

Pharo: an immersive object-oriented system

<http://www.pharo.org>

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Pharo?

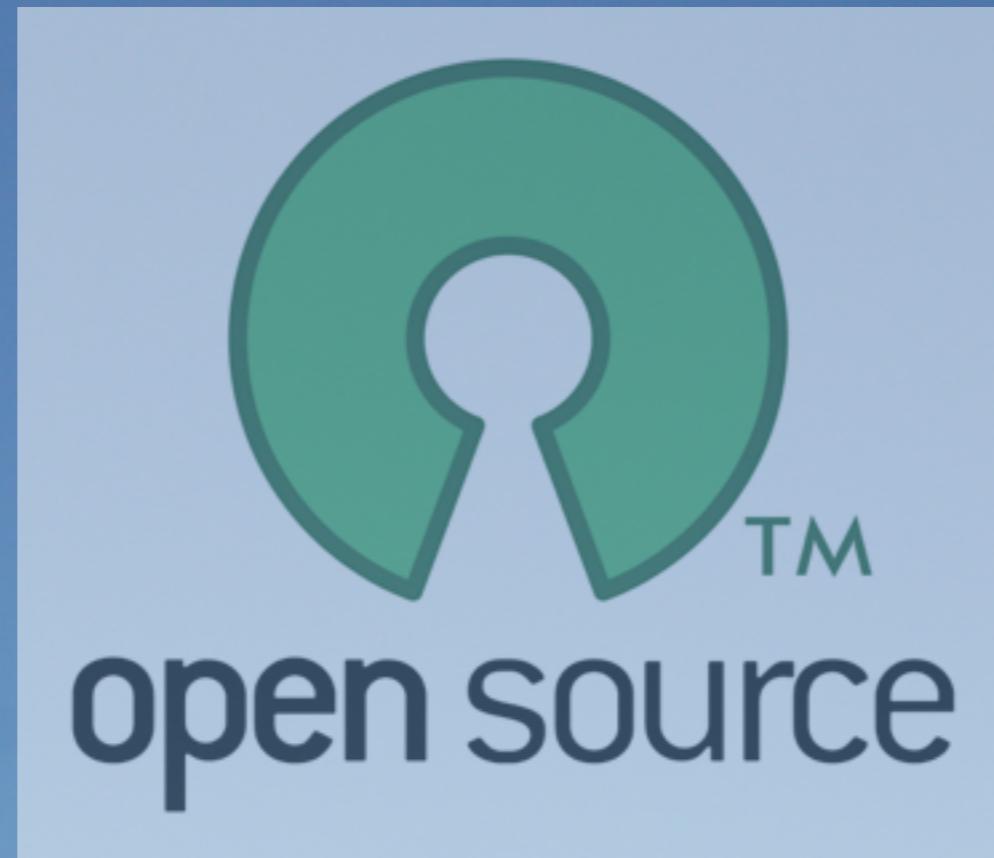


Pharo!

- <http://www.pharo.org>
- System: Pure object language + full IDE
- Inspired by Smalltalk
- Powerful, elegant and fun to program
- Great community
- Living system under your fingers



License



Elegant!

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

Complete Syntax on a Postcard

```
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)
```

