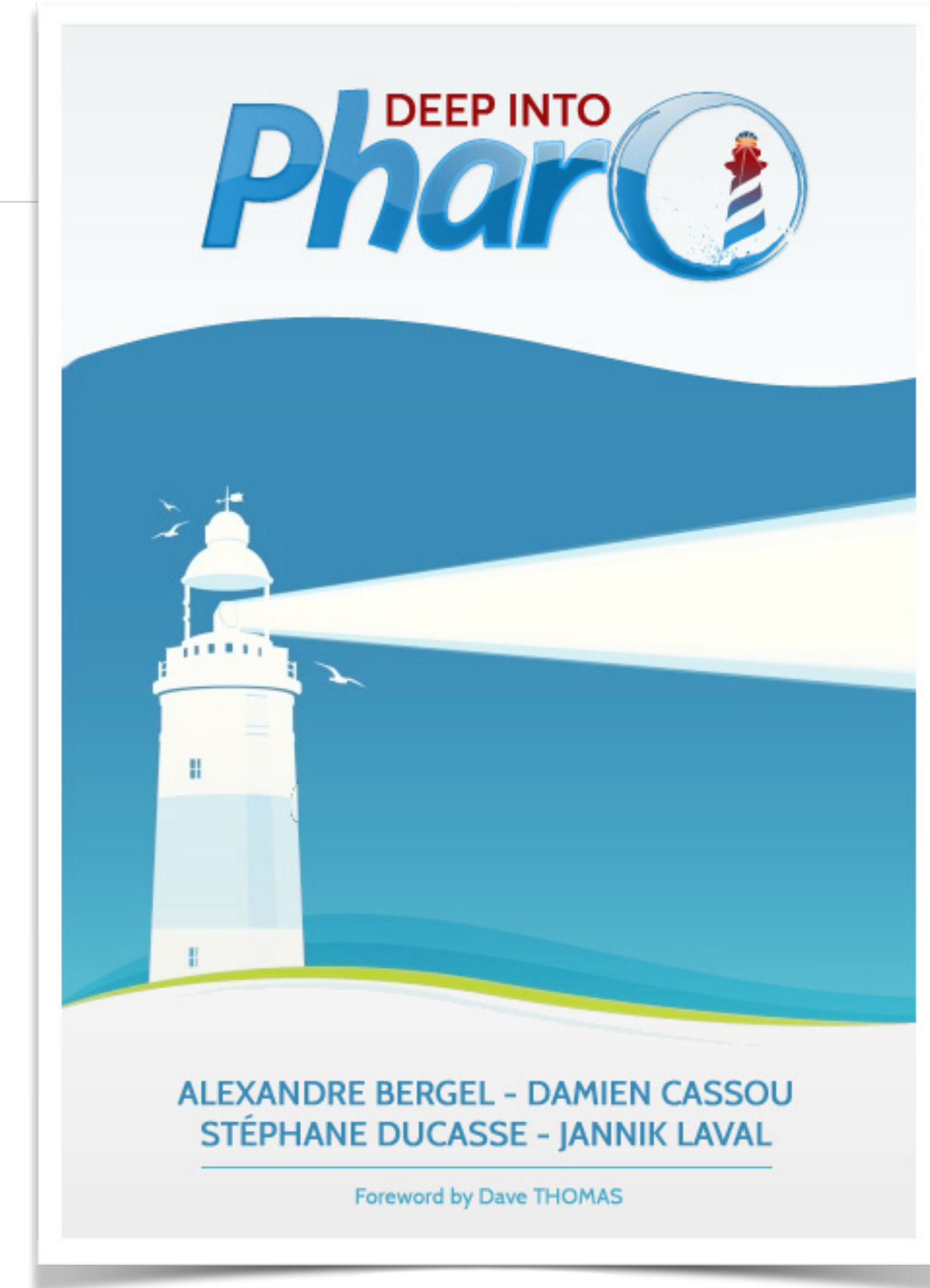
- \* <http://books.pharo.org>
  - \* translated to french, merci!
  - \* translated to spanish, gracias!
  - \* translated to japanese, ありがとう!
- \* Currently updated to Pharo 50





# Deep into Pharo

- \* <http://books.pharo.org>
- \* Some advanced topics
  - \* Libraries
  - \* Core language
  - \* Tools





