



Pharo: Live objects for complex projects

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

<http://www.pharo.org>

JPMORGAN
CHASE & Co.



SCHMIDT
Ingenieurbüro für Bauwesen



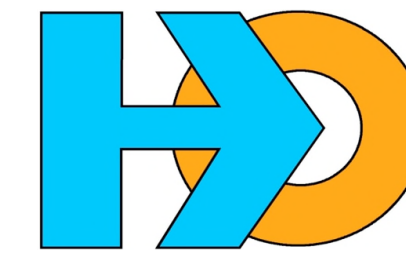
ZWEIDENKER



THALES



projector
software



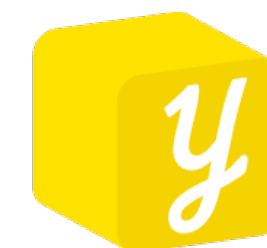
inspired!



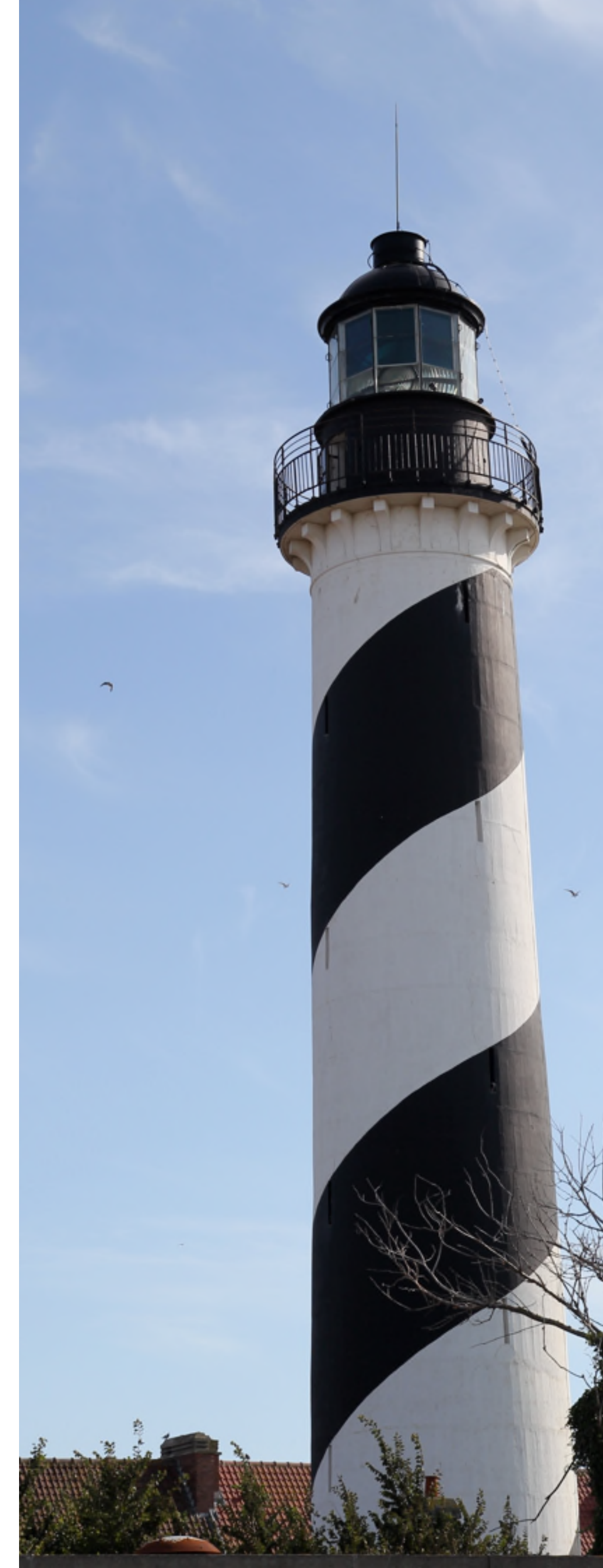
SORABITO

knowroaming
TA MÈRE SCRL
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
Pharo

Expert in Software Evolution

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





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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^ 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 of their
internals**

Looking inside

- * Pharo is not a blackbox
- * Pharo is fully inspectable and reflective

Immersed and interacting

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

Workspace

```
| elements lay |
```

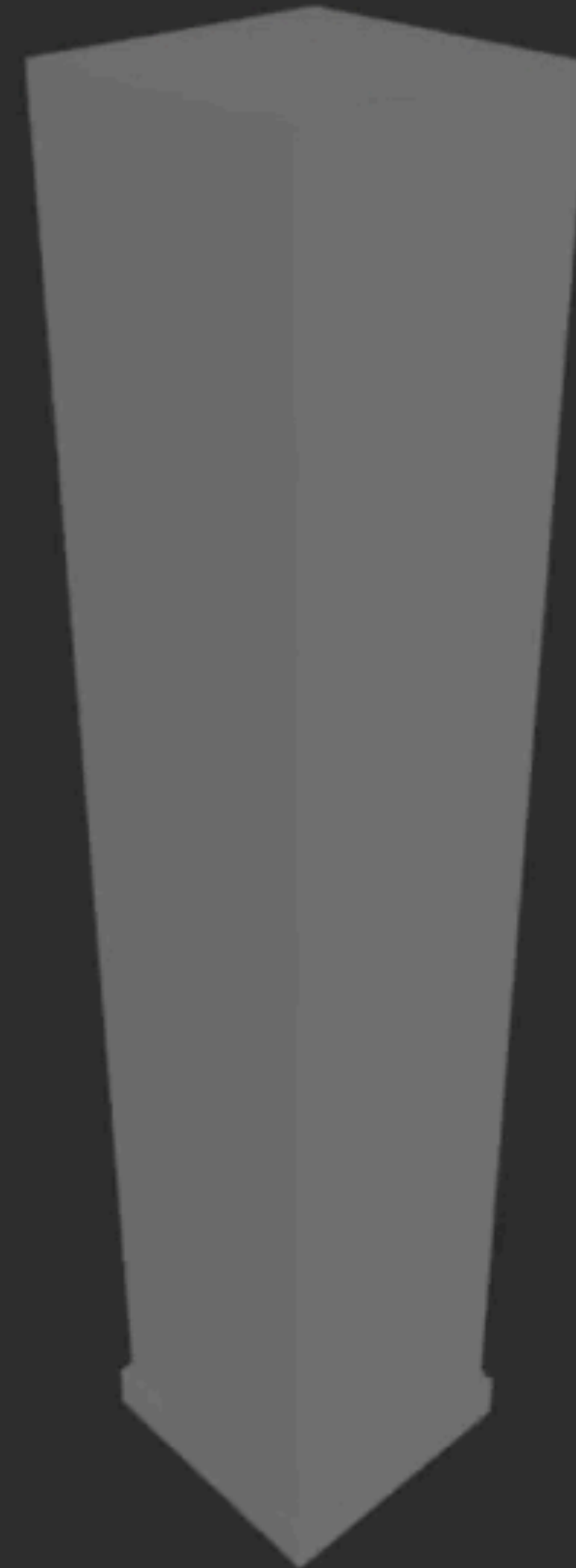
```
elements := (1 to: 5) collect: [ :ob |  
    (R3CubeShape new) elementOn: ob ].
```

I

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

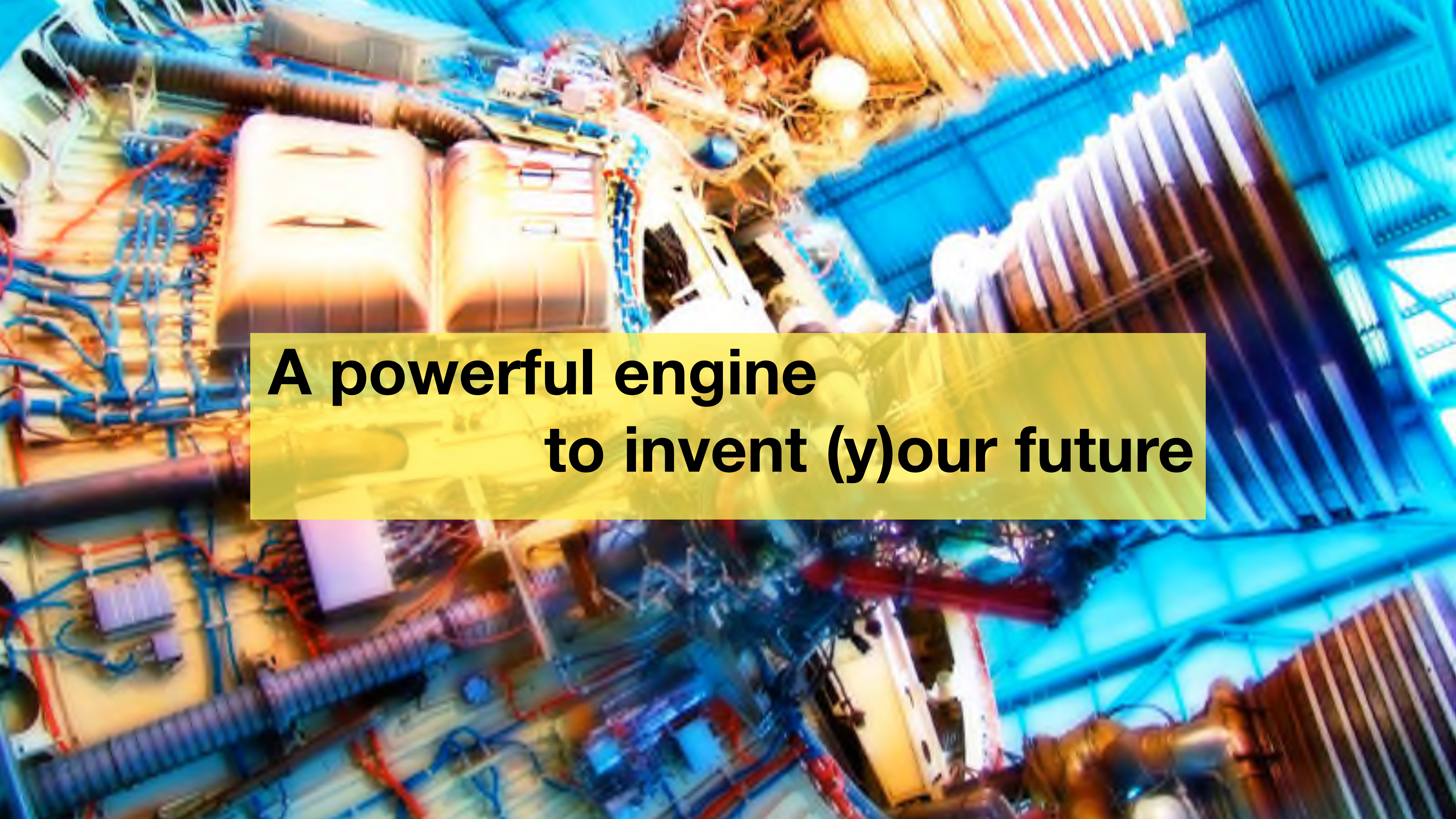
```
UberPresenter present: elements
```

Uber Presenter




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

Pharo's goal...



**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

Capture la información directamente en su lugar de origen.

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

Watch how it works

Romax Technology

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.

Get in touch

Related links

Wind Energy

Pioneering new ways of maximising 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
- Thousands of orders for seven Swiss printing companies

Quuve

Financial analysis and reporting dashboard with multiple charts and data tables.

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

A product by Smallworks

SpesenFuchs

Functionalities: Aktuelles Forum FAQ Presse

Pinesoft MBagger

Software for managing warranty parts and claims.

Synectique

Dedicated and cost-effective tools for software evolution

- Dedicated Analyses
- Dedicated tools
- Decision making

NORRIZK.COM

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

BETTER FASTER CHEAPER

COMPONENTS

Yesplan is veelzijdige software voor het efficiënt plannen van evenementen.

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

Event planning software interface showing a calendar and task list.

NTed: disaster scenario recovery

Software for disaster recovery and scenario analysis.

Moose is a platform for software and data analysis.

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

Download 4.7

The Moose Book

Dr. Geo Free

Software for geometry and mathematics.

CSOB

Software for financial analysis and reporting.

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

Software for object analysis and visualization.

Das Content Management mit System

100% Inline-Editor

Drag & Drop

Copy / Paste

2denker

Continuous API Testing

keep your services under control 24/7

t3

Software for mapping and location services.

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



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

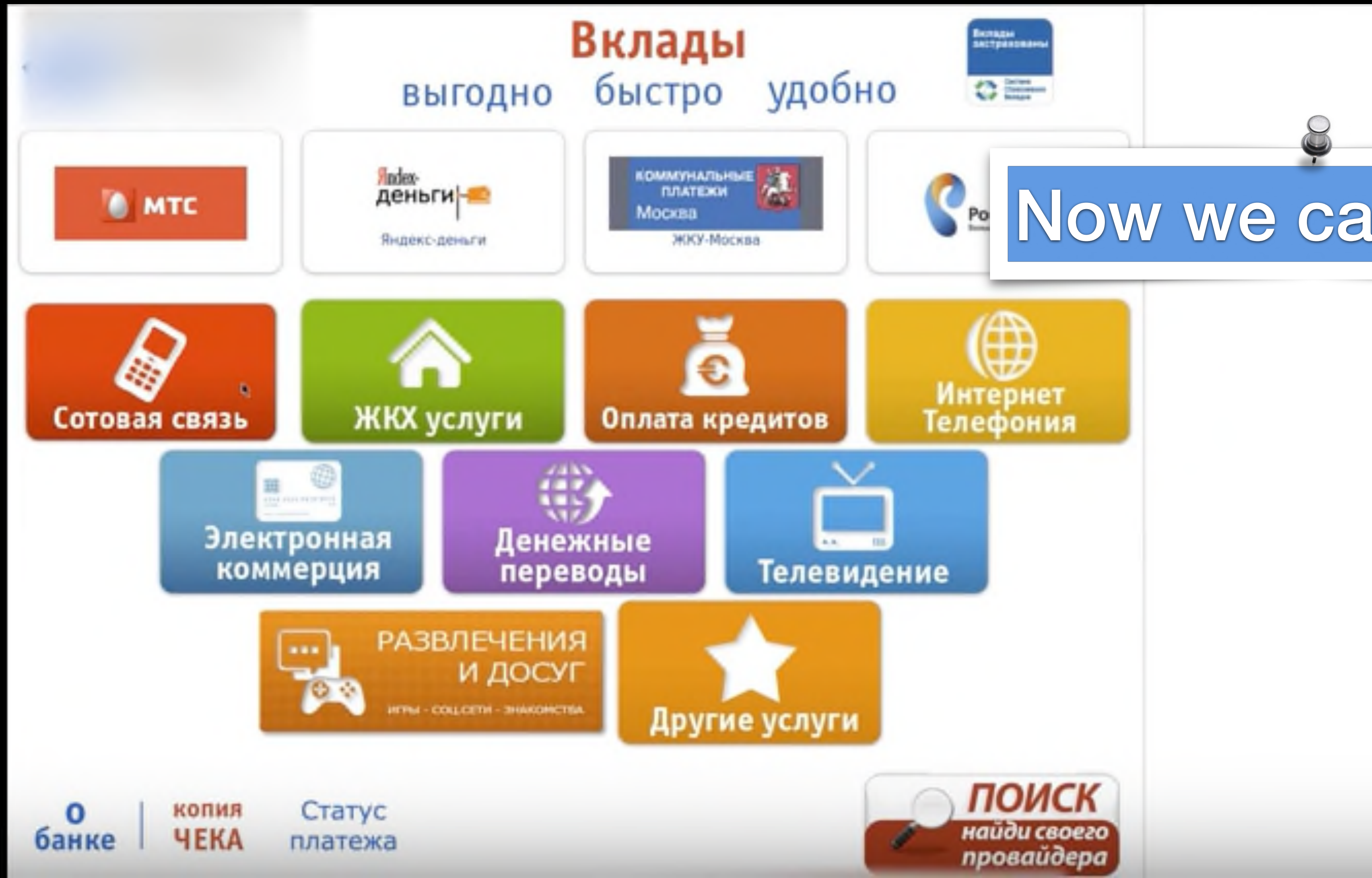
authorized users

Migrating to
Pharo

30 Millions lines of code...

Kent Beck is one of the
founders

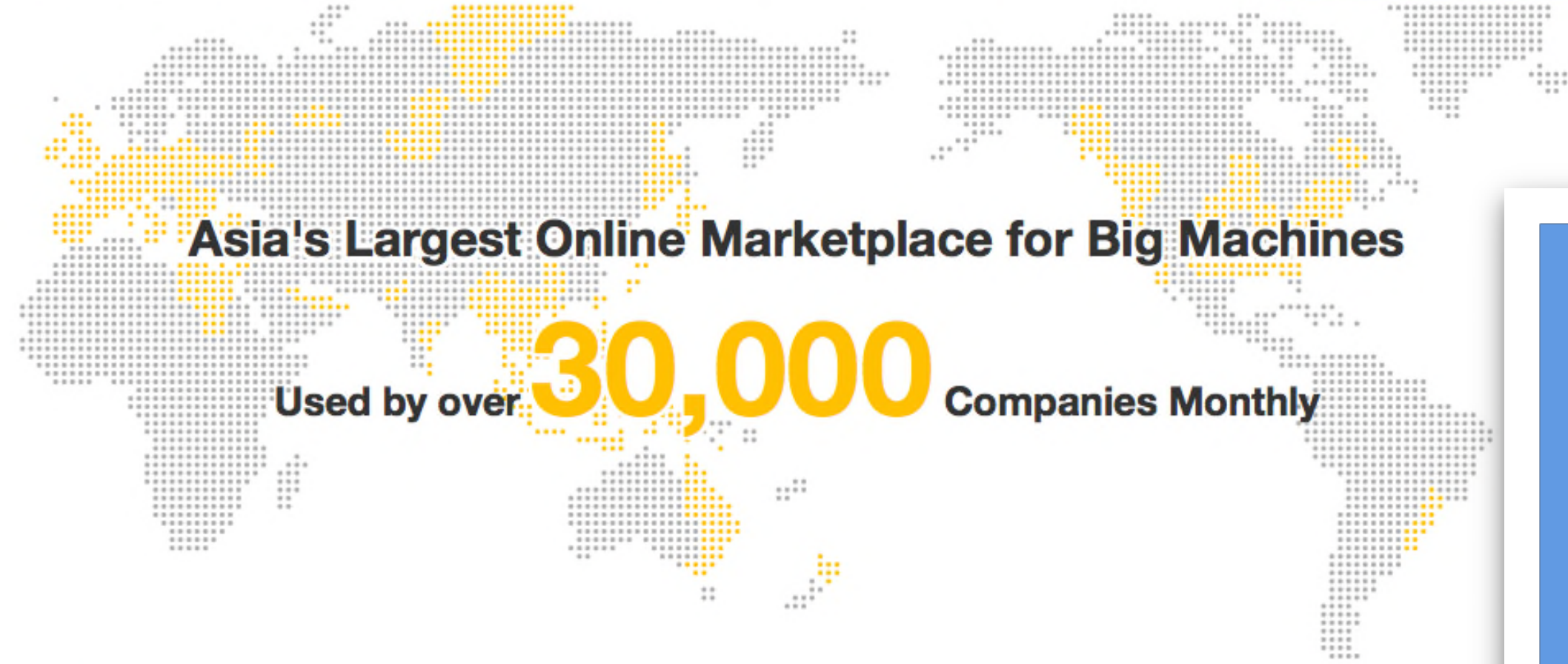
Pharo in ATM like Device in Moscow



ALLSTOCKER

We find machines for you

+81-3-5847-8994



Asia's Largest Online Marketplace for Big Machines

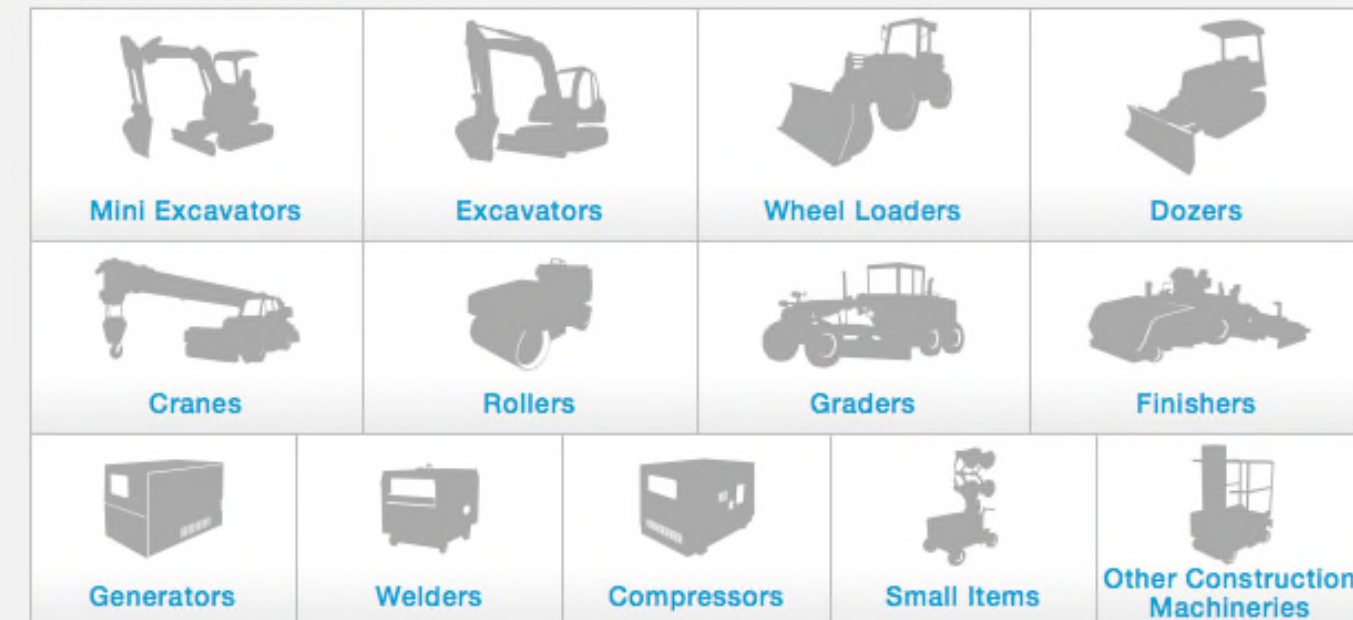
Used by over **30,000** Companies Monthly