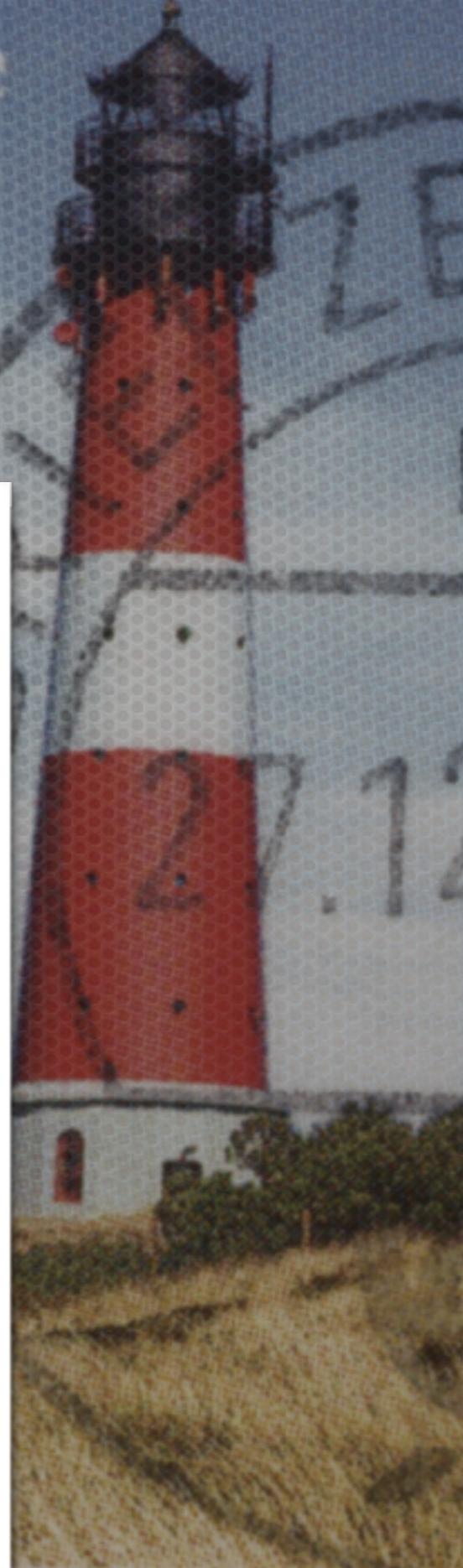
```
do: [ :each | Transcript
```

```
    show: (each class name);
```

```
    show: (each printString);
```

```
    show: ' '].
```

```
^ x < y
```



Object Model

- Dynamically typed
- ****Everything**** is an instance of a class
- All methods are public and virtual
- Attributes are protected
- Single Inheritance

2007

Immersive?



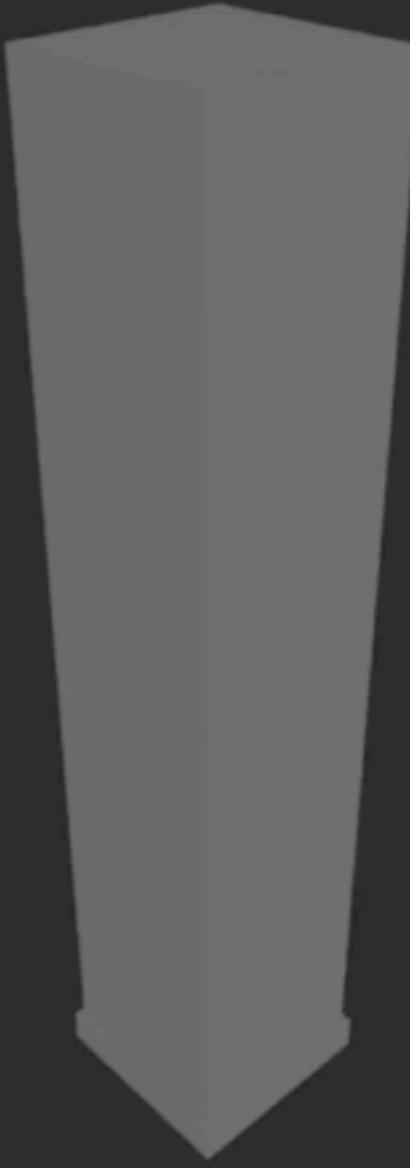
Immersive!

- Deep contact with objects
- Highly interactive programming sessions
- Reflective, inspectable