# Entreprise Pharo

---

- \* <http://books.pharo.org>
- \* Web related
  - \* Encodings,
  - \* Mustache
  - \* JSON
  - \* WebSockets
  - \* HTTP/HTTPS

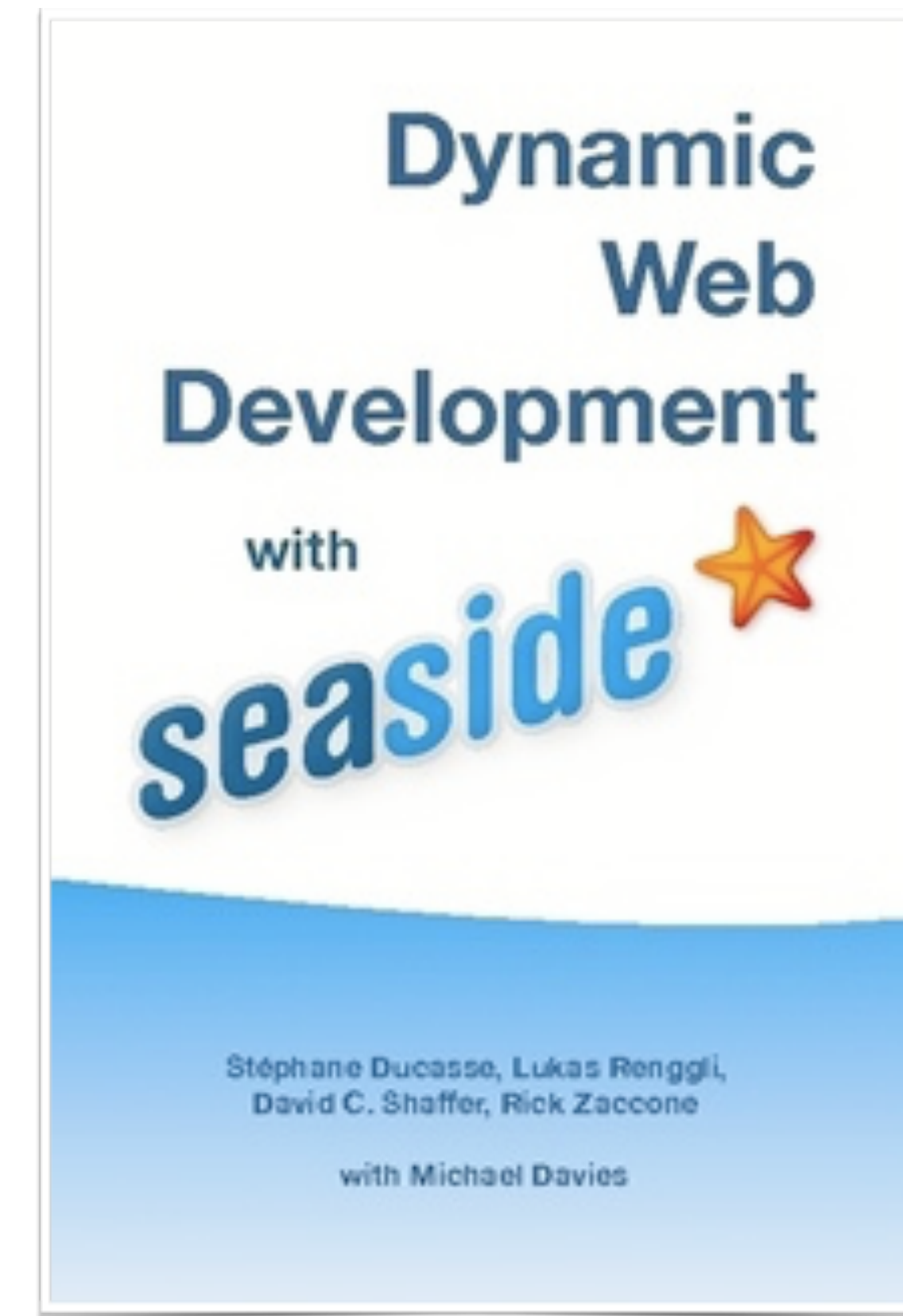




# Dynamic Web with Seaside

---

- \* <http://book.seaside.st>
- \* Full framework explained
- \* DSL + Call:/answer:
- \* Automatic form generation
- \* Deployment