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)

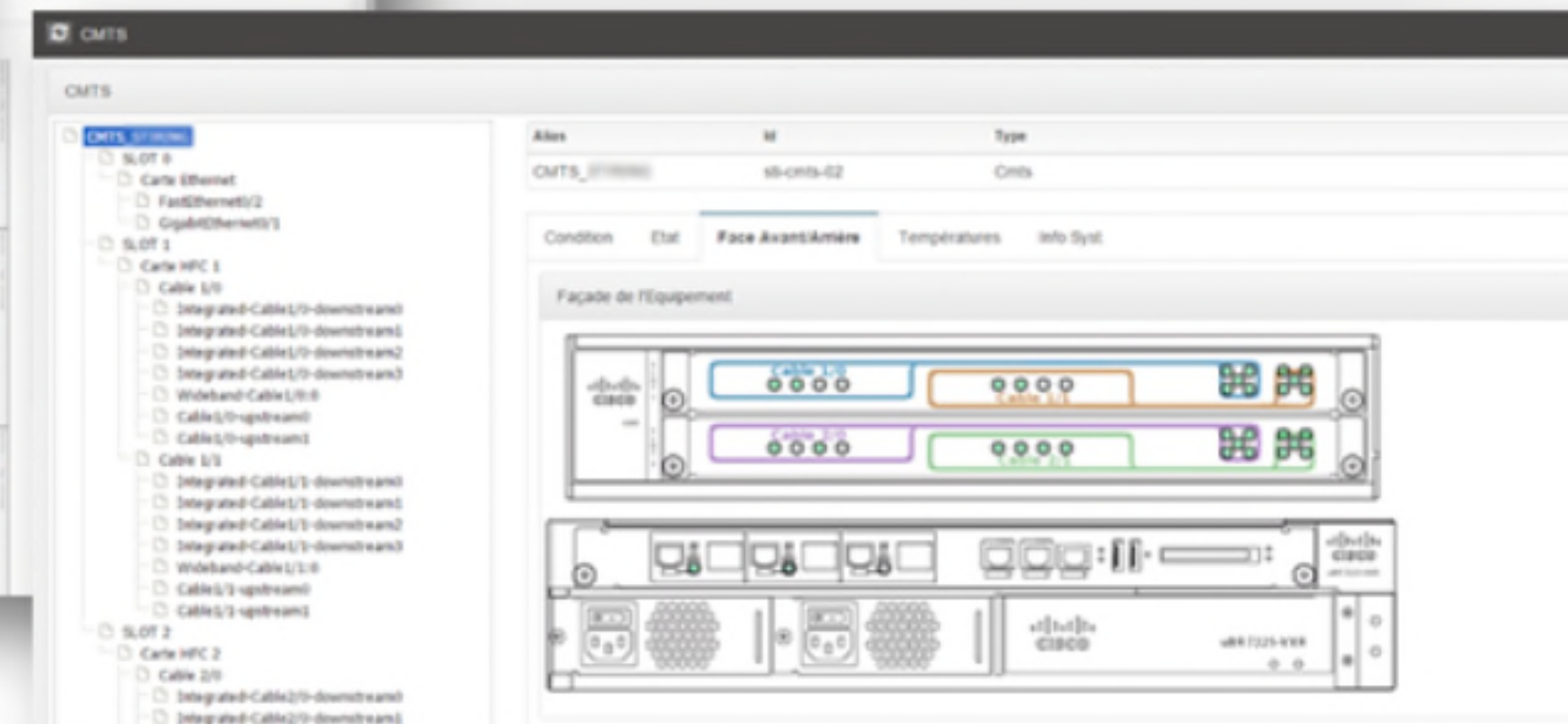
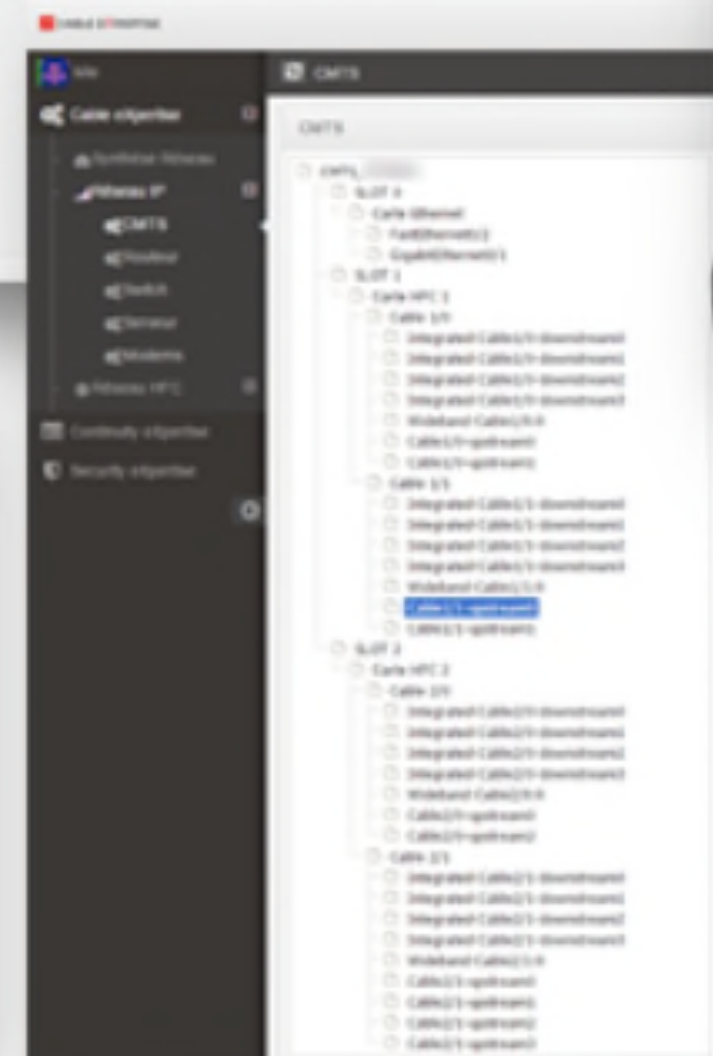
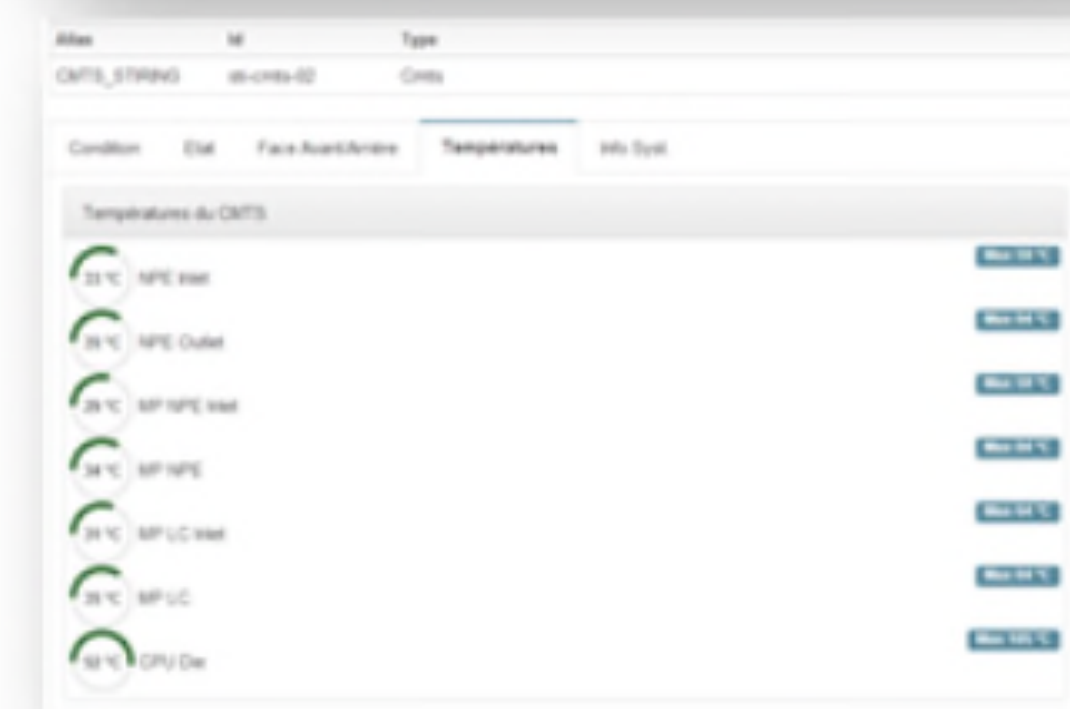
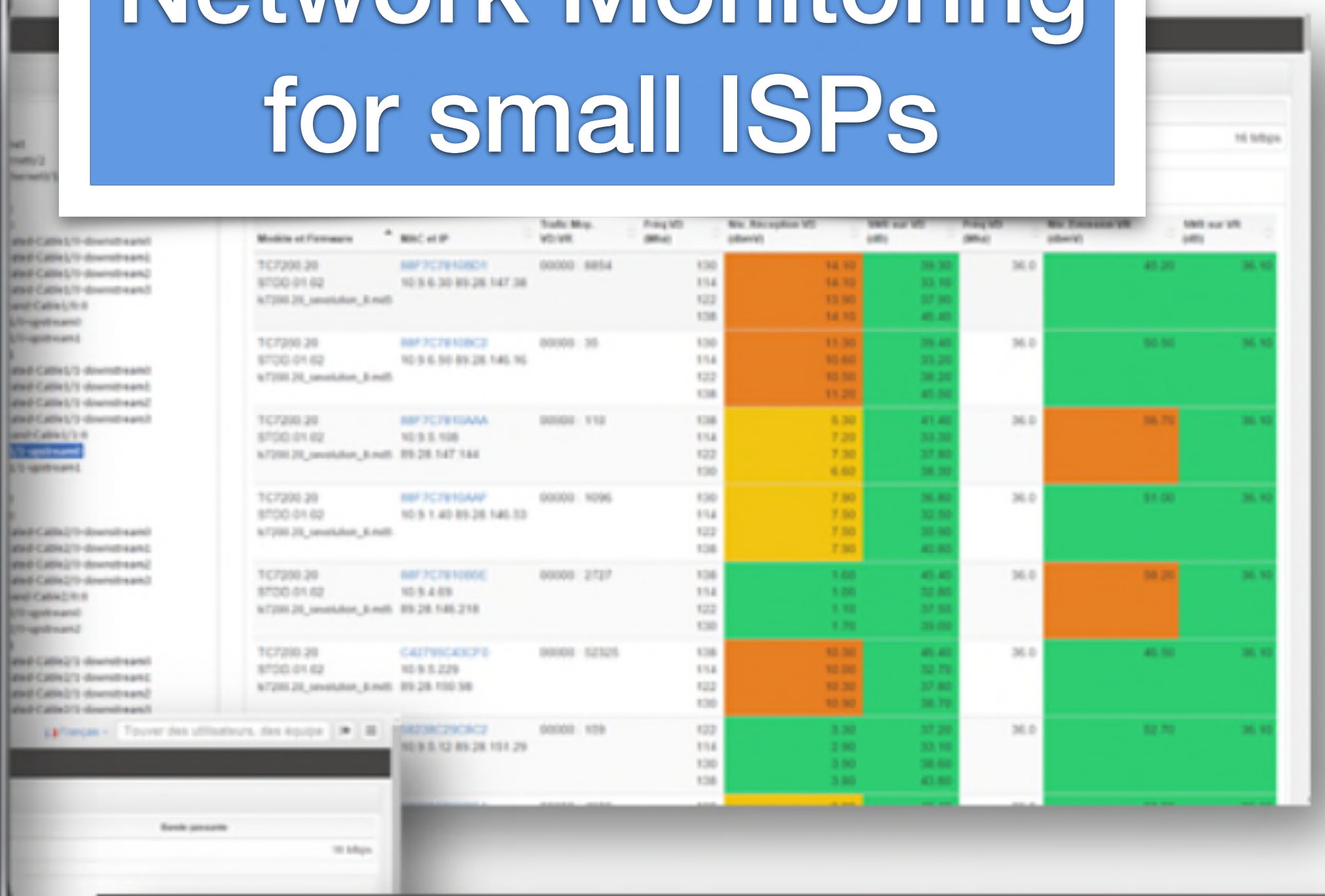
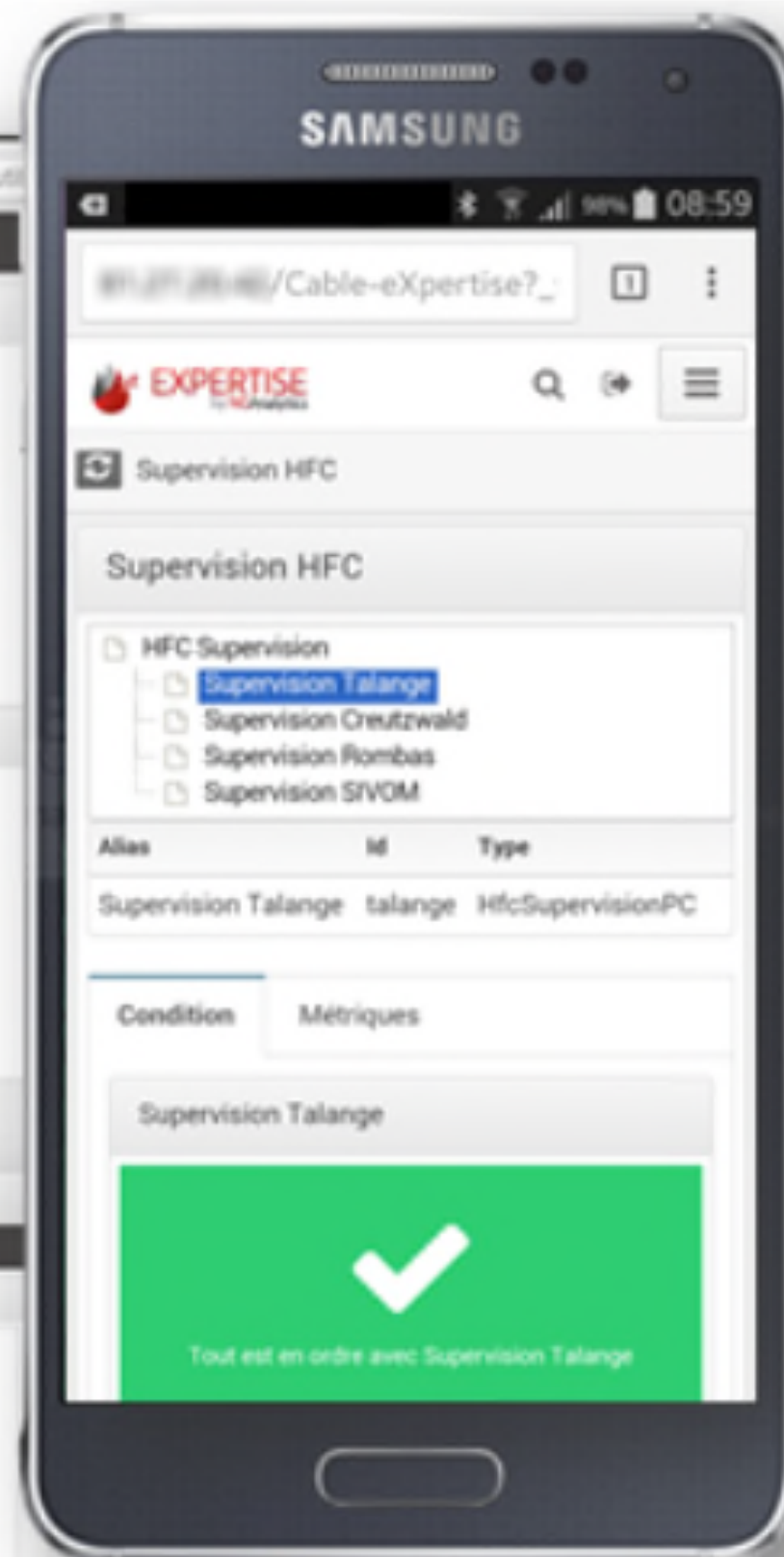
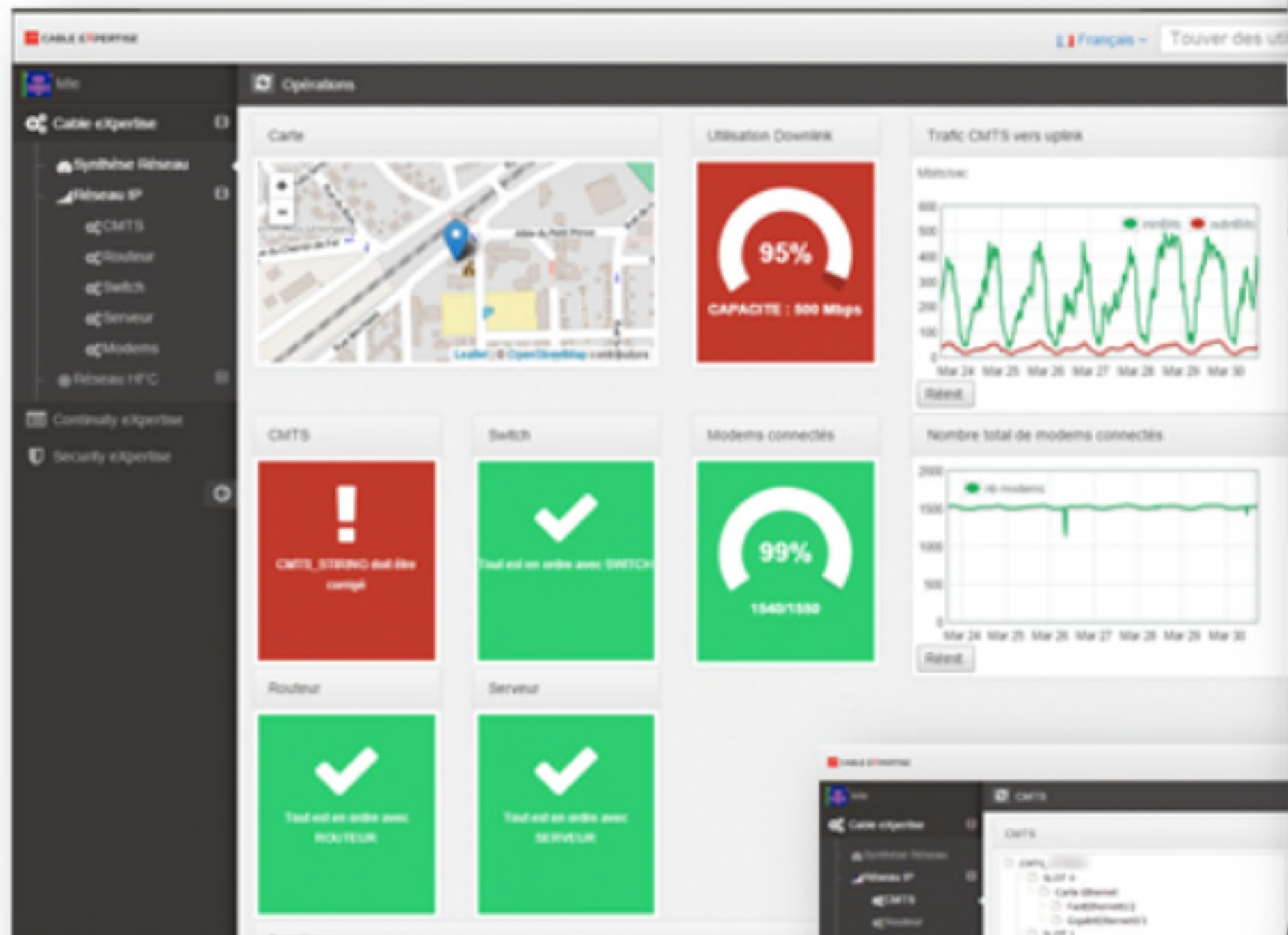
Search

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

[See More >](#)