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



Workspace

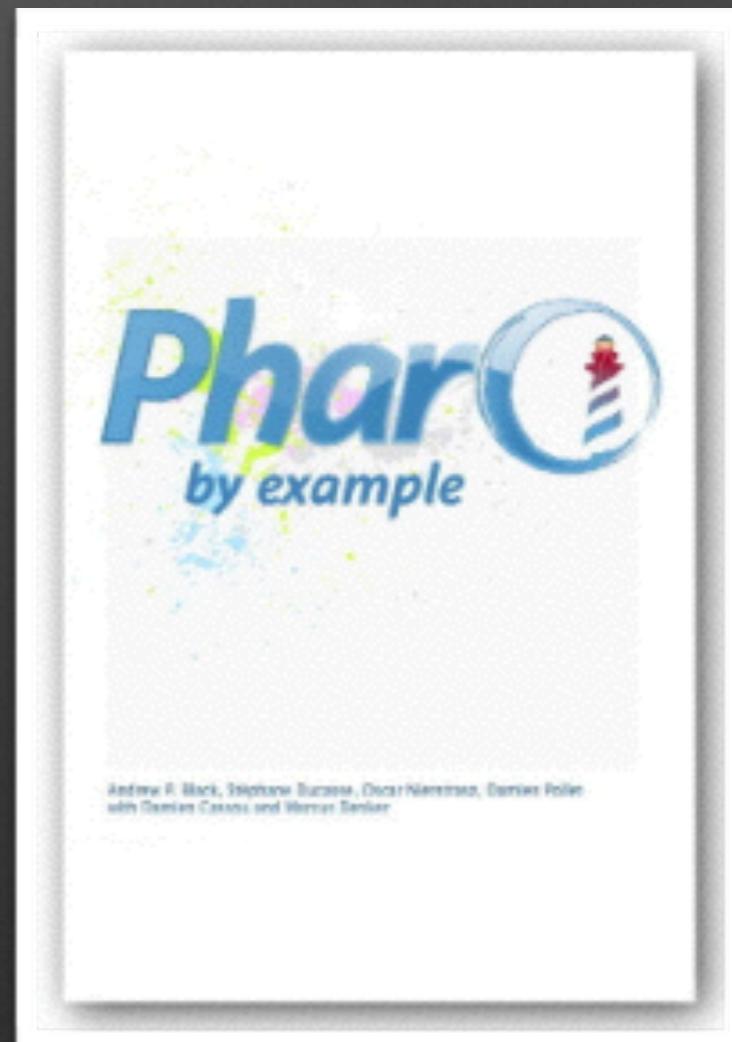
```
| elements lay |  
  
elements := (1 to: 5) collect: [ :ob |  
  (R3CubeShape new) elementOn: ob ].  
    
lay := R3WallLayout new.  
lay on: elements.  
  
UberPresenter present: elements
```

Uber Presenter

Any object can be lively updated
3D
Network connection
Dynamic web applications
GPU
Code