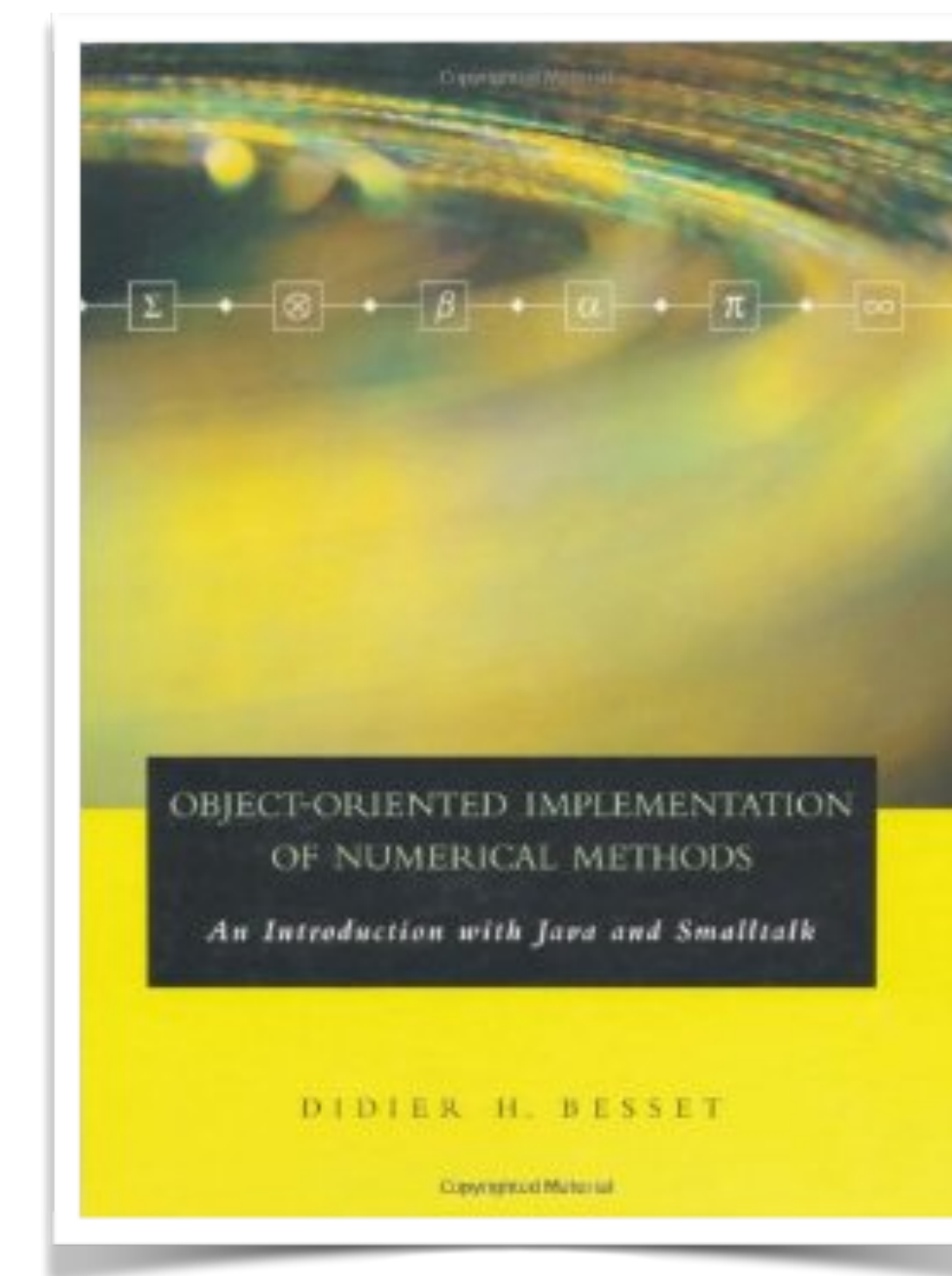




# Numerical Methods

---

- \* <https://github.com/SquareBracketAssociates/NumericalMethods>
- \* Data mining
- \* Clustering
- \* Iterative algorithms
- \* Series
- \* Statistical analysis







Fun, simple  
Pure & elegant  
Productive  
Empowering  
Addictive  
Full access



# Try Pharo now!

<http://pharo.org/download>



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## The immersive programming experience

Pharo is a pure object-oriented programming language *and* a powerful environment, focused on simplicity and immediate feedback (think IDE and OS rolled into one).