Network Monitoring for small ISPs





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

Publiziere



cmsbox

HOME

SITEMAP

DRUCKEN

KONTAKT

LOG

SYSTEM

WEBSEITE

BENUTZER

SUPPORT

Bearbeiten

Metatags

Statistik

Archiv

Neue Seite

Artikel

Formular

Tabelle

Das Content Management mit System

100% Inline-Editor

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

Drag & Drop

Handlich: Boxen und Elemente frei auf der Seite positionieren.
✉ mail@cmsbox.com

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

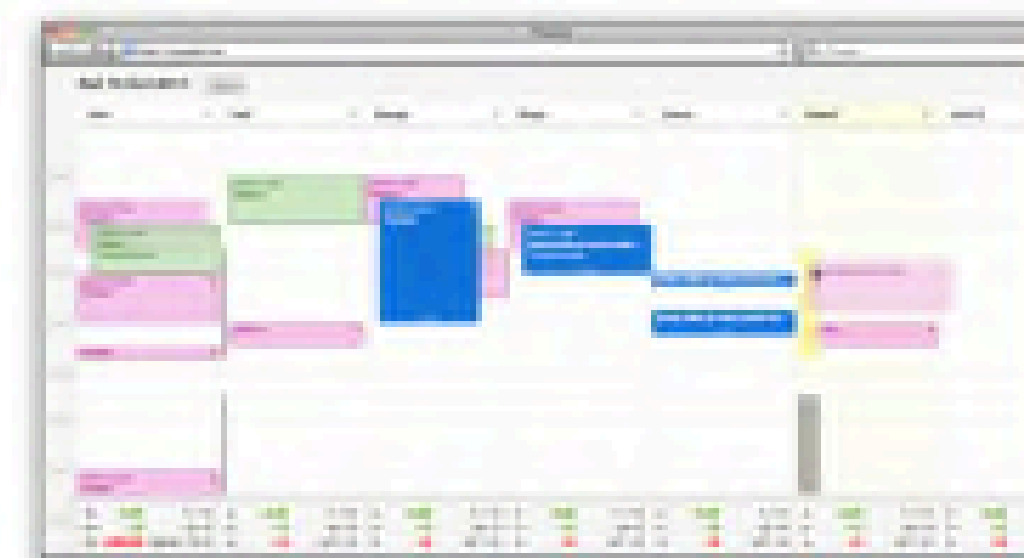
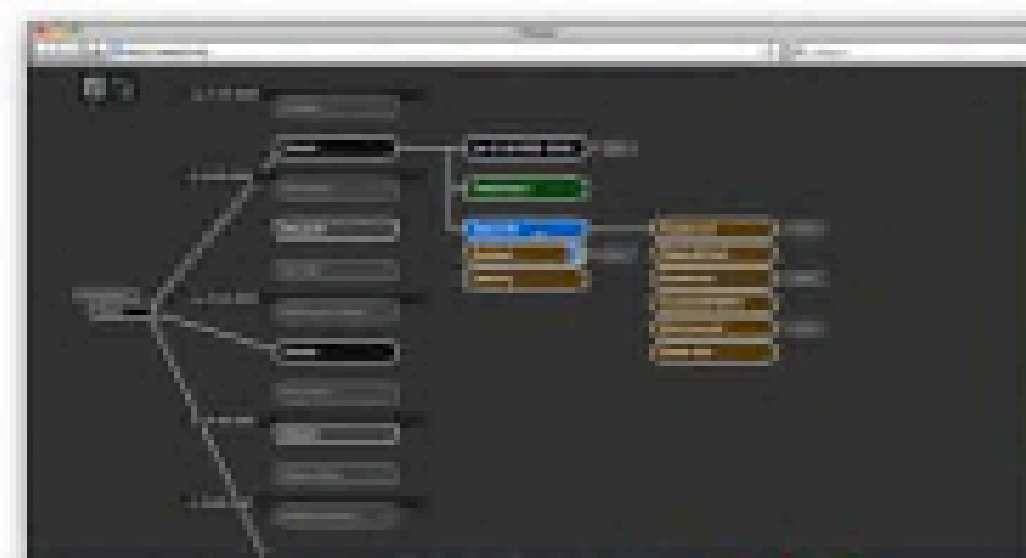
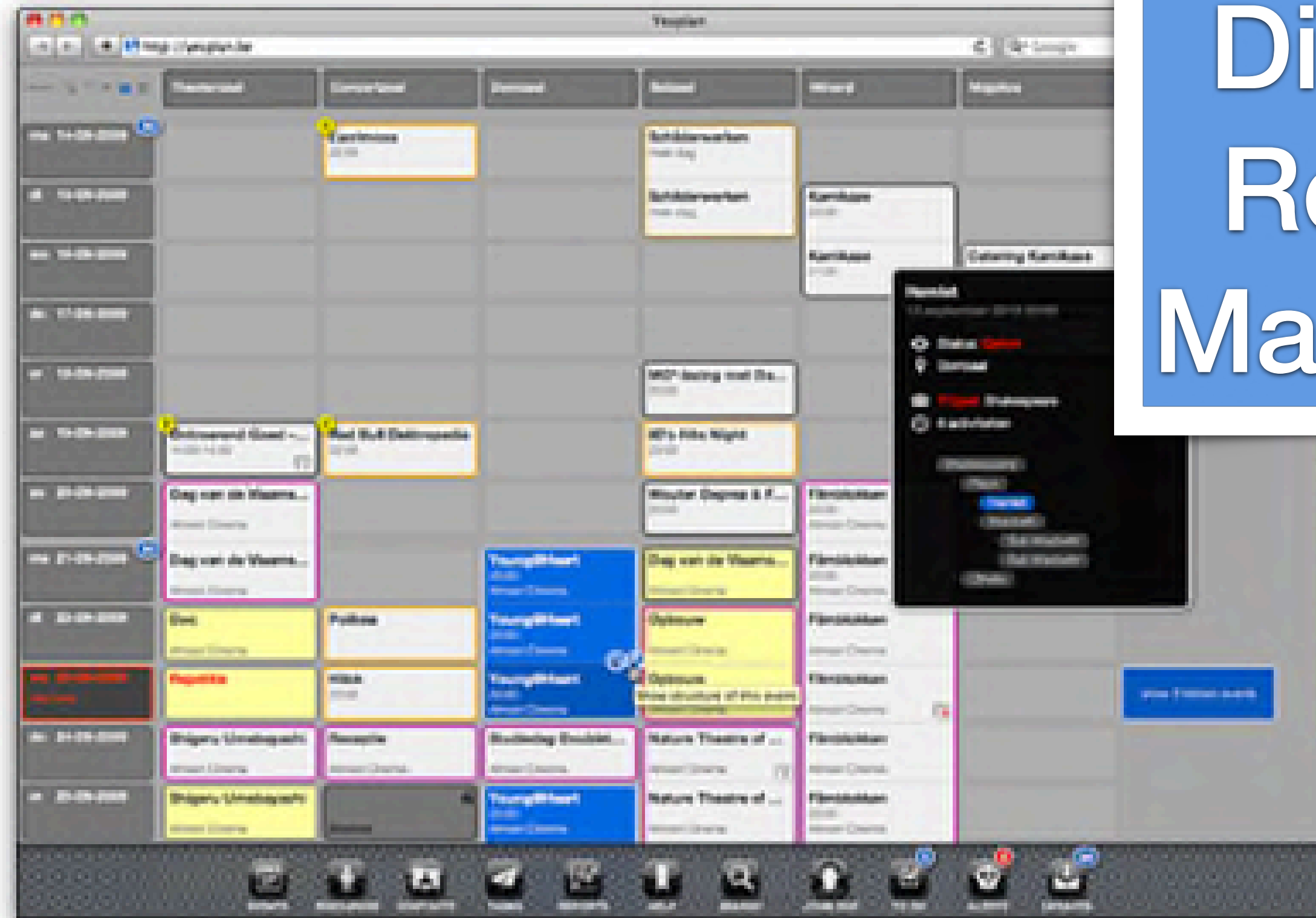
Suchen...

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

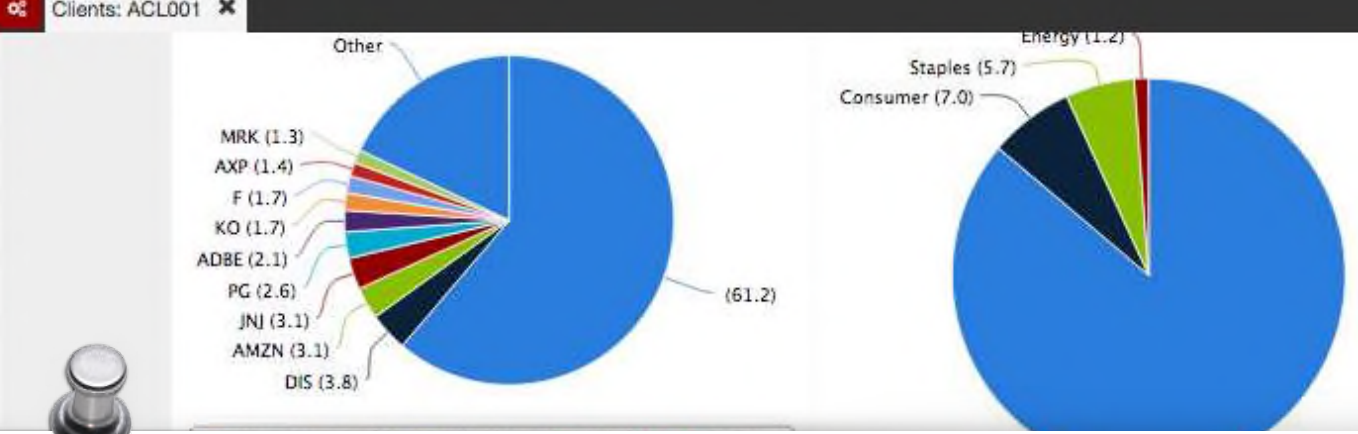




Base Valuations										
	Year	2008	2009	2010	2011	2012	2013	2014	2014	
Period End Date		06/30/2008	06/30/2009	06/30/2010	06/30/2011	06/30/2012	06/30/2013	06/30/2014	06/30/2014	
Period Duration (Years)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25
Price High		35.96	31.50	31.58	29.46	32.95	38.98	50.05		
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	5.36	
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	1.80	1.92	1.86	
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						20.80	22.23	24.30	25.22	
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	12.62	
bm EPS V3G			15.03	19.10	30.34	28.29	34.89	35.89	18.03	
tbm EPS VNG			9.67	13.94	20.92	15.70	23.04	13.64	12.83	
bm EPS avg3 V3G					21.49	25.91	31.17	33.02	29.60	
2 X bm EPS avg3 V3G					42.99	51.83	62.35	66.05	59.21	
bm EPS avg5 VNG							17.87	20.79	20.64	
bm EPS avg5 V3G							25.53	29.70	29.45	
Fair Price bm ROE3					21.55	26.34	31.90	31.46	25.62	
Fair Price bm ROE5							29.59	34.38	31.35	
Fair Price bm ROE7									31.32	
Fair Price tbm ROE5							31.70	30.34	26.10	
Fair Price via NetMargin7 with 3% Growth								41.39	42.55	
F9 Trend Score V1		(3/3)	(6/7)	(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)	(27/30)	

PROFITABILITY	
	Year
	Gross Margin %
	EBIT Margin %
	Net Margin %
	ROSA (四) %
	ROSTA (四) %
	ROSTOA (四) %
	ROSC %
	ROSCE Avg5 %
	ROSCE %
	ROSTCE Avg5 %
	ROSTCE %
	bm Ret. EPS %
	bm ROSCE1 %
	bm ROSCE3 %
	bm ROSCE5 %
	bm ROSTCE1 %
	bm ROSTCE3 %
	bm ROSTCE5 %
	Common Sh. O...
	Common Sh. Gr...

Common (Basic) Yields	
	Year
<input type="checkbox"/>	E-Yield %
<input type="checkbox"/>	Div. Yield %
<input type="checkbox"/>	LCF Yield %
<input type="checkbox"/>	LCF Avg2 Price-Low Yield %
<input type="checkbox"/>	NCF Yield %
<input type="checkbox"/>	SCFC Yield %
<input type="checkbox"/>	Non-Common Equity Capital Yield %
<input type="checkbox"/>	Common Equity Price-Low Yield %
<input type="checkbox"/>	Common Equity Price-High Yield %
<input type="checkbox"/>	Common Equity Yield %



PER SHARE MEASURES		
	Year	2008
Total Assets /sh		7.80
Tang. Assets /sh		6.29
Tang. Op. Assets /sh		3.89
Non-Common Equity Capital /sh		0.71
CPC /sh		3.91
GLTPC /sh		0.71
Excess Cash /sh		2.41
Net-Net /sh		0.72
Book /sh		3.99
Tang. Book /sh		2.38
Revs. /sh		6.48
Operating Income /sh		2.39
LCF /sh		2.12
NCF /sh		1.83
SFCF /sh		1.98
GAAP Dil. Cont. EPS		1.87
GAAP EPS		1.90
Revs.		60420.00
EPS		1.90
EPS avg3		
Net Income Avg3 /sh (default)		

LEVERAGE

Fixed Assets Margin %	10.33
Accts. Payable Margin %	6.68
Accts. Receivable Margin %	22.49

The screenshot displays a financial software interface. At the top, there are tabs for 'Portfolios Over', 'Clients: ACL001', 'Company Report', and 'Portfolio: All Clients'. Below this is a 'Portfolio Browser' section with a dropdown menu set to 'Portfolio - Subscribers' and a list of 'All Clients'. To the right, there are 'Controls' for 'View Config' (Default), 'Use Event Date', and 'View Date' (2015-03-25). Further right is a 'Balance summary as of 03/25/2015' table showing 'Quuve Cash & Equivs', 'Quuve Total Value', 'Custodian Cash & Equivs', and 'Custodian Total Value'.

The main section is a 'Table View' of a portfolio. It includes a 'Tree View' on the left with a 'Show Comparables?' checkbox and a 'Columns' dropdown set to 'Basic'. The table has columns for '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', and various 'ACL' and 'BCL' columns. The table lists several holdings, including 'Amazon.com Inc.' (AMZN) and 'Personal Products'. A large blue overlay with white text reads 'All reports are automatically generated'.

All reports are automatically generated

<div> <div> <div>OC</div> <div>Clients Overview</div> </div> <div>Portfolio: none</div> <div>Clients</div> </div>							
<div> <div>View: Default</div> <div>V: 20</div> <div>Select</div> <div>Apply to Many</div> <div> <div></div> <div></div> <div>+</div> </div> </div> <div>OPXDownload</div>							
S	Client Name	Advisor	Is Employee Portfolio	Account Owners	Accounts	Benchmark Portfolio	
	<div><div></div><div>Invert</div><div></div></div>	<div><div></div><div>Invert</div><div></div></div>	<div><div></div><div>Employee Portfolio</div><div>(a)</div><div></div></div>	<div><div>(a)</div><div></div></div>	<div><div></div><div>Invert</div><div></div></div>		
<input 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)	<div>Actions</div>
<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		<div>Actions</div>
<input type="checkbox"/>	ACL003	Founding Fathers Investment Advisors, Inc.	false	AO-005, AO-006	ET xxxx-0010 IRA Traditional, CL003 ET0011, CL003 ET0012		<div>Actions</div>
<input type="checkbox"/>	ACL023	Founding Fathers Investment Advisors, Inc.	false	AO-037, AO-038			<div>Actions</div>
<div><div>Remove</div><div>Fake</div><div>Key</div></div>	<div>Founding Fathers Inve</div>	<div><div></div><div></div></div>	<div><div>2 items sele</div><div></div></div>	<div><div>3 items selected</div><div></div></div>	<div><div></div><div></div></div>		<div>Actions</div>
<input type="checkbox"/>	BCL006	Founding Fathers Investment Advisors, Inc.	false	AO-011, AO-010			<div>Actions</div>
<input type="checkbox"/>	BCL007	Founding Fathers Investment Advisors, Inc.	false	AO-012	ET XXXX-0002 ET xxxx-0003 IRA Traditional ET xxxx-0004 IRA Traditional		<div>Actions</div>
<input type="checkbox"/>	BCL026	Founding Fathers Investment Advisors, Inc.	false	AO-042, AO-041			<div>Actions</div>
<input type="checkbox"/>	BCL027	Founding Fathers Investment Advisors, Inc.	false	AO-043			<div>Actions</div>
<input type="checkbox"/>	CL099	Founding Fathers Investment Advisors, Inc.	false	CL099	CL099 ET0123		<div>Actions</div>

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

Free Software Mobile Communication solutions

```
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 .
```

Apply a display filter... <E>

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) on interface 0

Linux cooked capture

Internet Protocol Version 4, Src: 208.208.208.208, Dst: 208.208.208.208

Stream Control Transmission Protocol, Src Port: 2005 (2005), Dst Port: 2005 (2005)

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 = 1491884315624

TP-PID: 0

TP-QOS: 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 48 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 88 02 07 80 a1 00 06 '.....

0016 07 84 00 00 01 00 10 02 6c 41 a1 3f 02 01 01 02 1A.?....

0024 01 2c 30 37 80 08 02 02 43 68 10 91 50 19 84 08 ..07..b. Ch..P...

0032 91 94 51 97 10 00 00 00 04 21 24 0c 91 94 01 08 ..0..... ?\$.....

0040 13 65 42 00 00 51 10 71 21 95 53 40 10 c0 32 9b ..0..0.q 1.50..2.

0048 fd 06 99 e5 ef 36 00 0a 0e 0b df 00f.....

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

TON TIME

LED B

LED 2

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

Network 1

TEC1

TEC2

TEC3

INT#10

TON TIME

Q

ET - var0

LED B

MUL INT

EN

IN1

IN2

ENO

OUT - var1

EQ INT

EN

IN1

IN2

ENO

OUT - LED 2



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

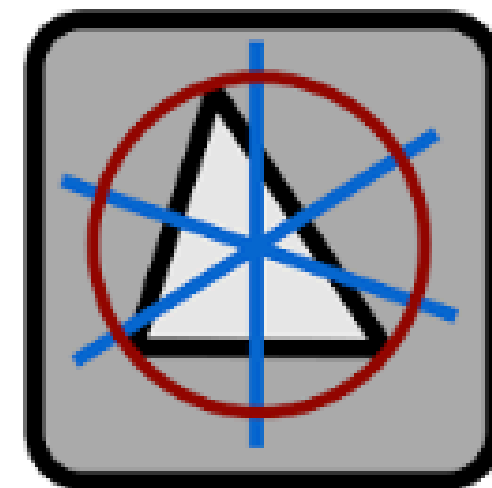


Dr. Geo free

Hilaire Fernandes & Dimi



FREE

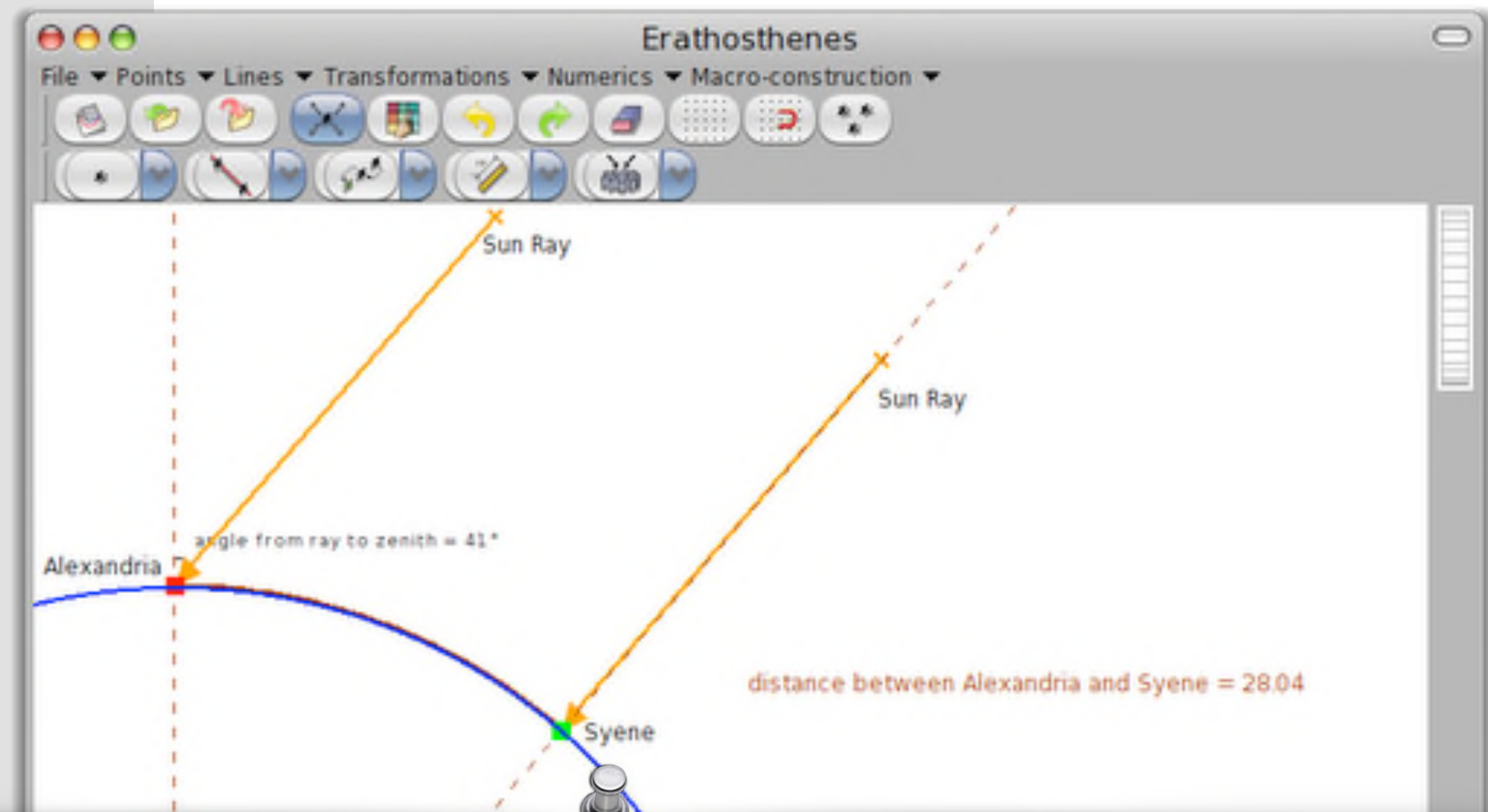


Dr. Geo

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](#)