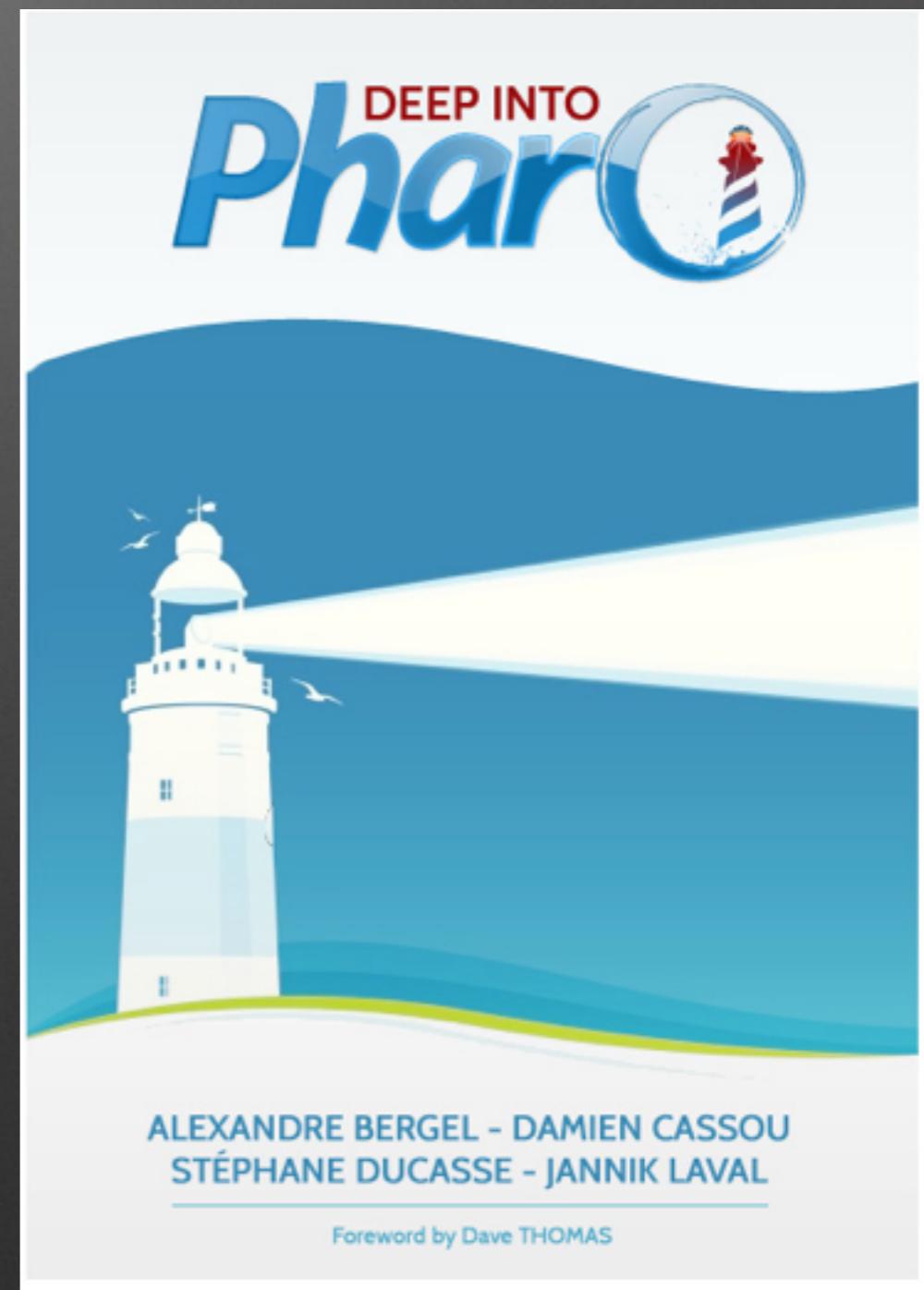
Pharo by Example

- ❖ Pharo by example <http://www.pharobyexample.org>
 - ❖ translated to french, merci!
 - ❖ translated to spanish, gracias!
 - ❖ translated to japanese, ありがとう!
- ❖ Currently updated to Pharo 40



Deep into Pharo

<http://books.pharo.org>



Entrepri\$e Pharo: a Web perspective

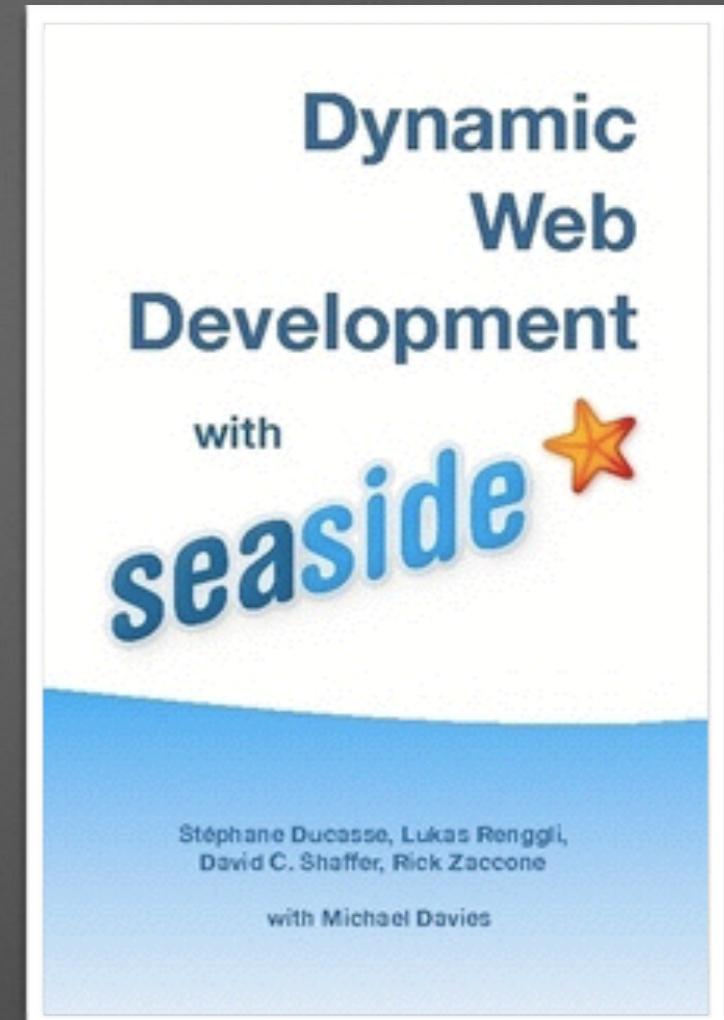
<http://books.pharo.org>

ENTERPRISE PHARO:
A WEB PERSPECTIVE



Other books

- Numerical Methods in Pharo
- Dynamic Web Development with Seaside
 - <http://book.seaside.st>

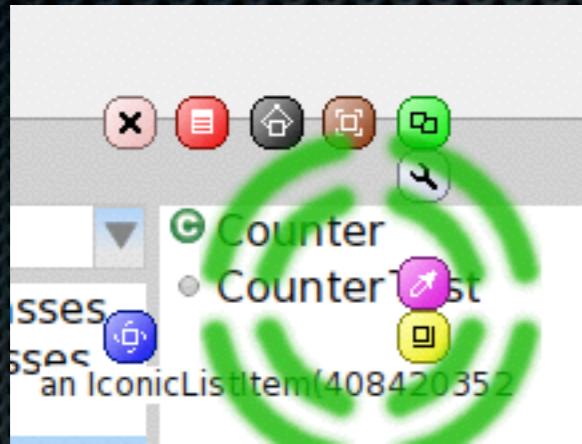


seaside*

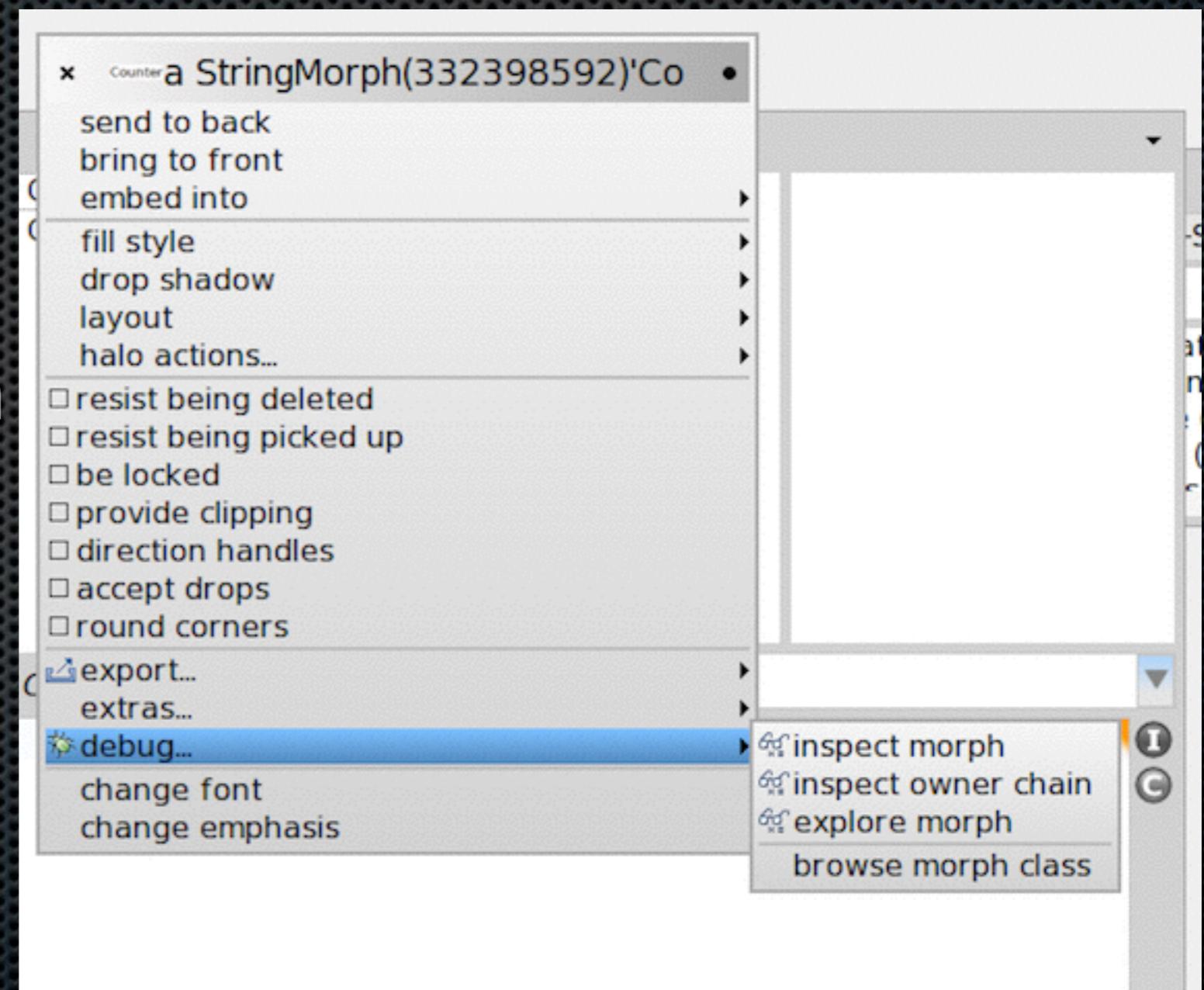
**Learning from the
system...**

Click on it :)

Cmd+shift+option



- Cmd-Shift+option



Finder :)

Finder

match ▾ Search Regexp Selectors ▾ Packages... All Packages