enables

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

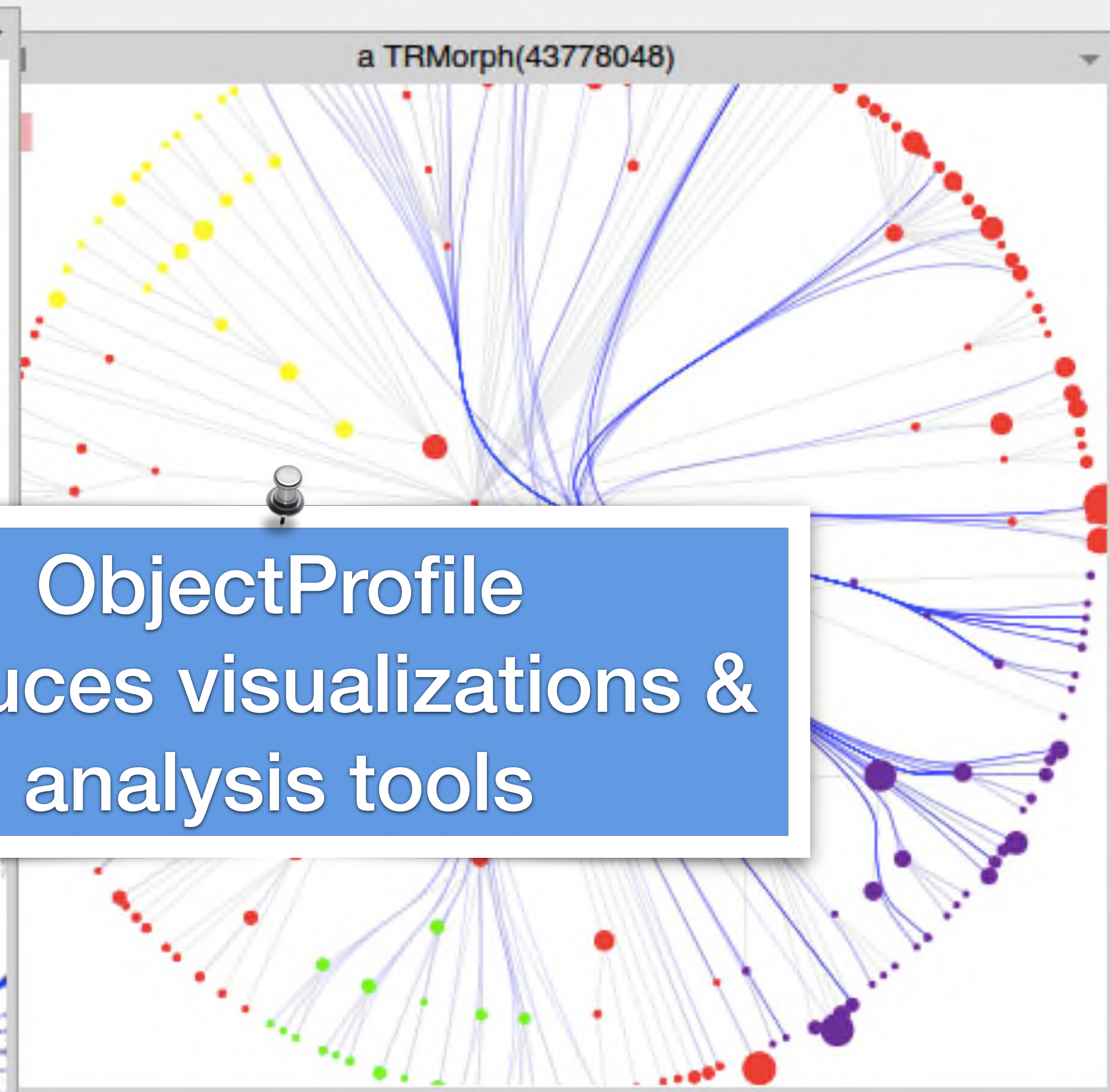
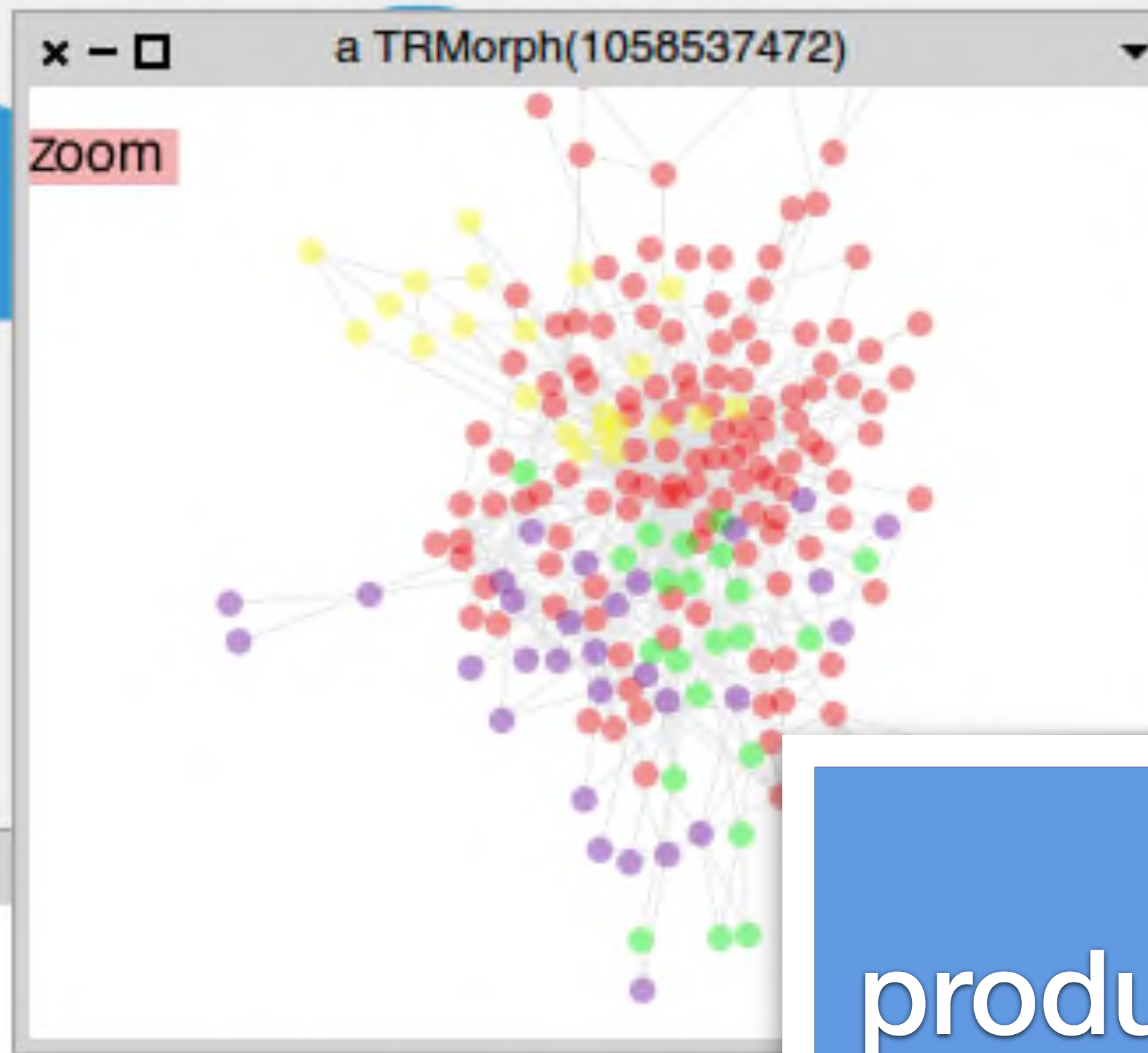
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more than 200 men/years

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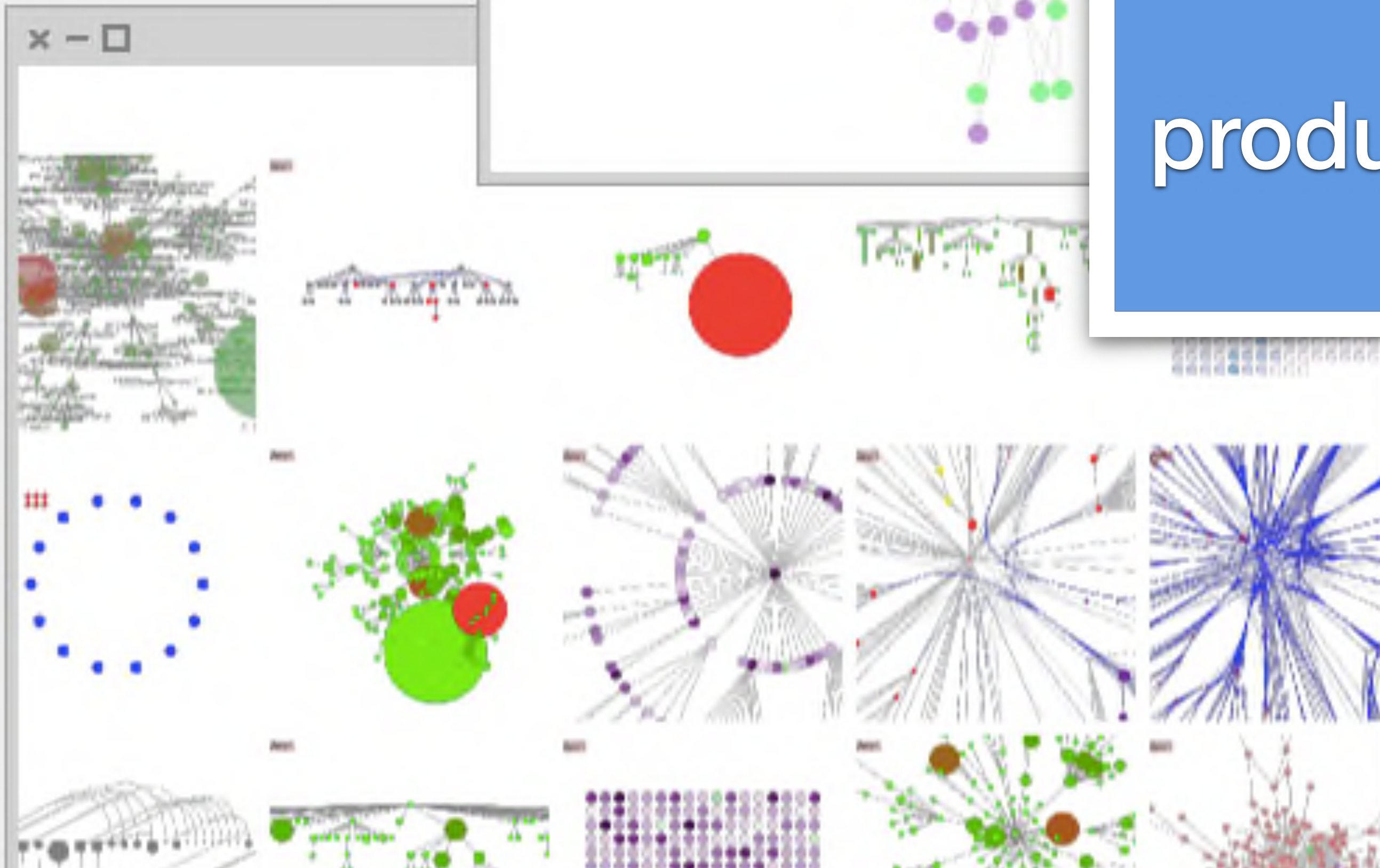


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Pha



ObjectProfile
produces visualizations &
analysis tools



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3 CHEAPER

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



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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

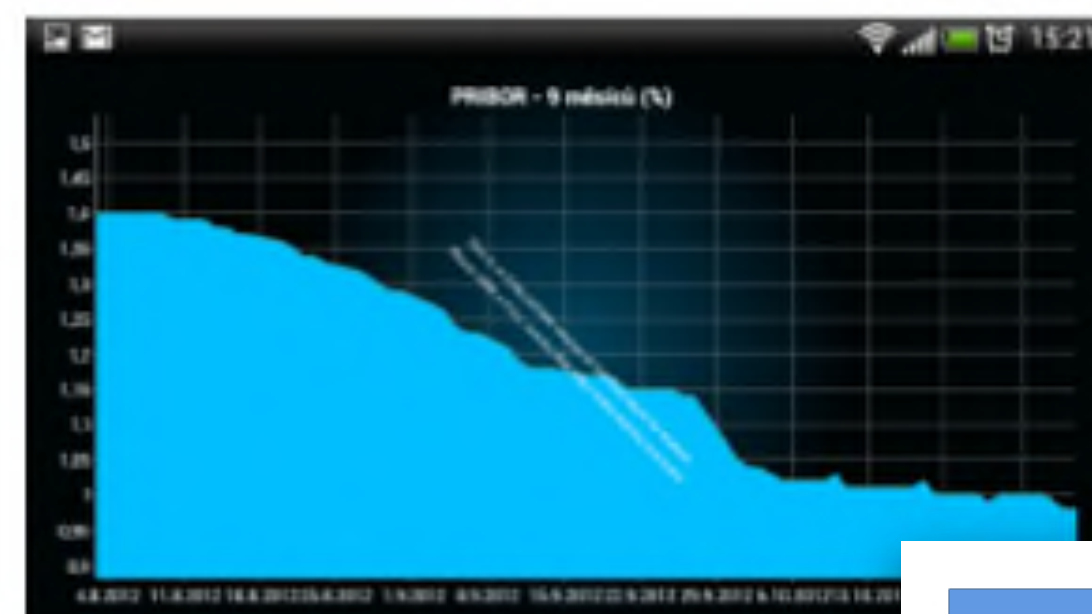
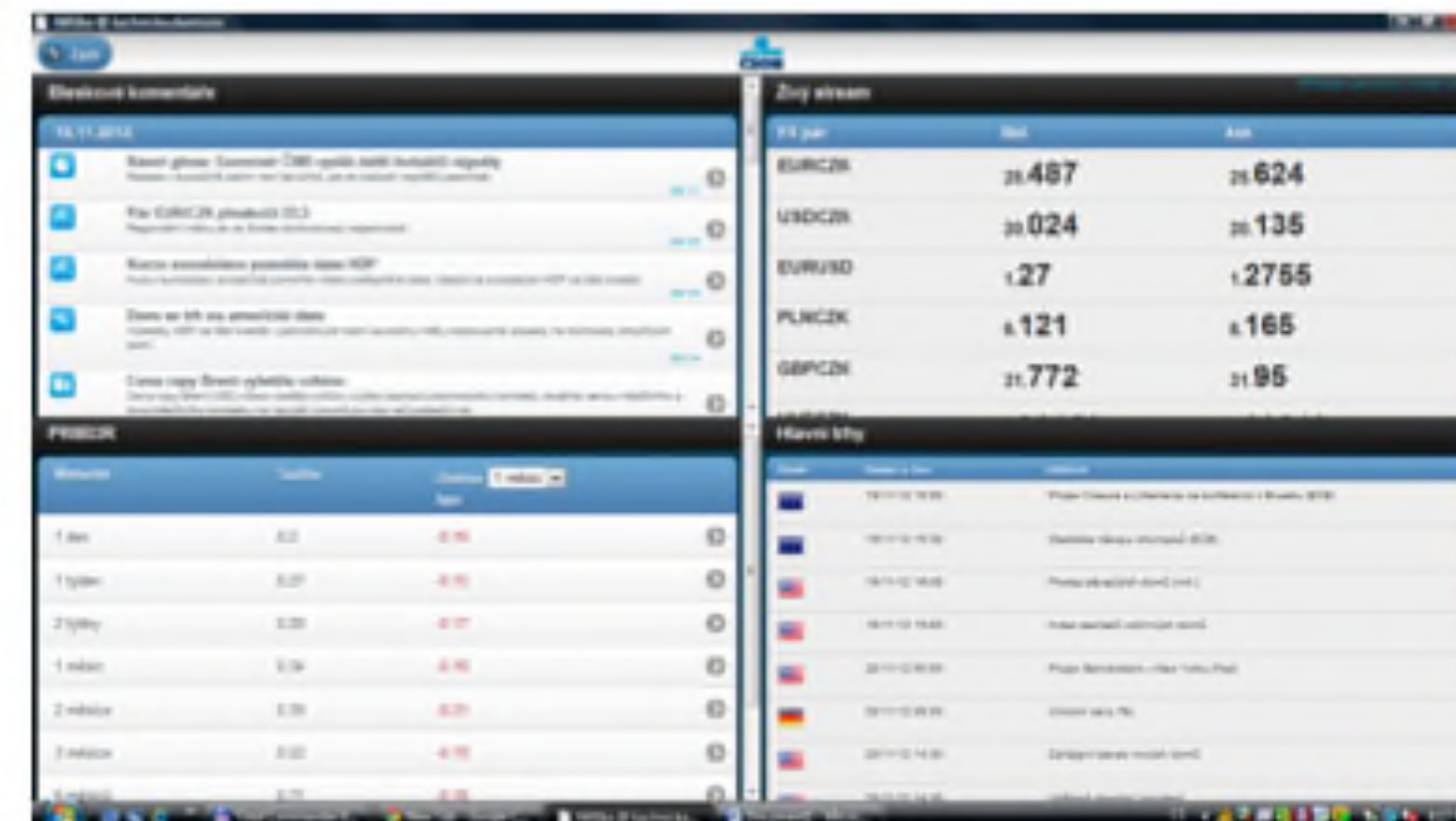
Export your test plan to a docx file.



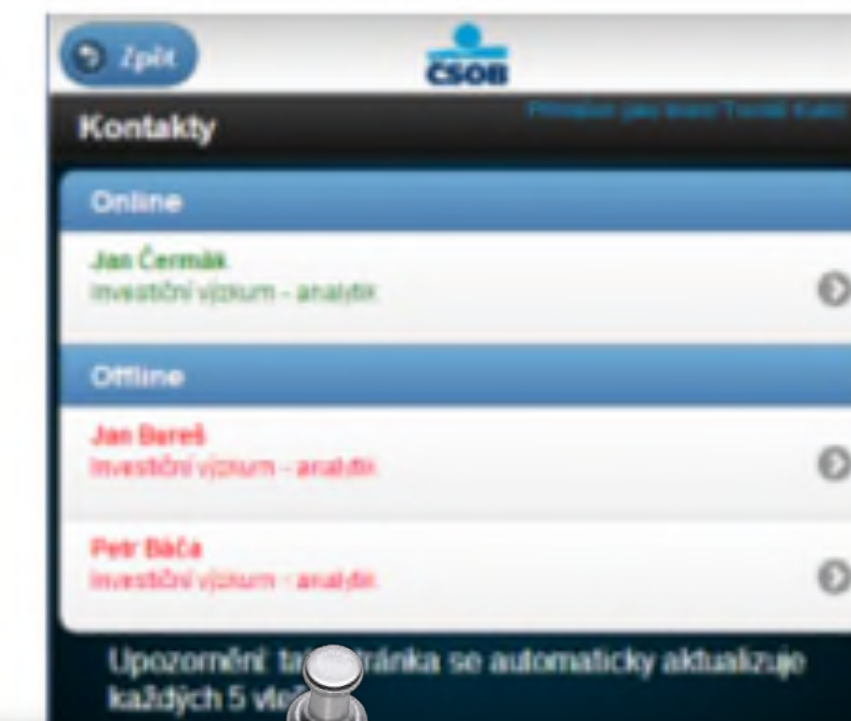
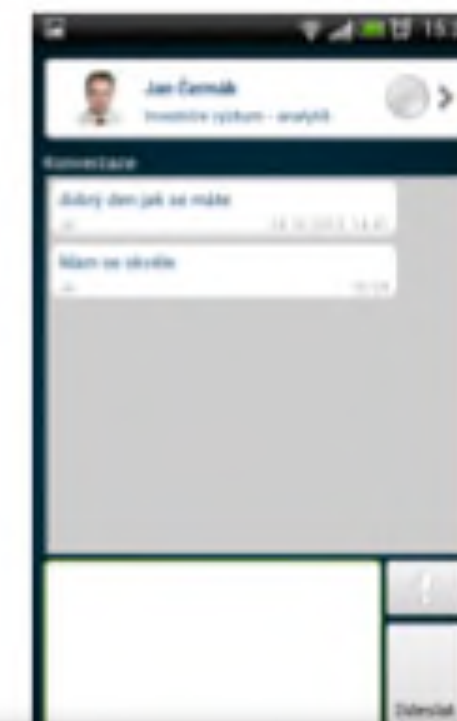
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Valuta	Stav	Ás
EURCZK	21.457	21.624
USDZK	21.024	21.135
EURUSD	1.27	1.2755
PLNCZK	6.121	6.165
GBPZK	21.772	21.95



Valuta	Stav	Ás
EURCZK	21.407	21.539
USDZK	19.746	19.856
EURUSD	1.2836	1.2893
PLNCZK	6.168	6.212
GBPZK	21.494	21.67
HUFZK	0.09075	0.09141
CHFZK	21.082	21.206
AUDZK	20.471	20.593
AUDUSD	1.0323	1.0415
CADZK	19.816	19.926
BKRCZK	1.407	1.424
EURAUD	1.2325	1.249



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



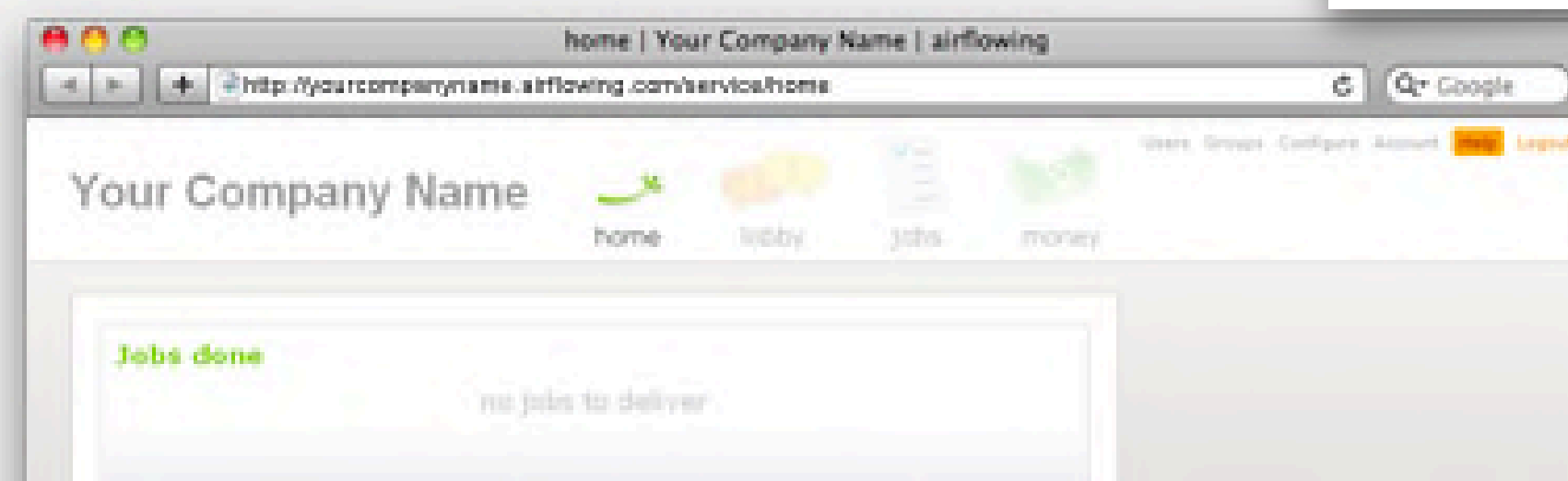
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analysis in 3 months