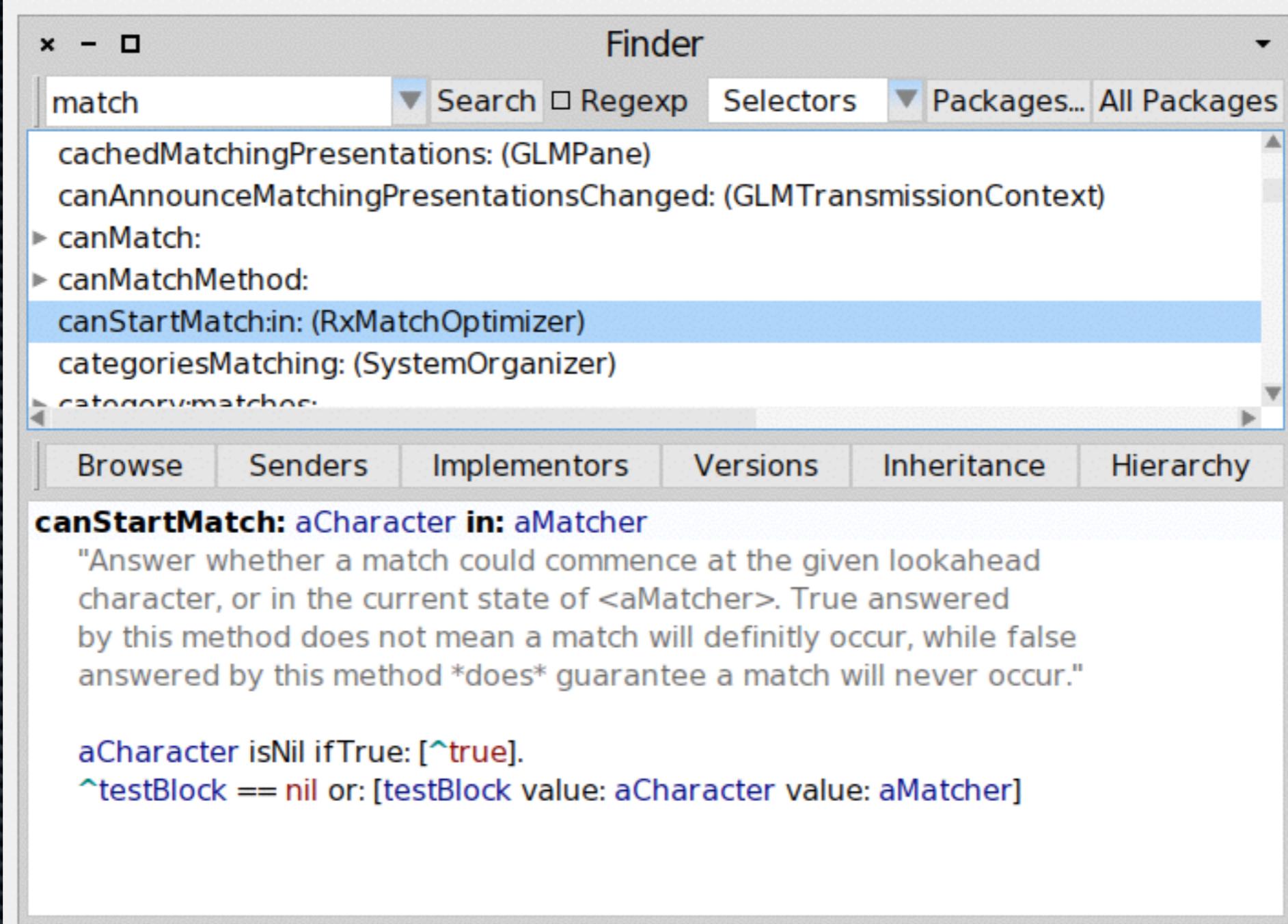
cachedMatchingPresentations: (GLMPane)
canAnnounceMatchingPresentationsChanged: (GLMTransmissionContext)
▶ canMatch:
▶ canMatchMethod:
canStartMatch:in: (RxMatchOptimizer)
categoriesMatching: (SystemOrganizer)
◀ categoriesMatching:

Browse Senders Implementors Versions Inheritance Hierarchy

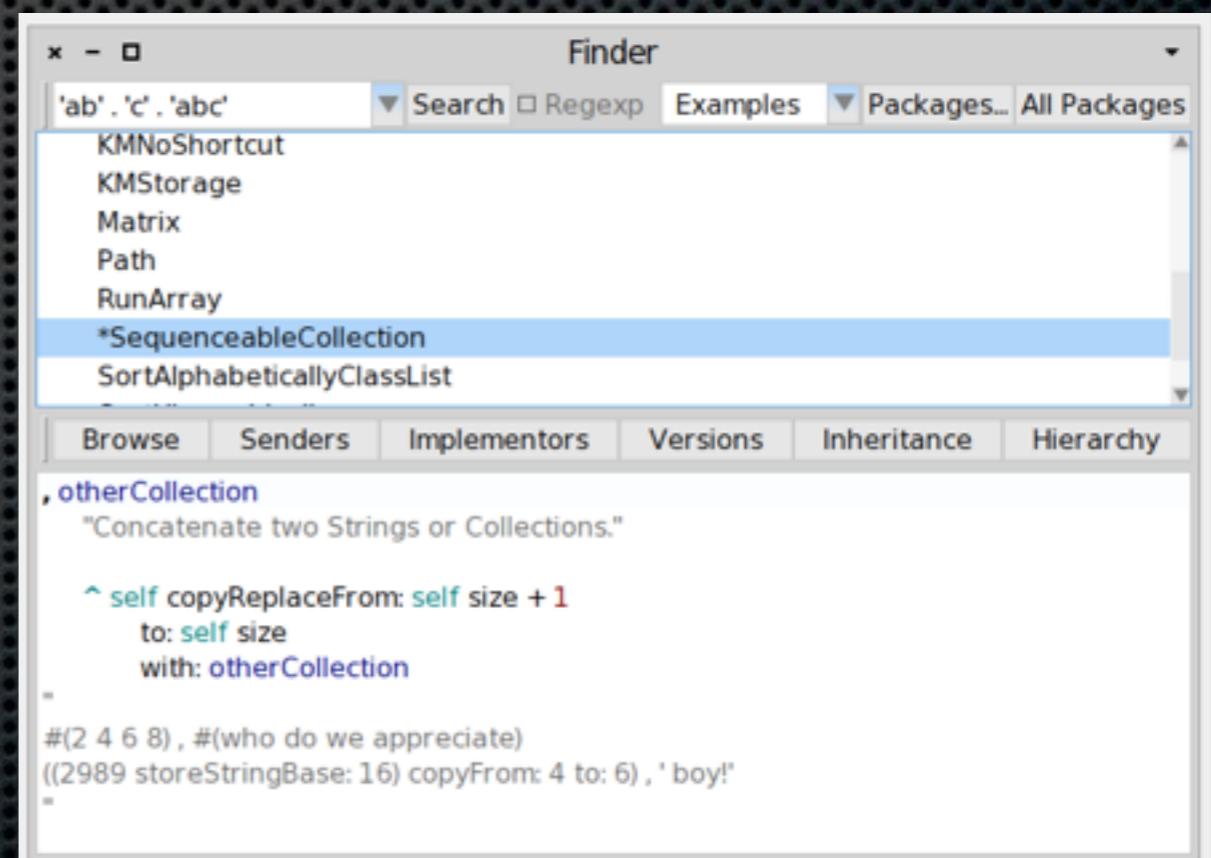
canStartMatch: aCharacter in: aMatcher

"Answer whether a match could commence at the given lookahead character, or in the current state of <aMatcher>. True answered by this method does not mean a match will definitely occur, while false answered by this method *does* guarantee a match will never occur."

aCharacter isNil ifTrue: [^true].
^testBlock == nil or: [testBlock value: aCharacter value: aMatcher]