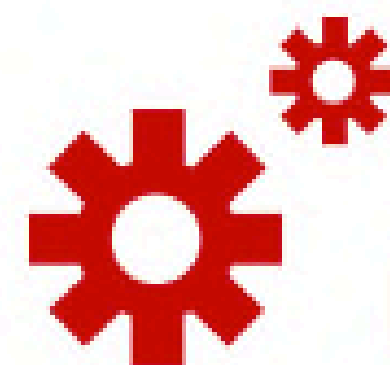


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Dedicated tools

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answers that lead to

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Wind Energy

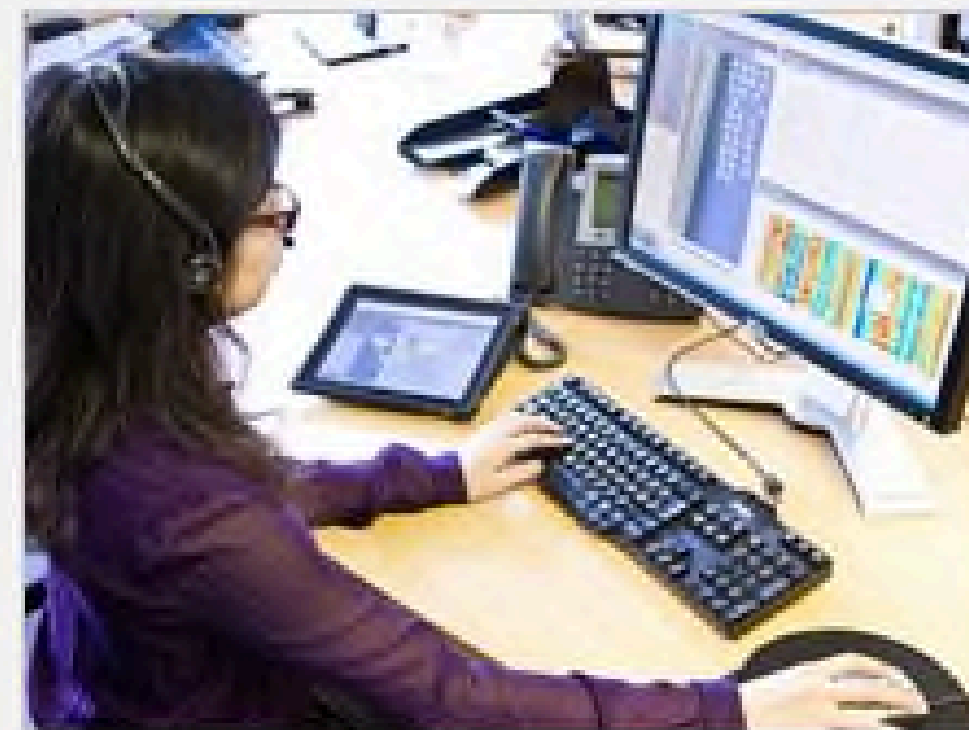
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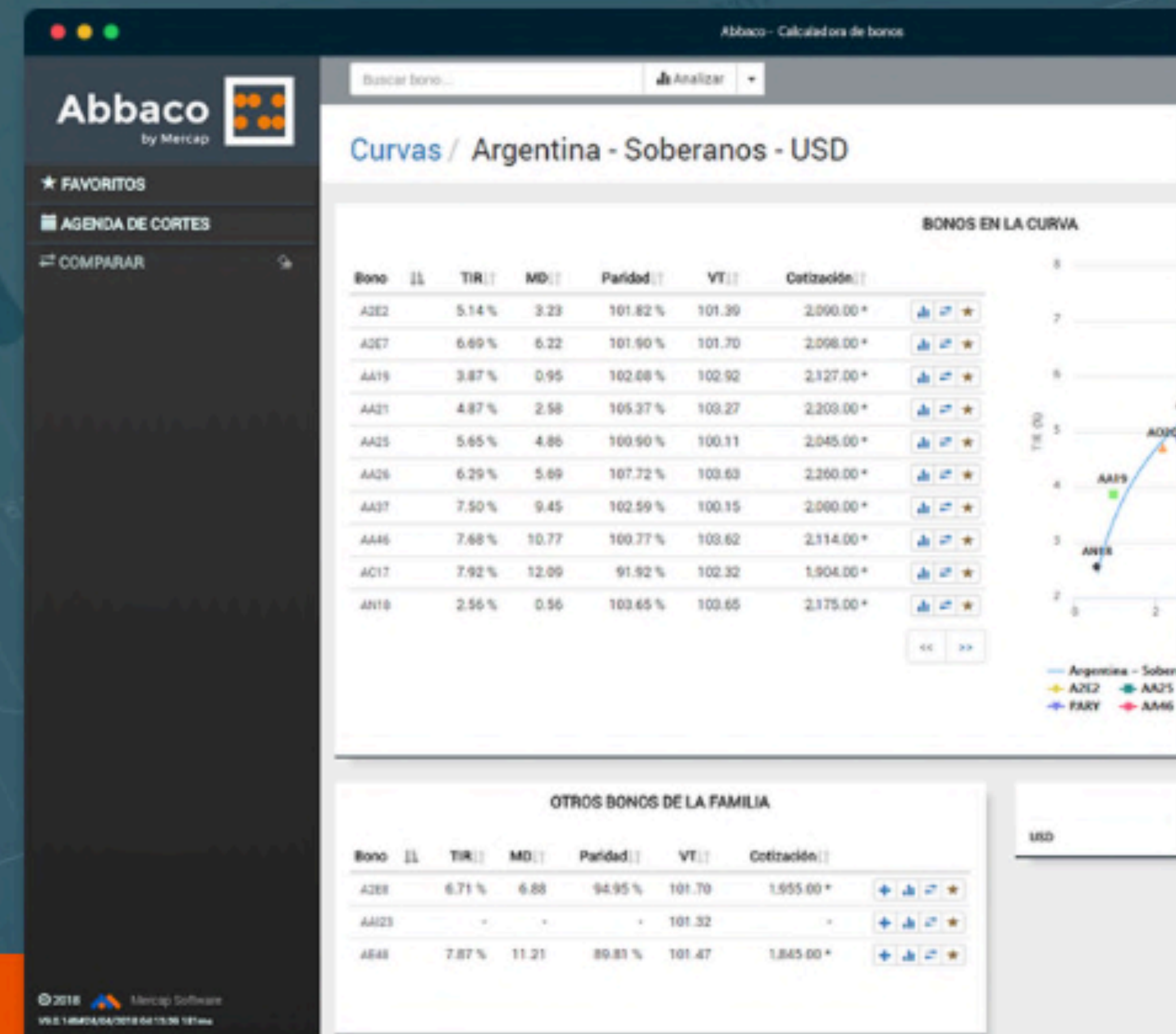
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4G LTE coverage

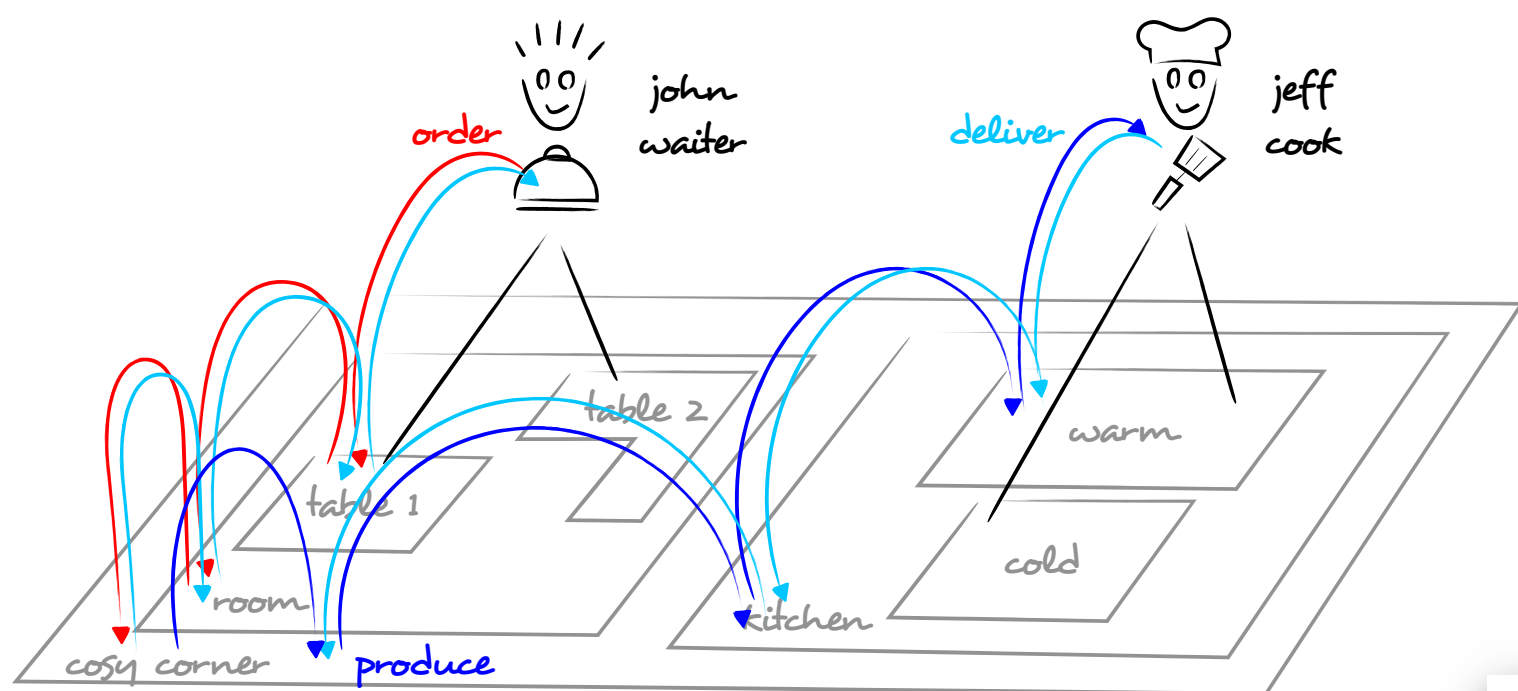
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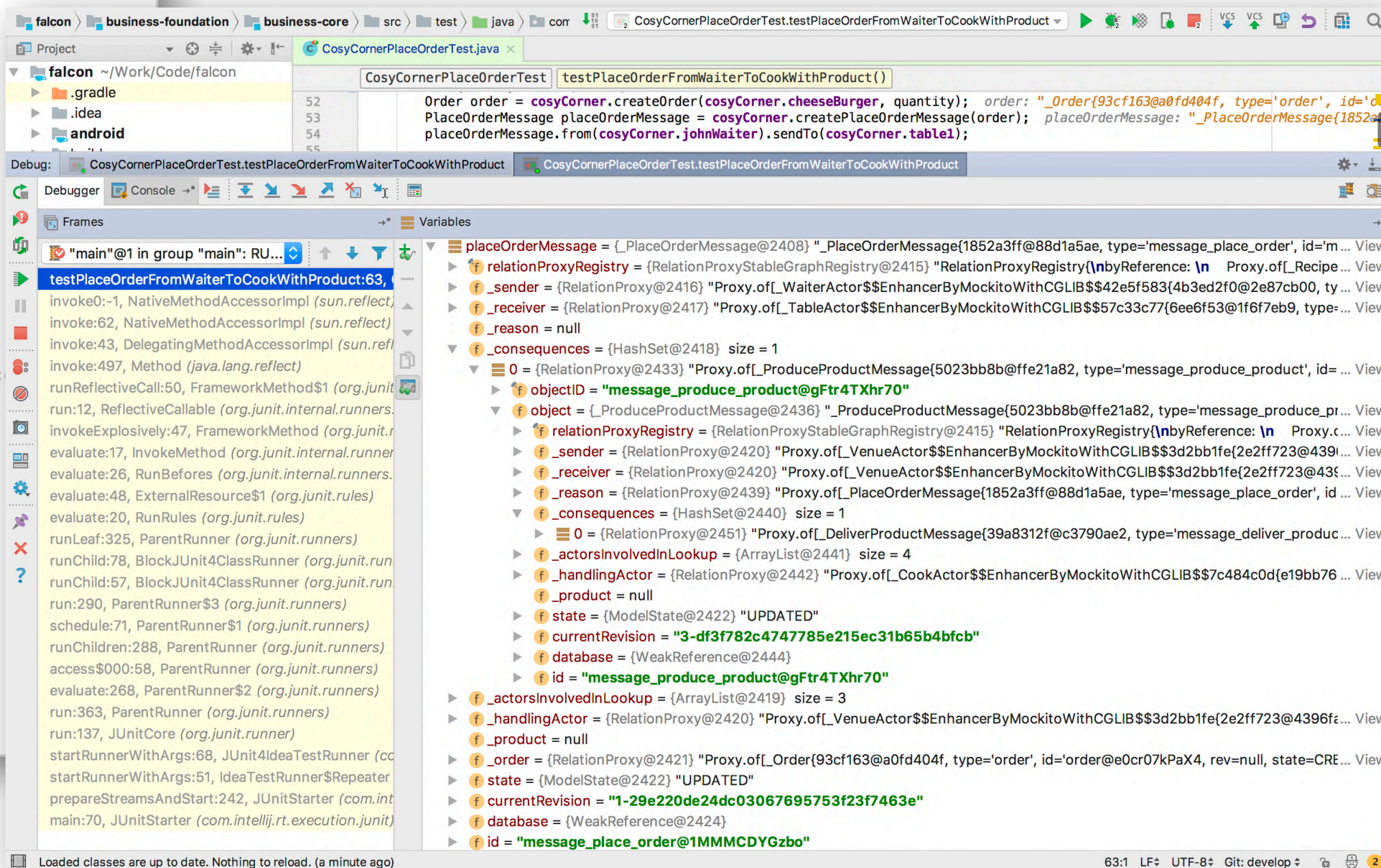
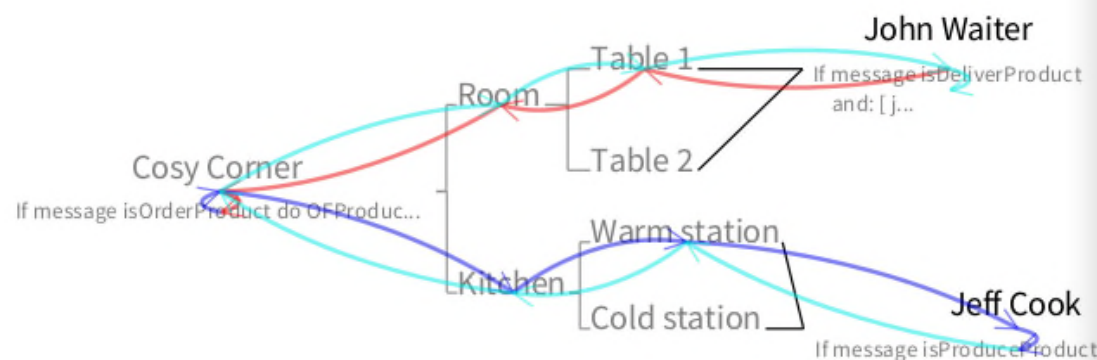
feenk



Help growing startups Get back control on software

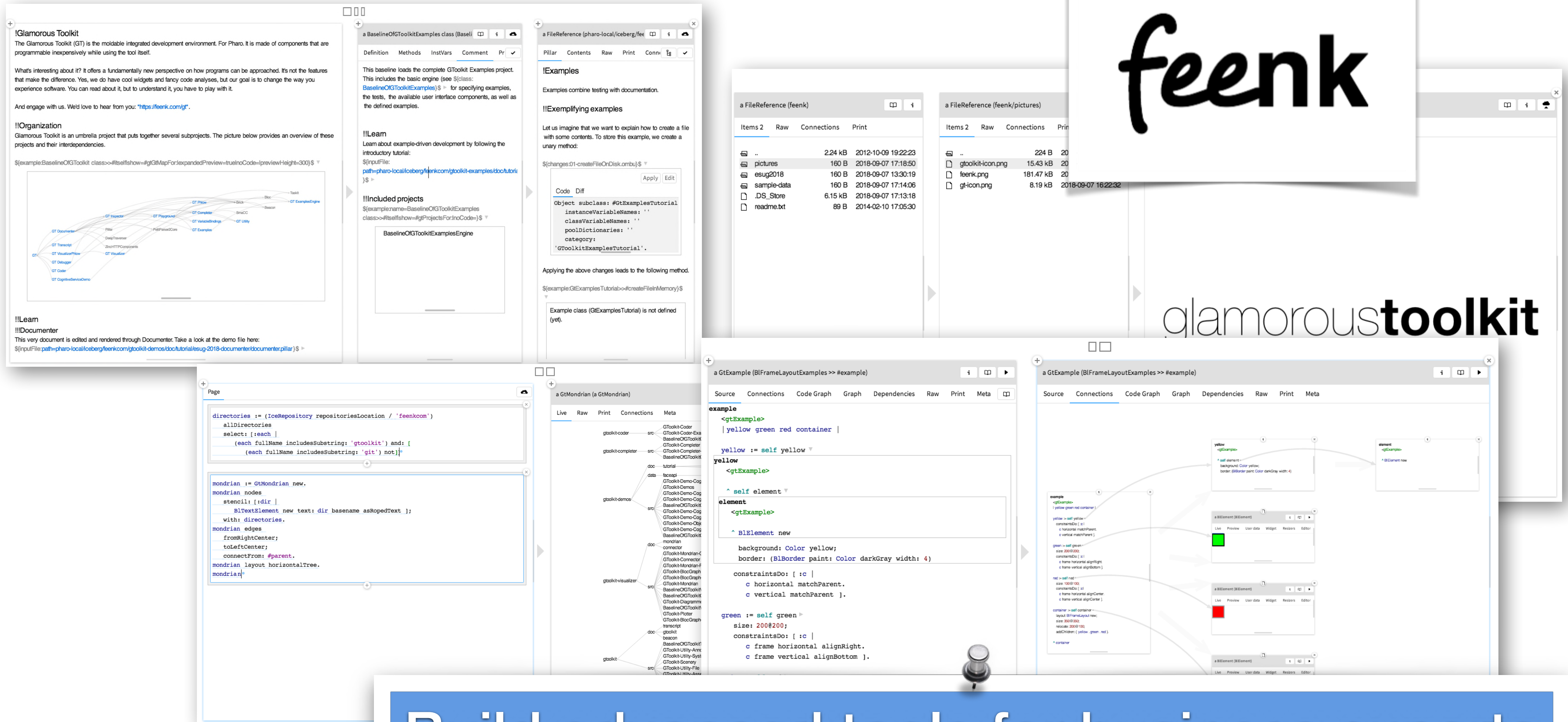
```
ofdemo2
Playground
an OFOrderProductMessage (Order Steak) x
Propagation Raw Lookup Consequence... Consequences I

"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
```



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m/gt

Build advanced tools for business experts
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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
- WDFPSEExample
- 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

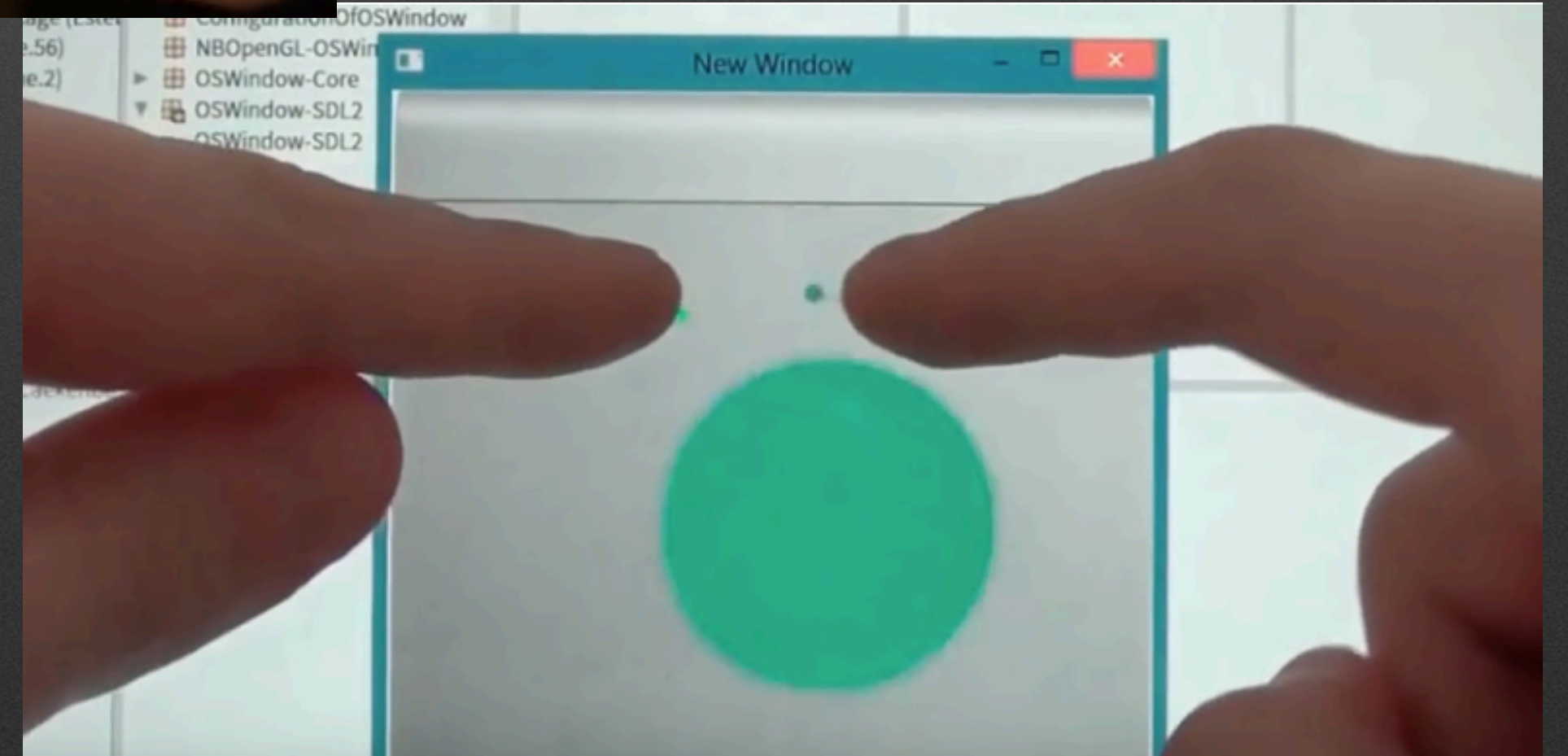
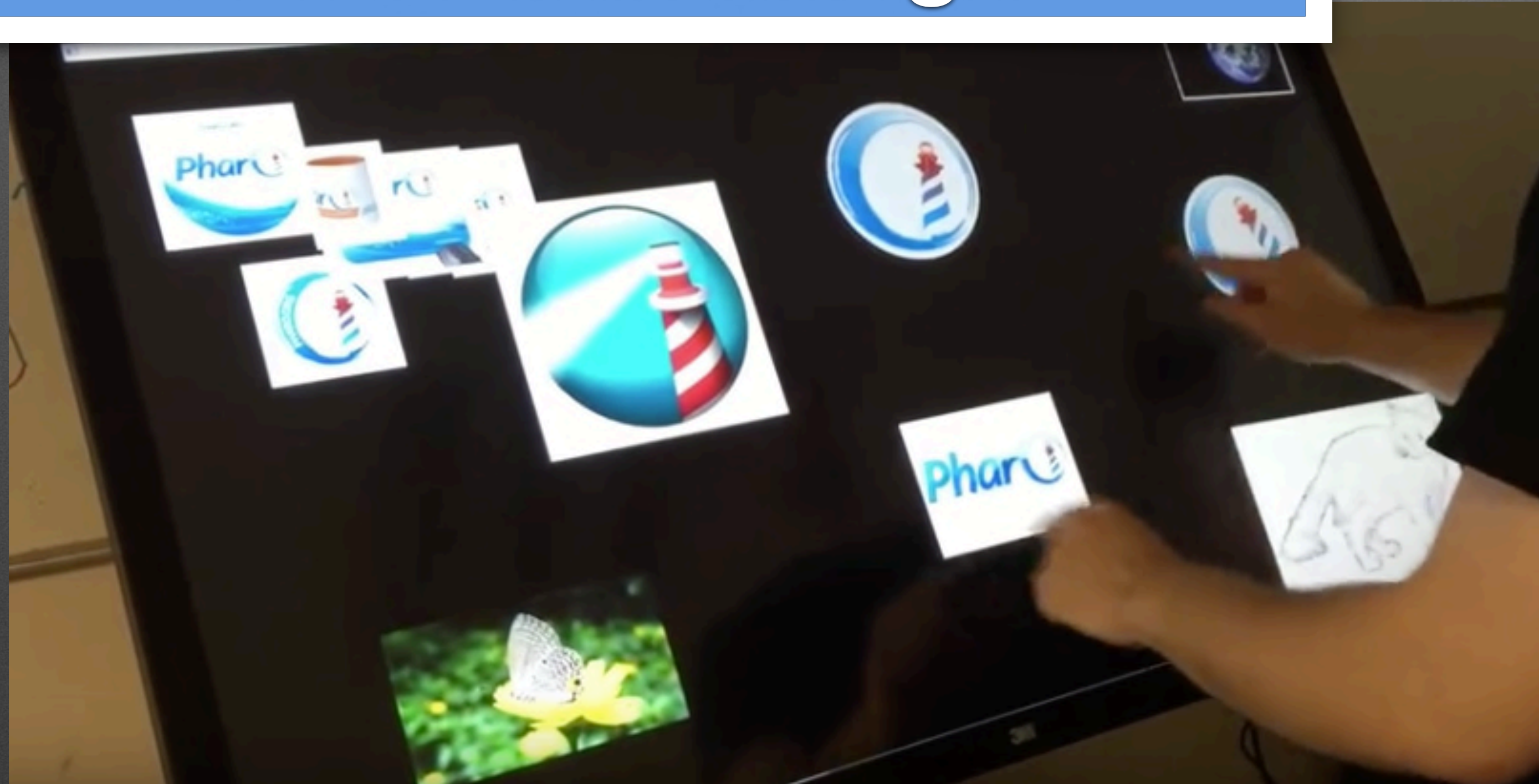
1/3 [1] W +L