give examples and
get the methods that works!



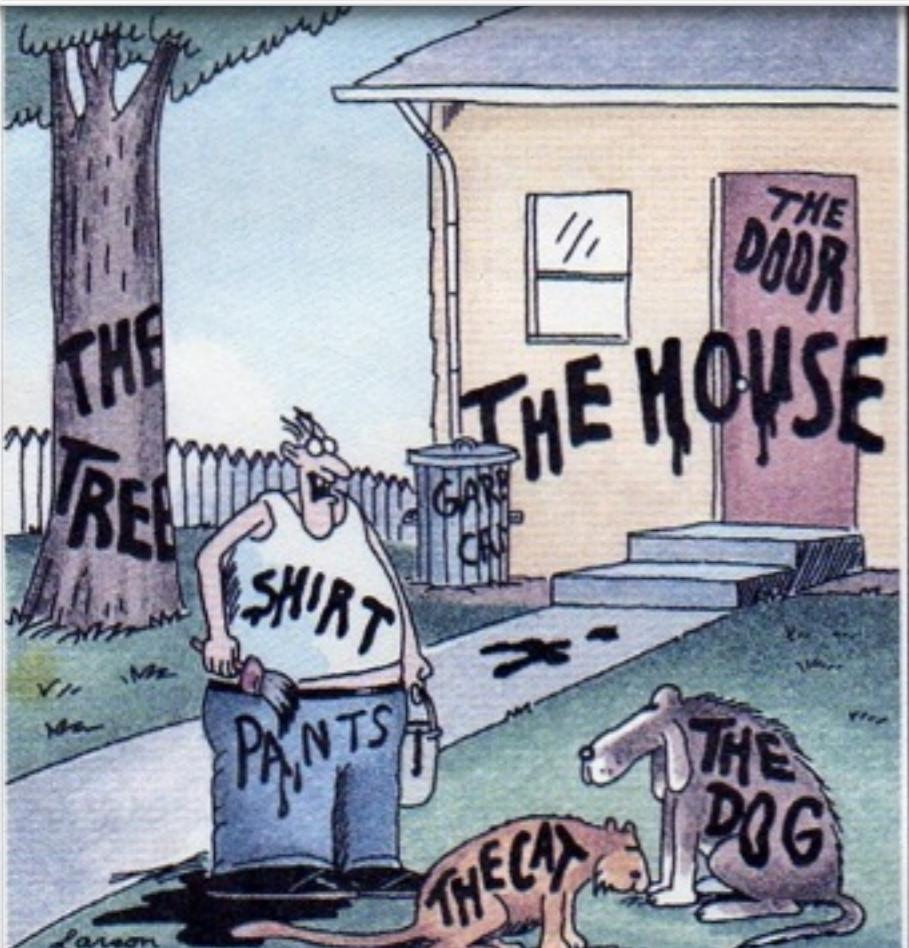
A system to learn advanced
oo design

How to implement not?

- false not -> true
- true not -> false



IT'S SAD HOW SOME PEOPLE
CAN'T HANDLE A LITTLE
VARIETY.



"Now! ... That should clear up
a few things around here!"

Pharo Humour

<http://pharo.org>

Fun, simple
Excellent for teaching
Pure & elegant
Highly productive
Empowering Tools
Full access