Helpful? ? X

Helpful? ? X

Helpful? ? X

Thales prototypes advanced interaction design



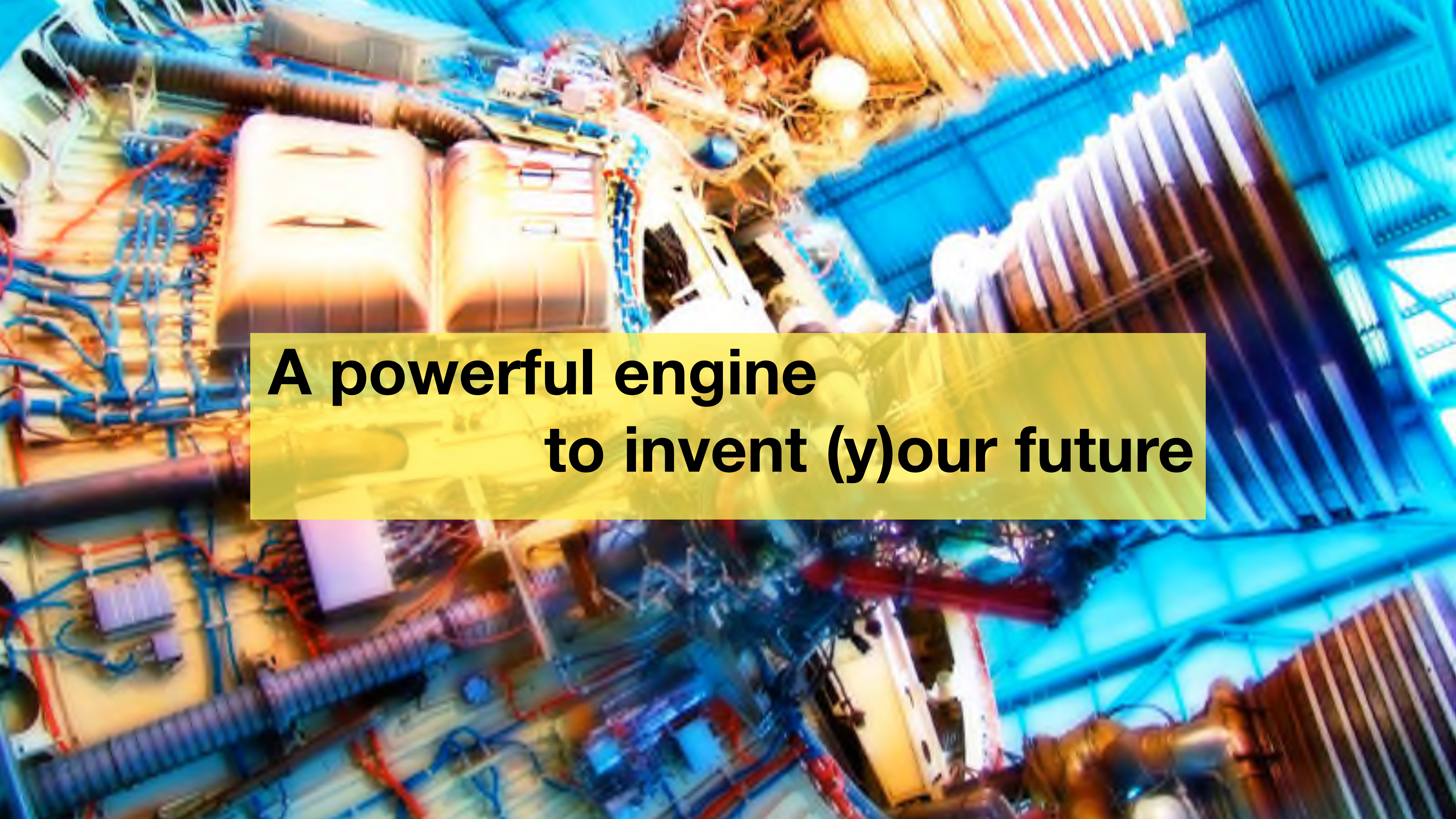
Mobility Map: a broker for mobility services

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**

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

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SCG (CH)

CAR (FR)

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Ummisco (IRD)

Reveal (CH)

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CEA-List (FR)

Uqbar (AR)

OC (FR)

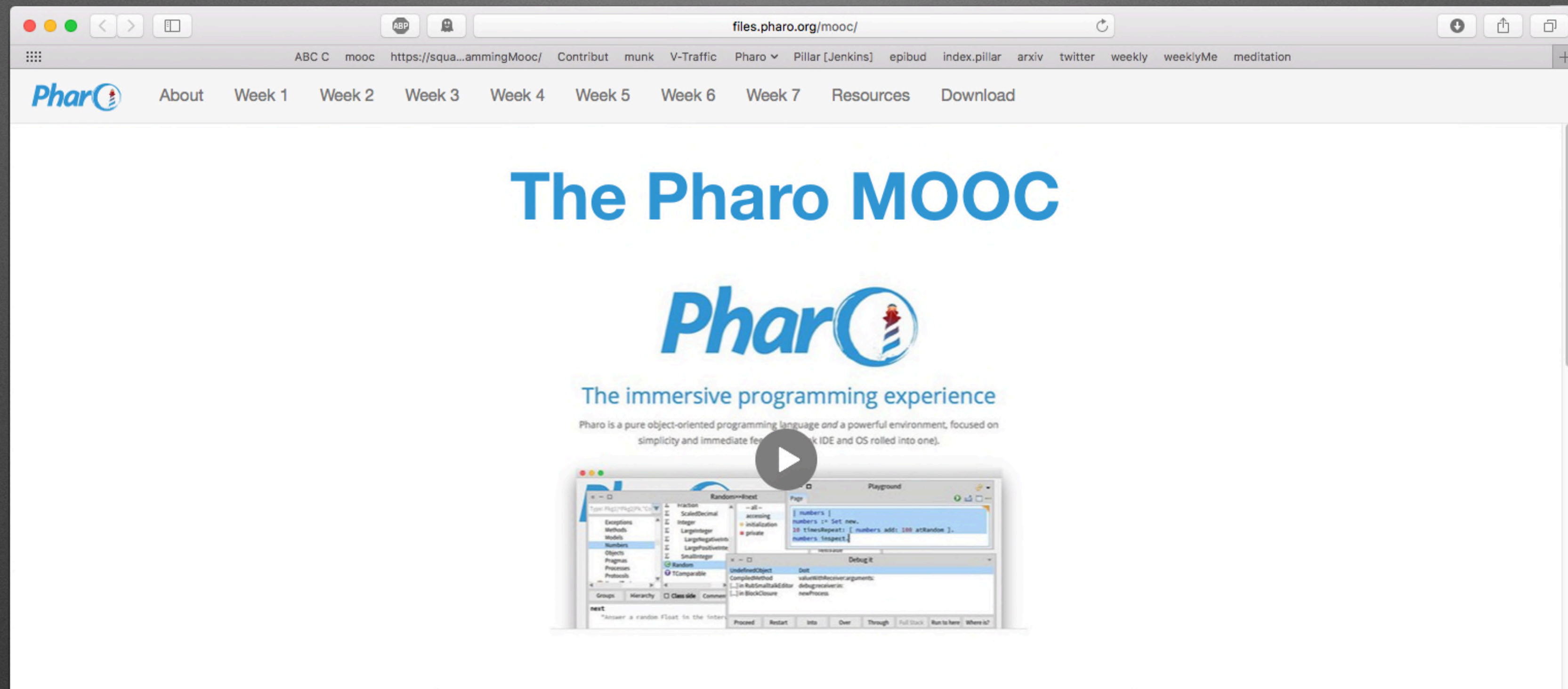
CCMI-FIT (CZ)

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...](#)

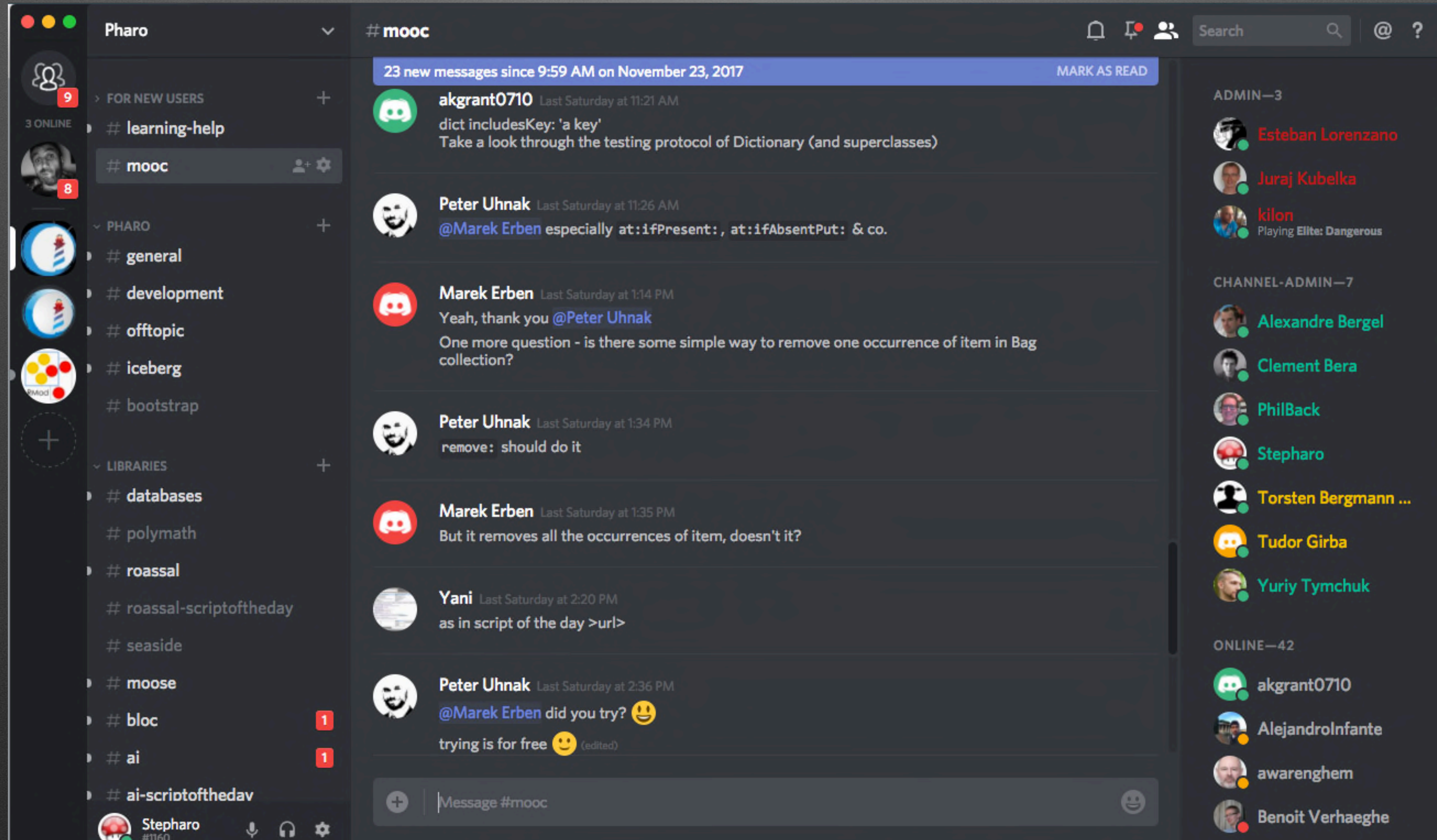
Obtaining the MOOC

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

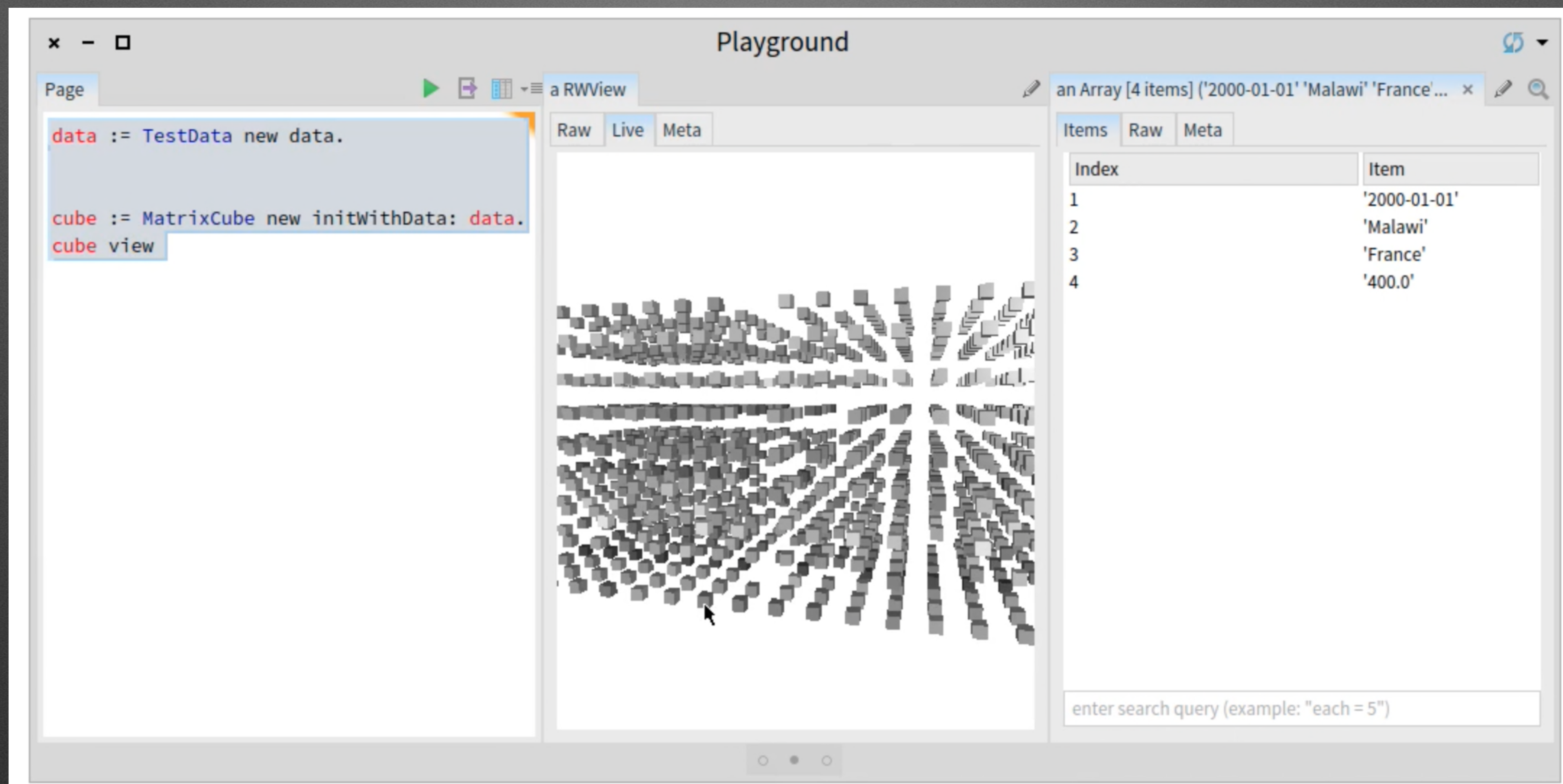
Only objects +
messages +
closures!

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

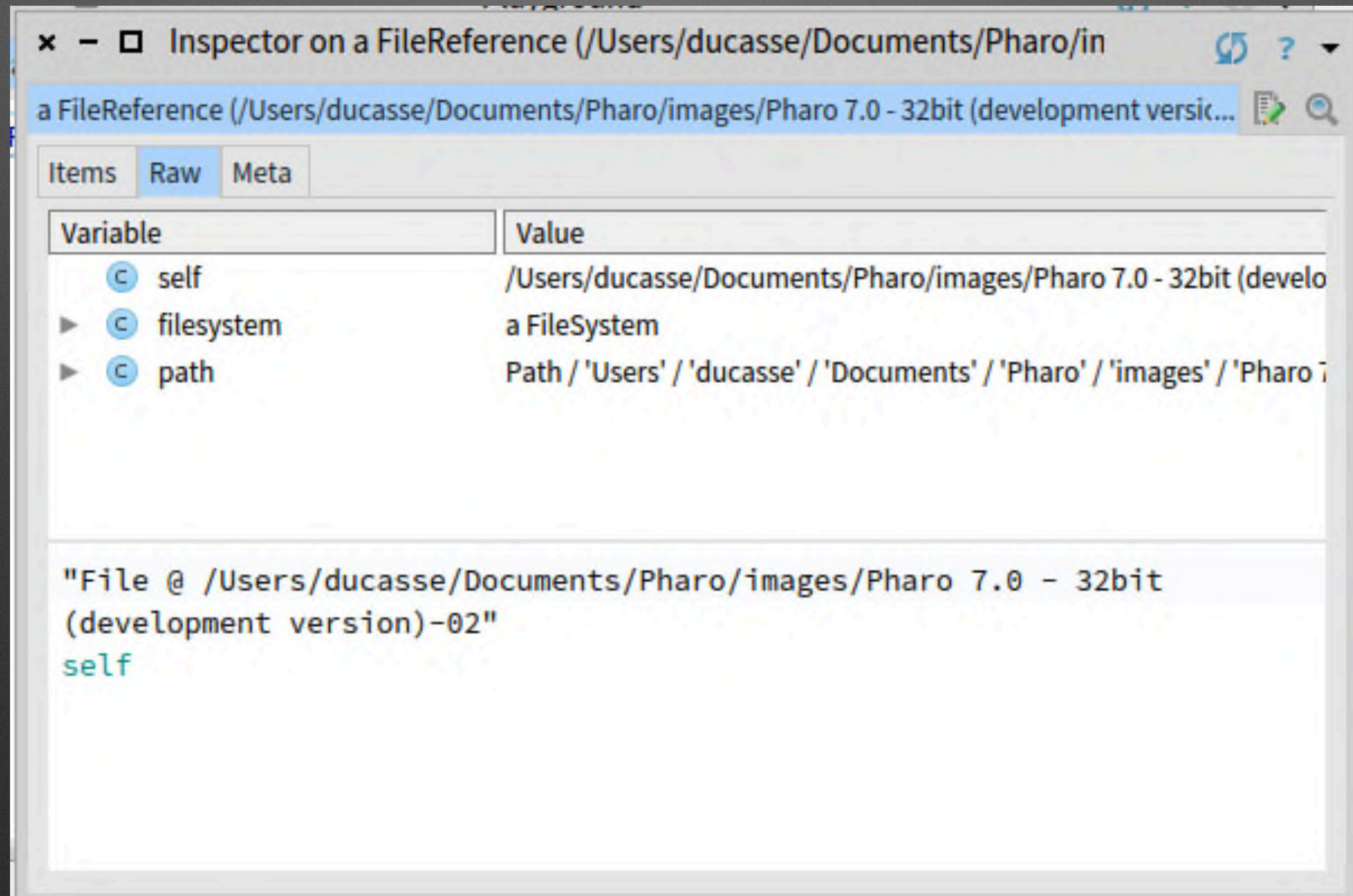
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Focus on your domain**

**Amazing moldable
tools**

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



Traditionally a file reference...



A file browser...

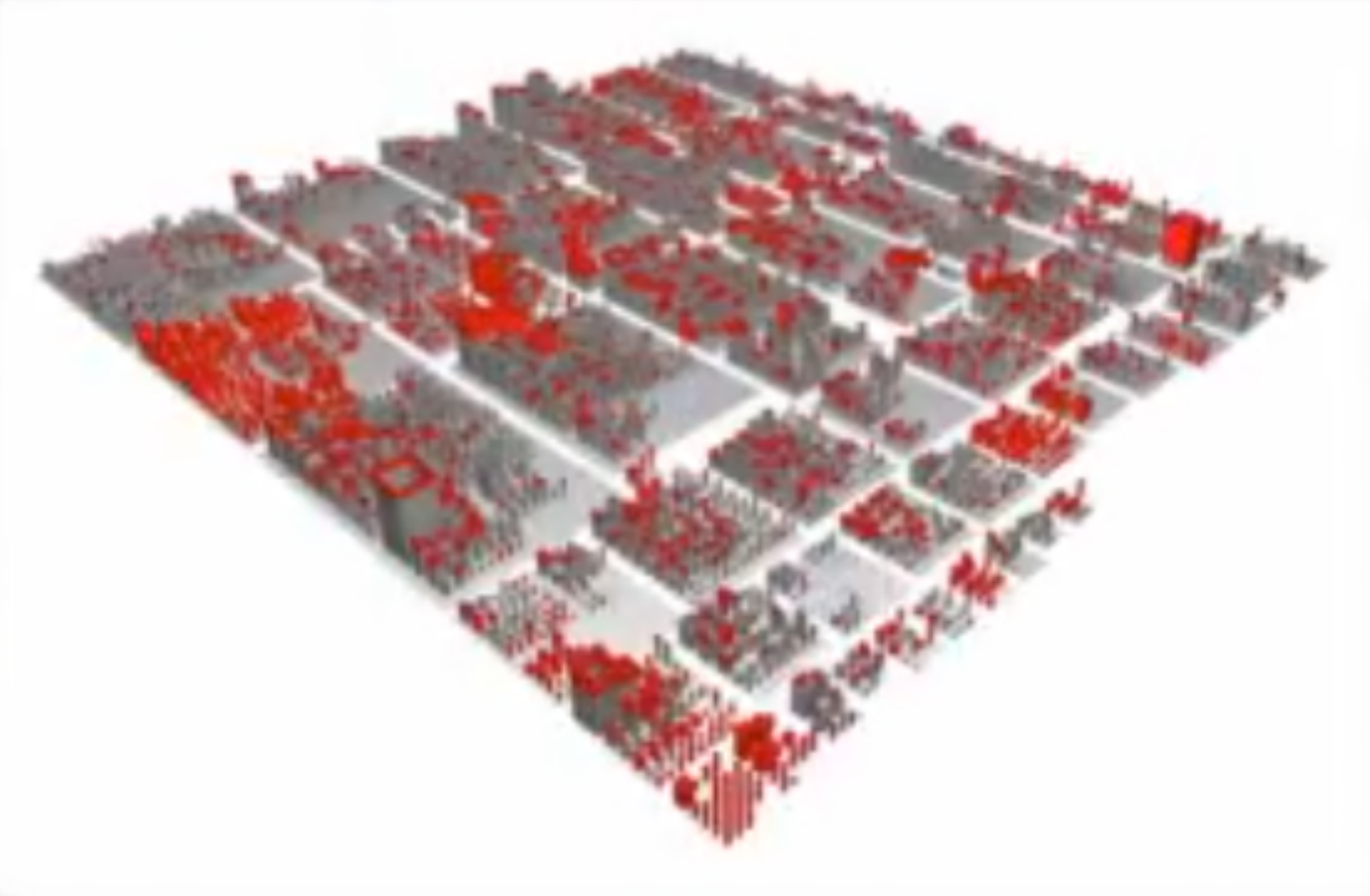
Inspector on a FileReference (/Users/ducasse/Library/Application Support/Pharo/images/SpurForShooting6)

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

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...]

... 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)

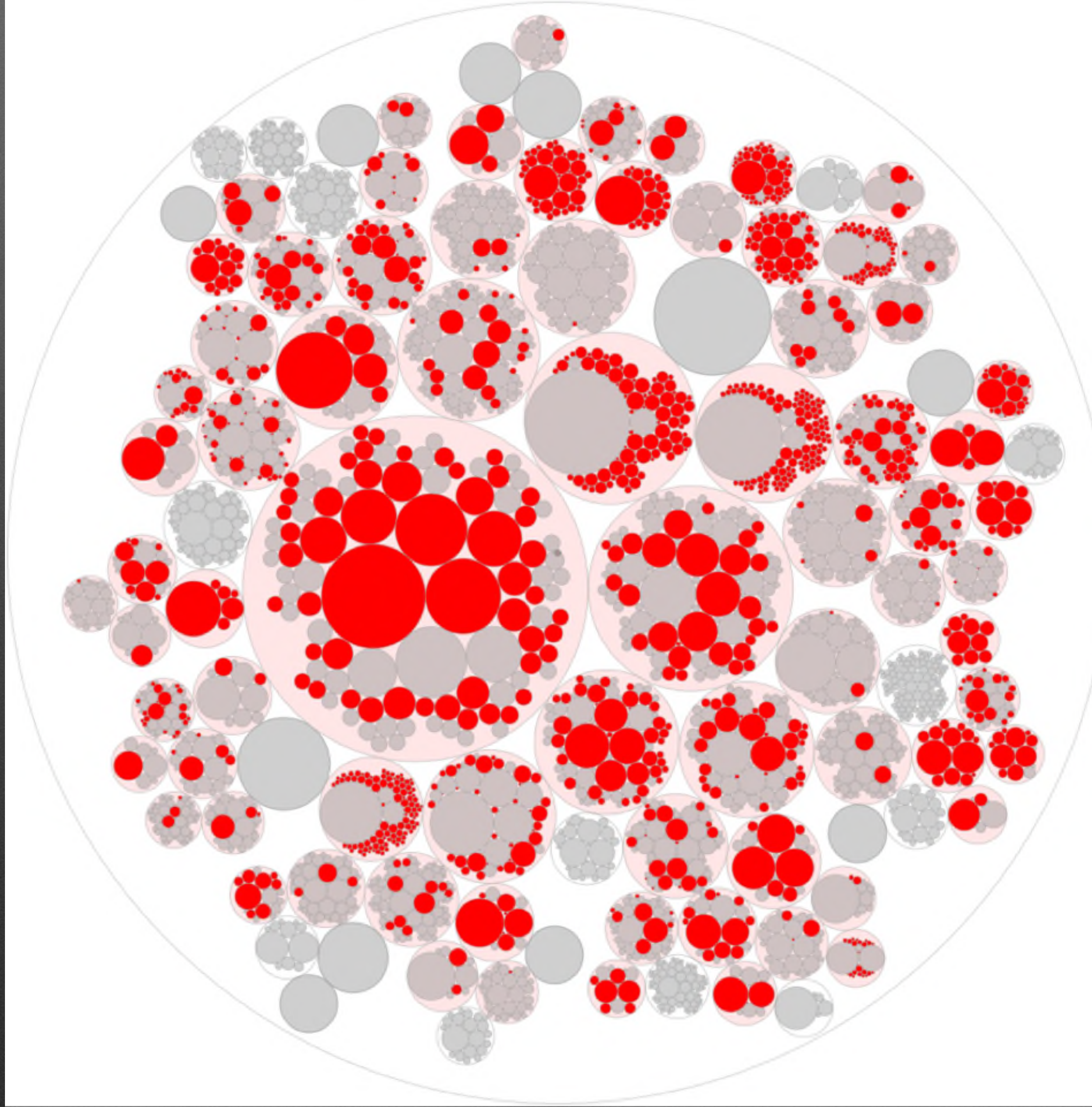
a RBAssignmentNode (RBAs...]

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

ProceedRestartIntoOverThrough

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)

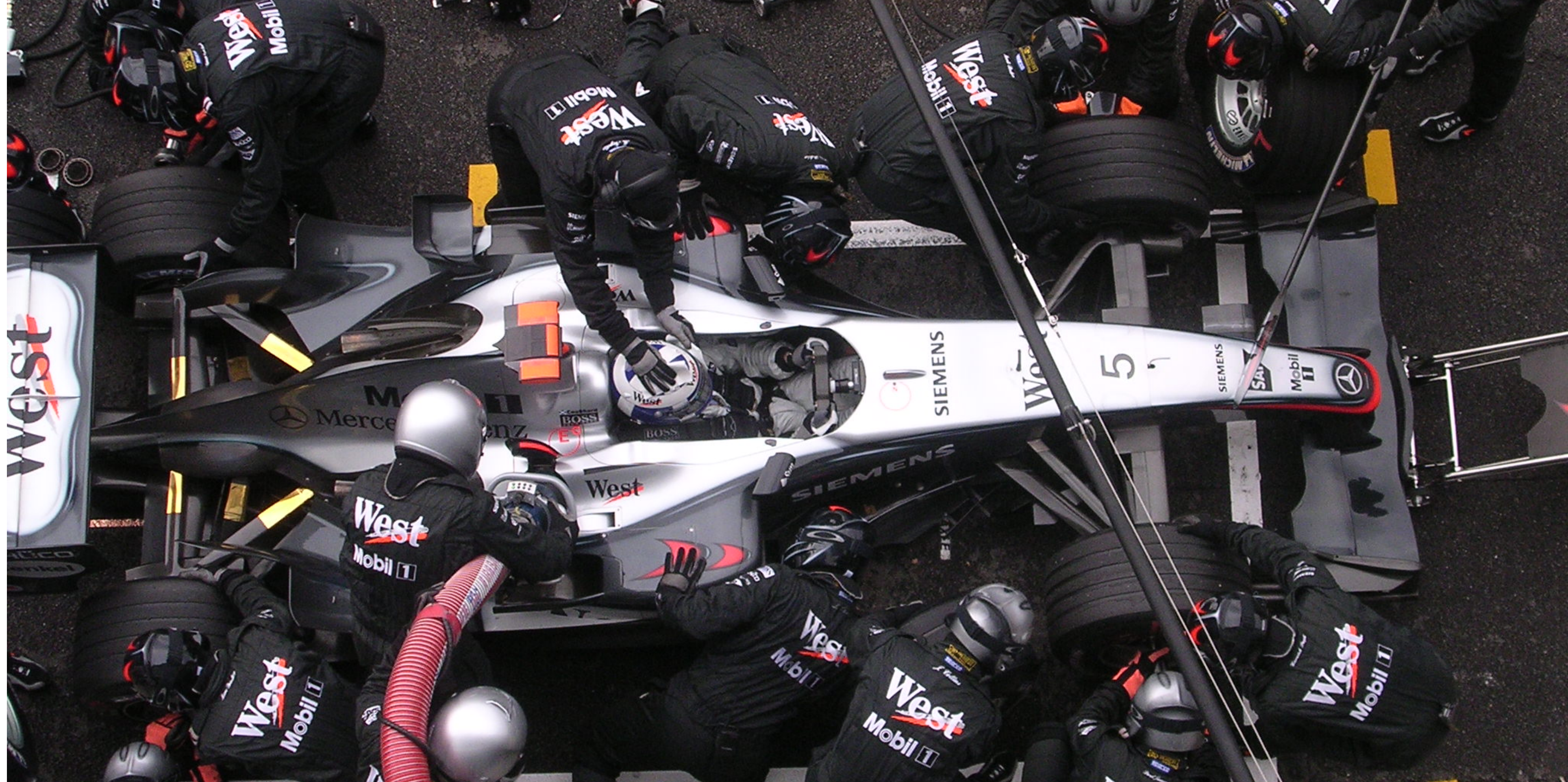
Pharo 1.4 - Apr 2012 (860 updates)

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



Fork

Pull Request



Push

Clone



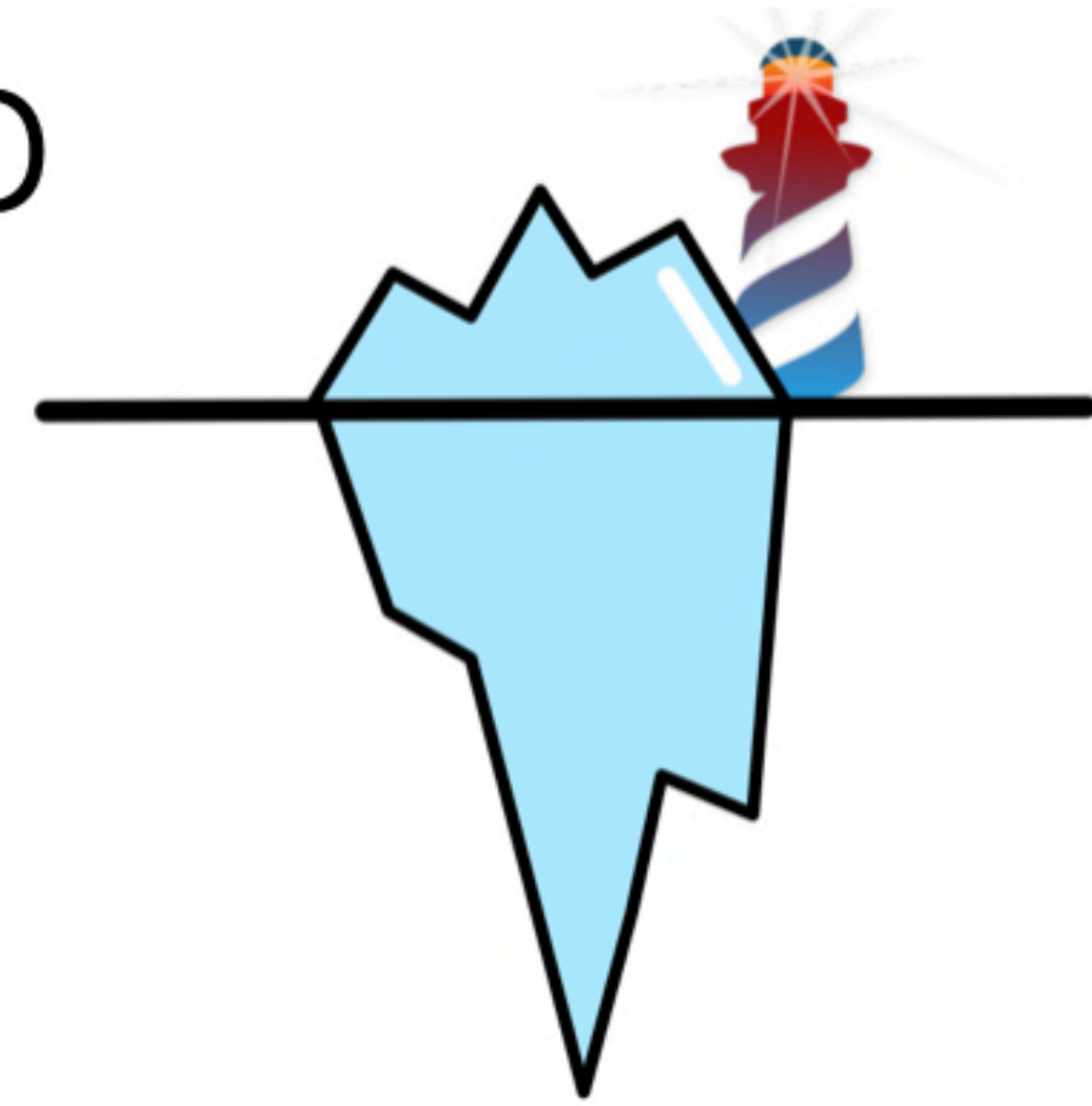
+



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.

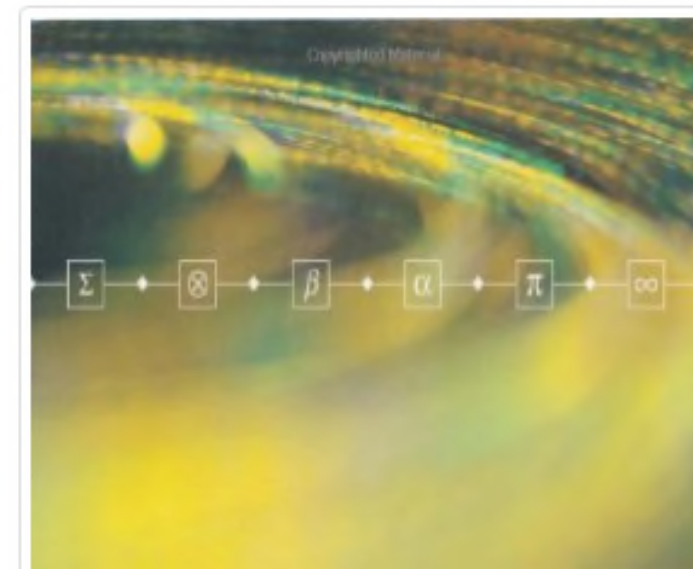
Contribute to the SquareBracketsAssociates community free books
<https://github.com/SquareBracketAssociates/>

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 »](#)



TinyBlog: Un Tutorial Web en
Pharo



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 »](#)

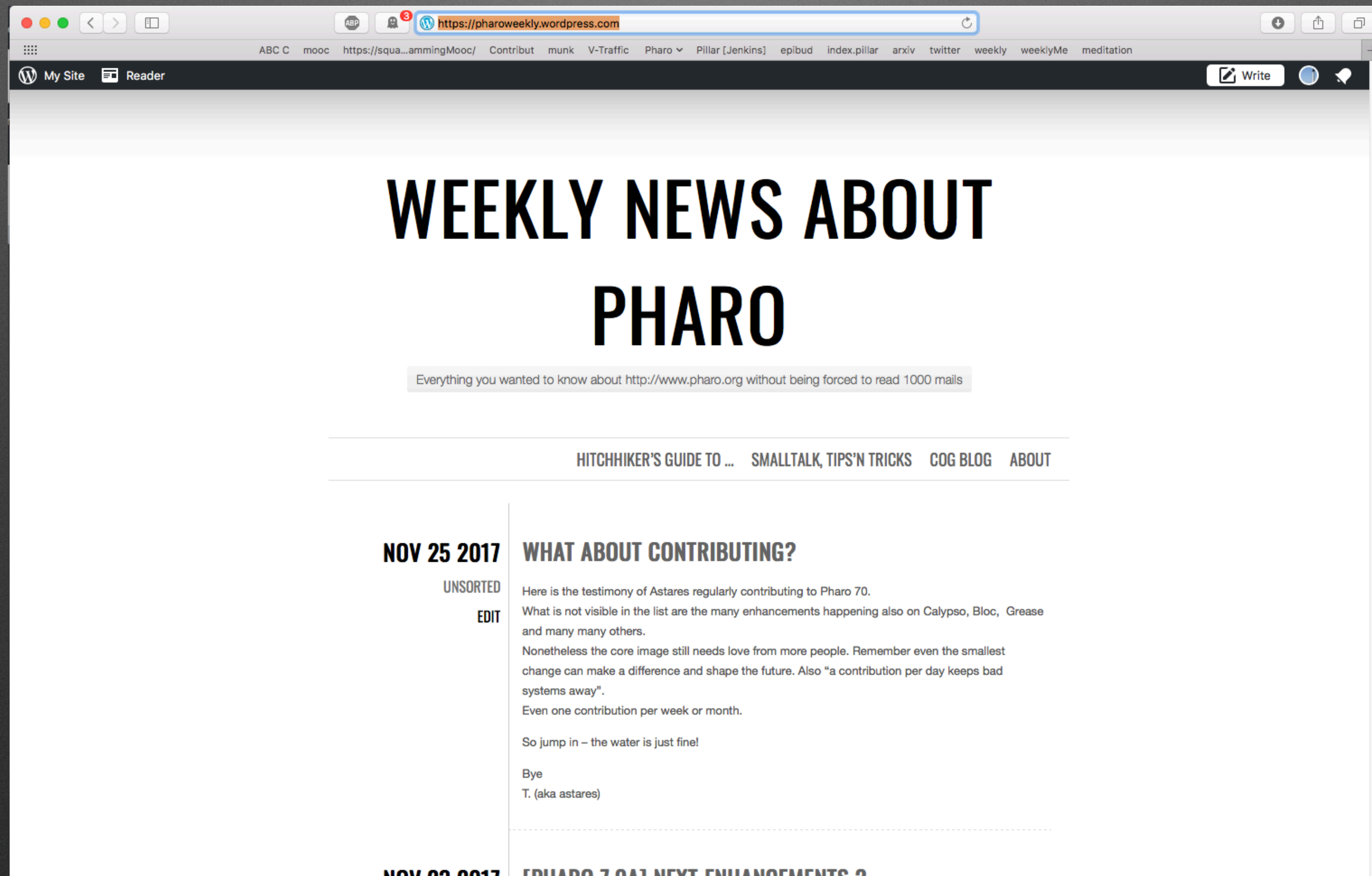


Enterprise Pharo is the third volume of the series. This book covers libraries and frameworks for enterprises, and in particular those doing web development.

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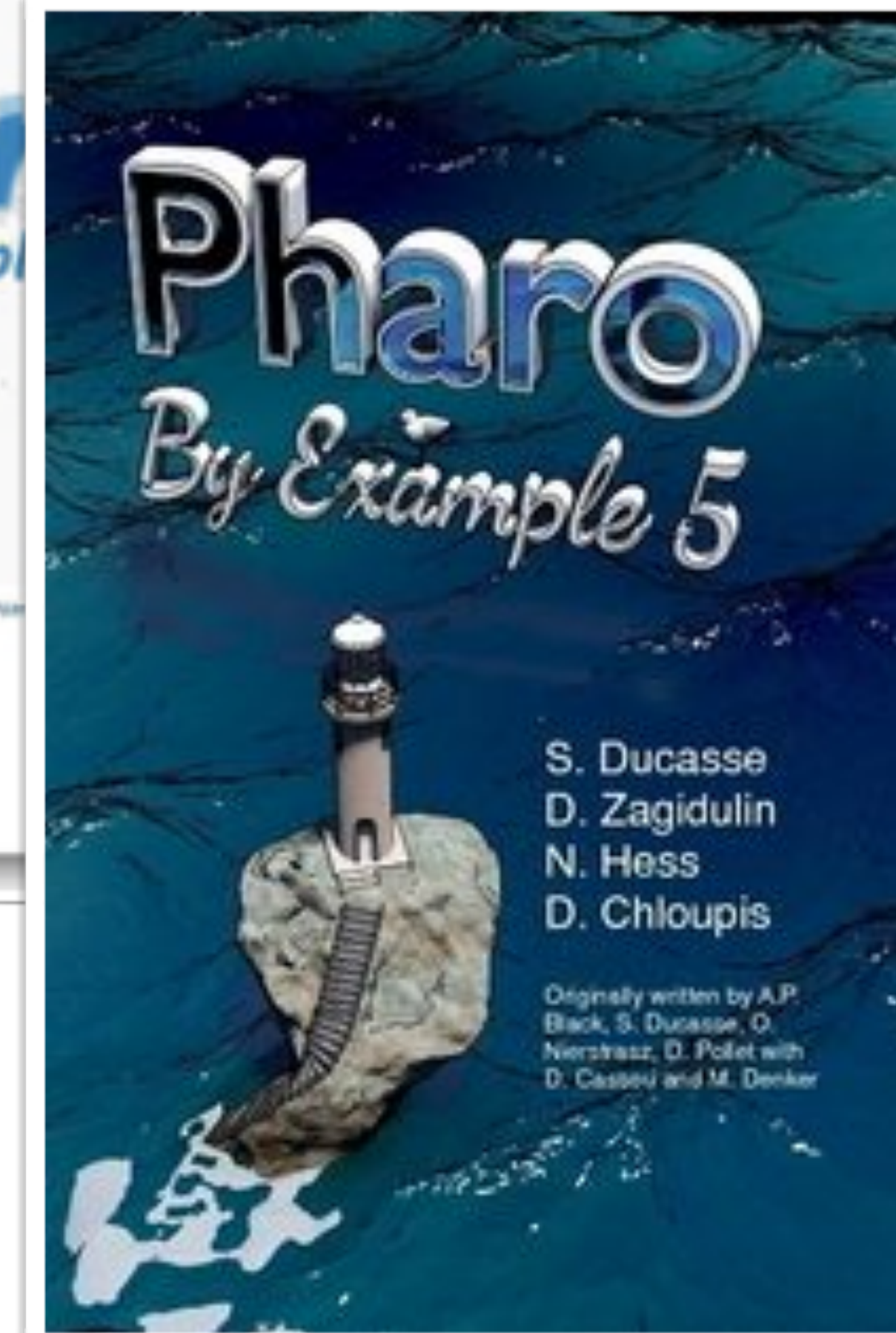
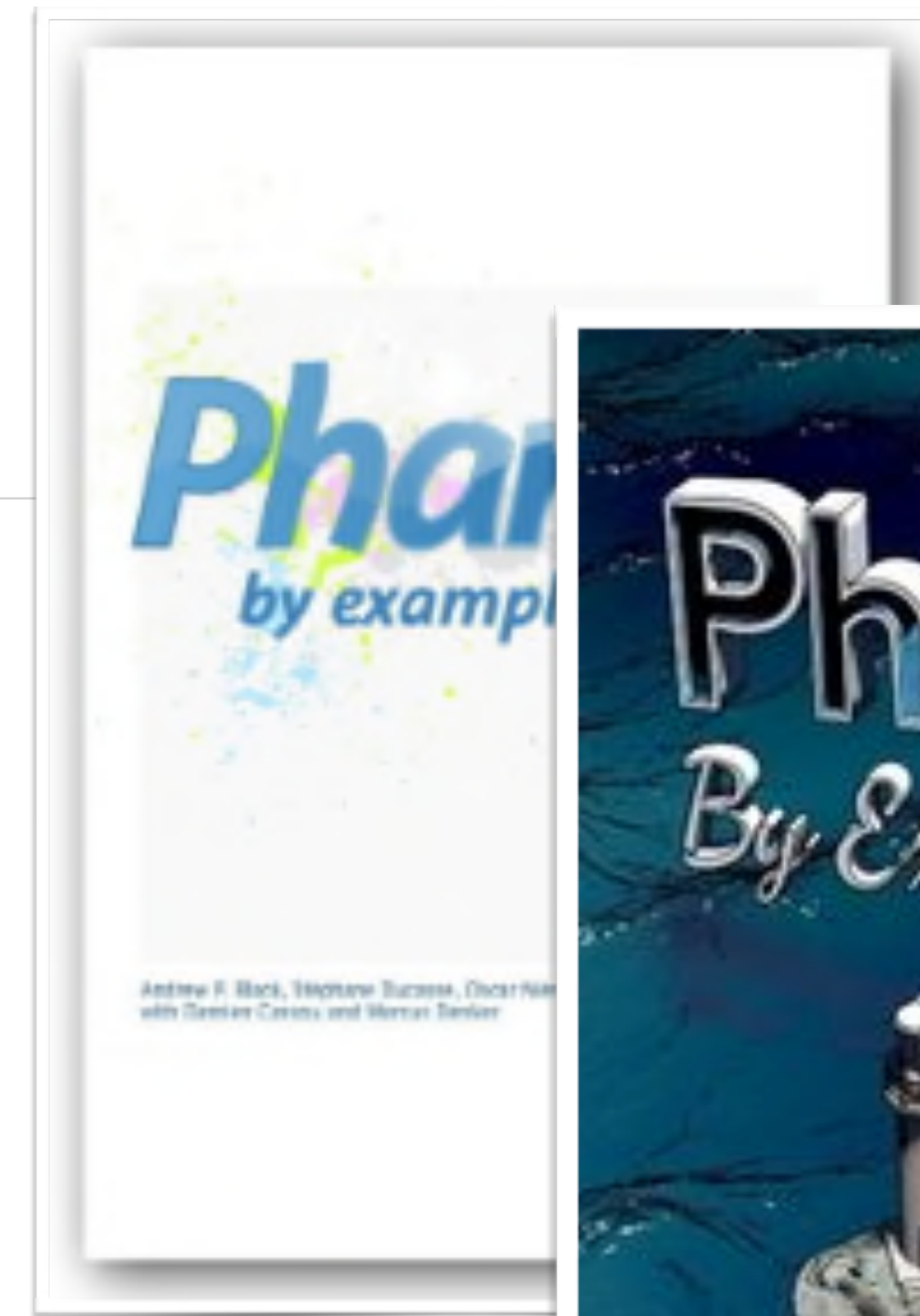


https:// pharoweekly.wordpress.com



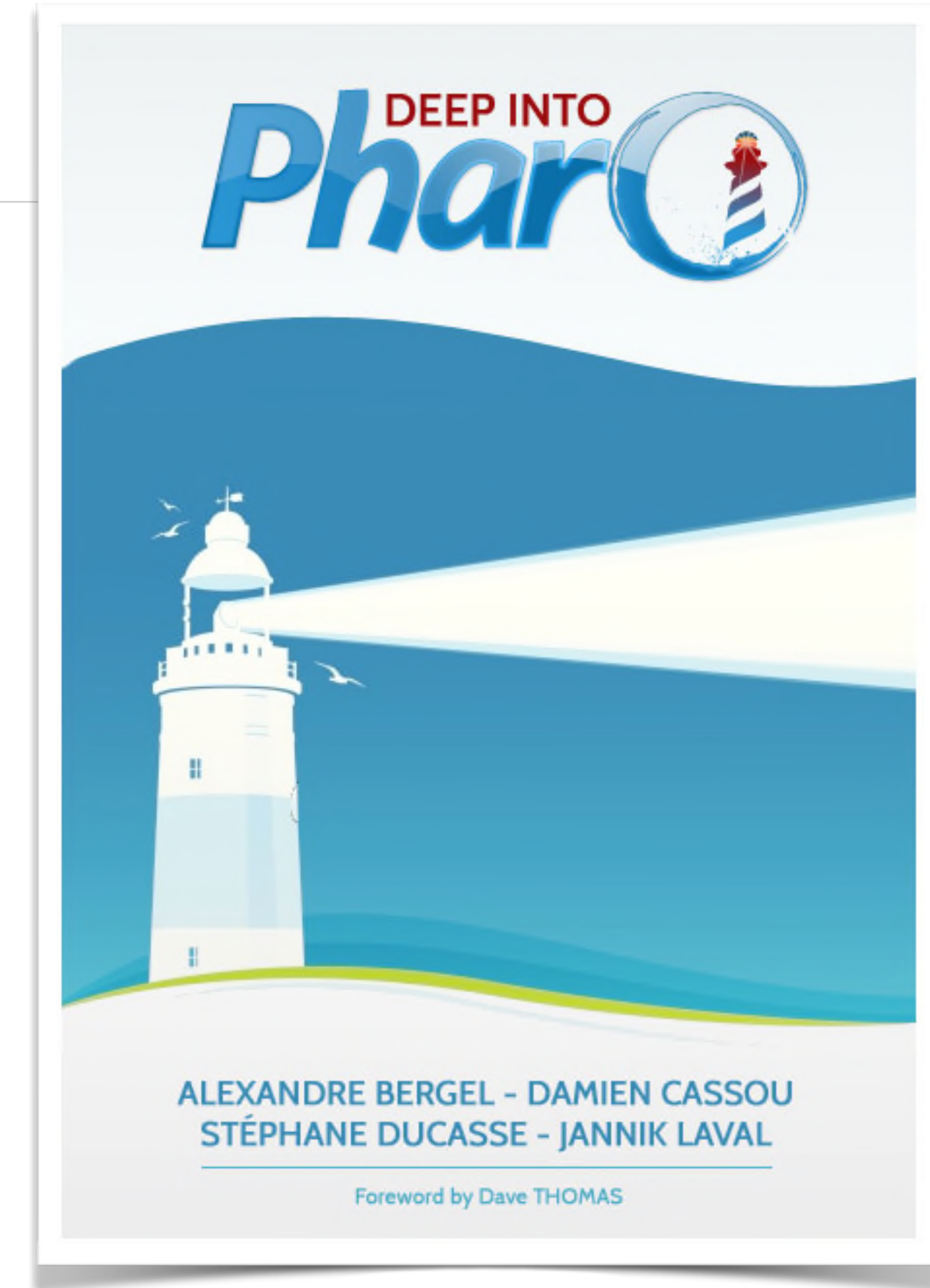
Pharo by Example

- * <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



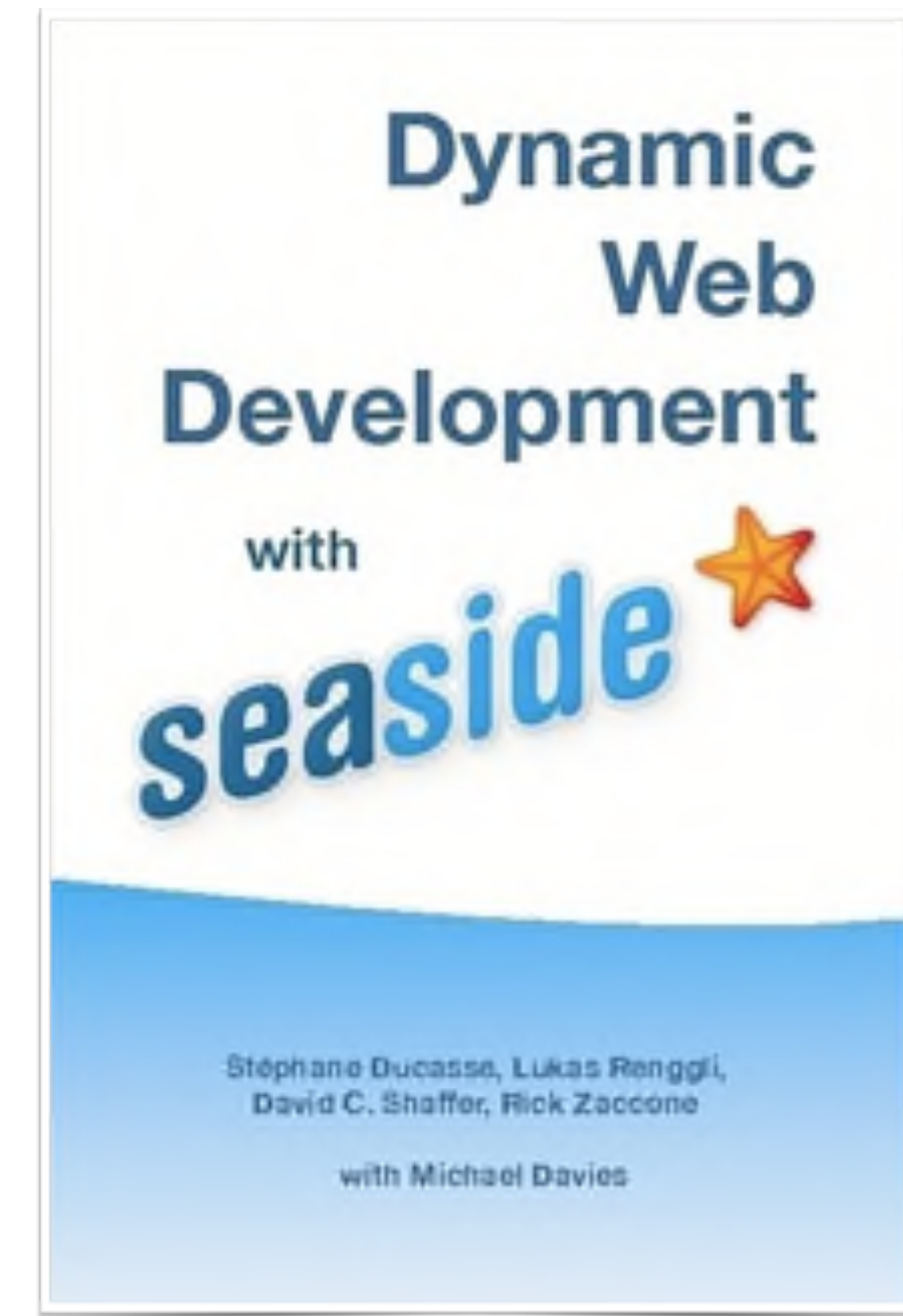
Entreprise Pharo

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



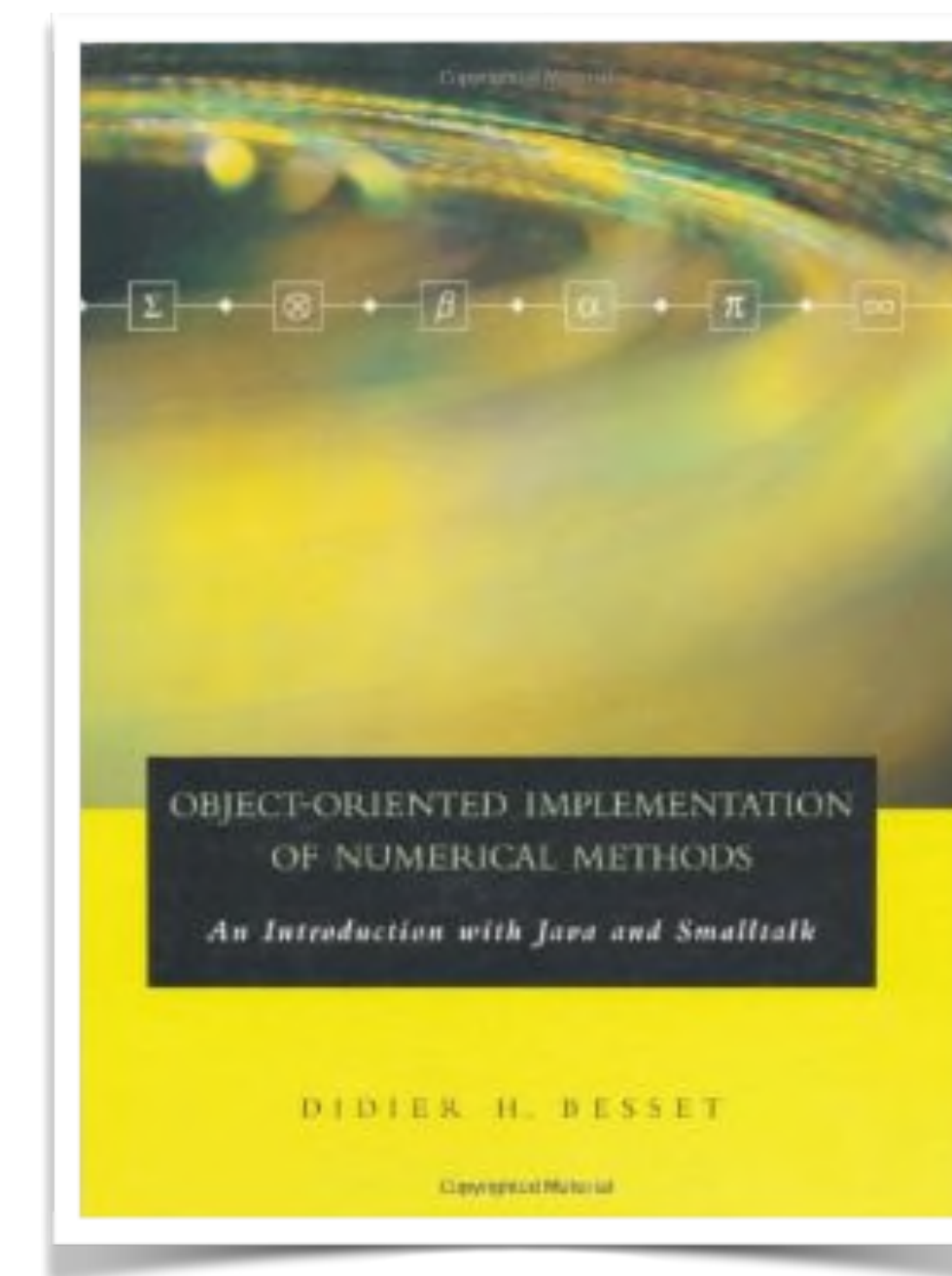
Dynamic Web with Seaside

- * <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>

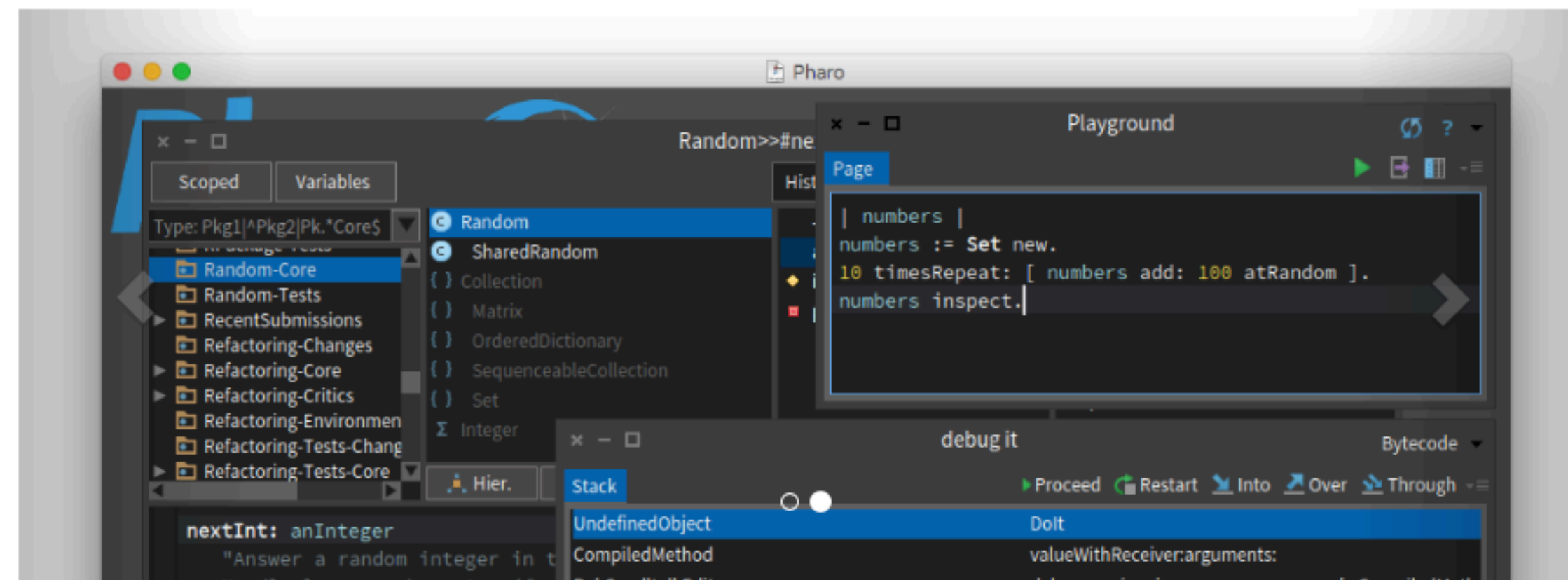


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The immersive programming experience

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).



JPMORGAN
CHASE & Co.



SCHMIDT
Ingenieurbüro für Bauwesen



ZWEIDENKER

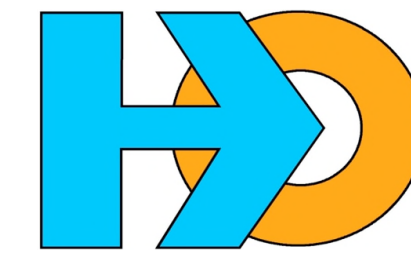


THALES



projector
software

BetaNine
software engineering



inspired!

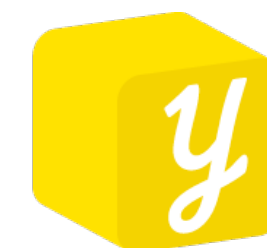


SORABITO

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TA MÈRE^{SCRL}
BADASS MOBILE DEVELOPMENT

Systems that make sense
Sensus



Yesplan
Let's make it happen

