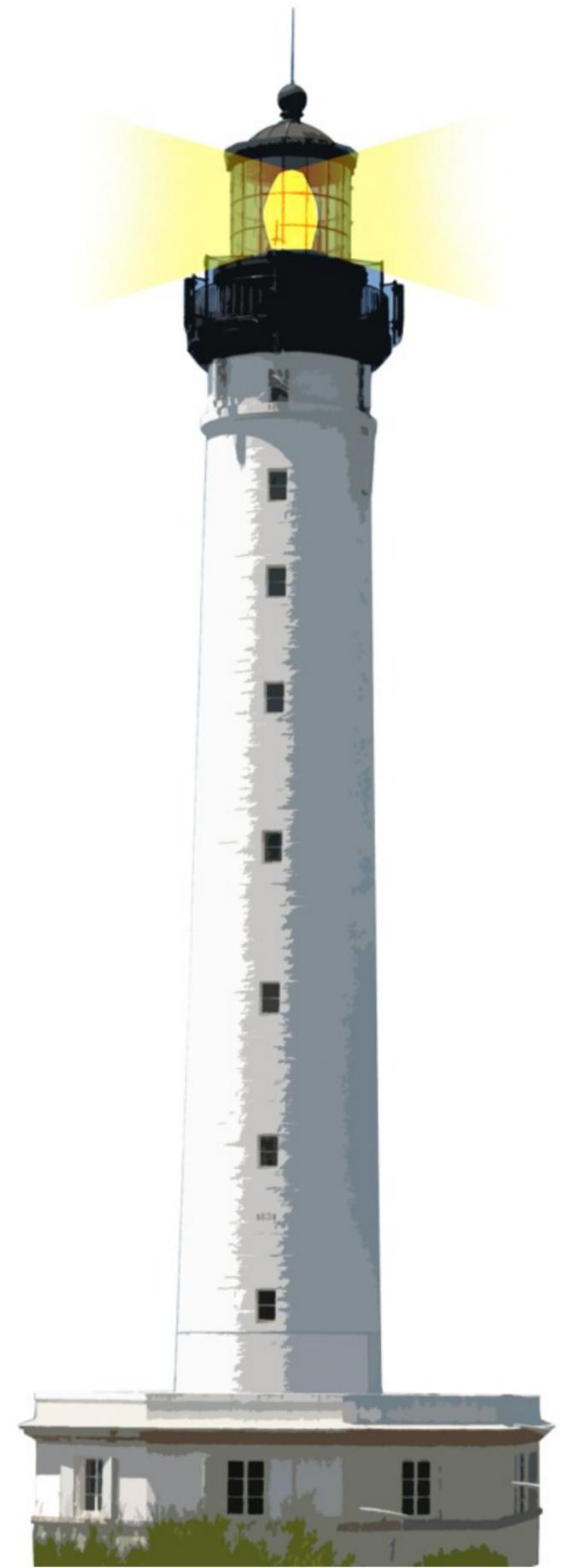


Pharo: an immersive object-oriented system

Damien CASSOU, Stéphane DUCASSE and Luc FABRESSE

www.pharo.org

W1S02



Pharo?



Pharo!

- * System: Pure object language + full IDE
- * Inspired by Smalltalk
- * Powerful, elegant and fun to program
- * Great community
- * 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

Leuchttürme

ZENTRA

ma

27.12.09-

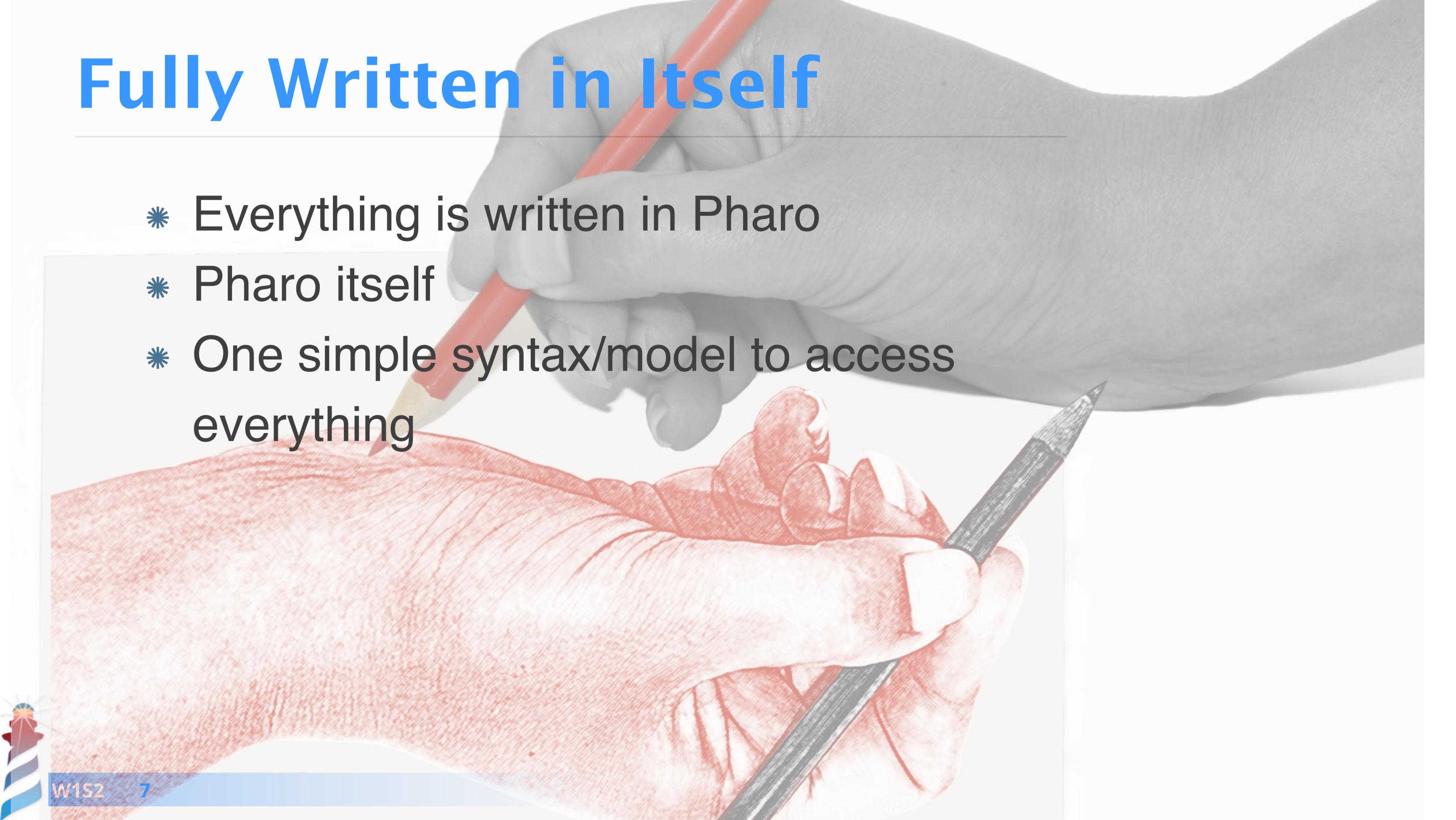


Full Model!

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



Fully Written in Itself

The background of the slide features a grayscale photograph of a hand holding a red pencil, pointing towards a red-tinted illustration of a hand holding a black pencil. The red-tinted illustration is positioned in the lower half of the frame, appearing to be a drawing or a digital overlay on the photograph.

- * Everything is written in Pharo
- * Pharo itself
- * One simple syntax/model to access everything

Immersive?



Immersive

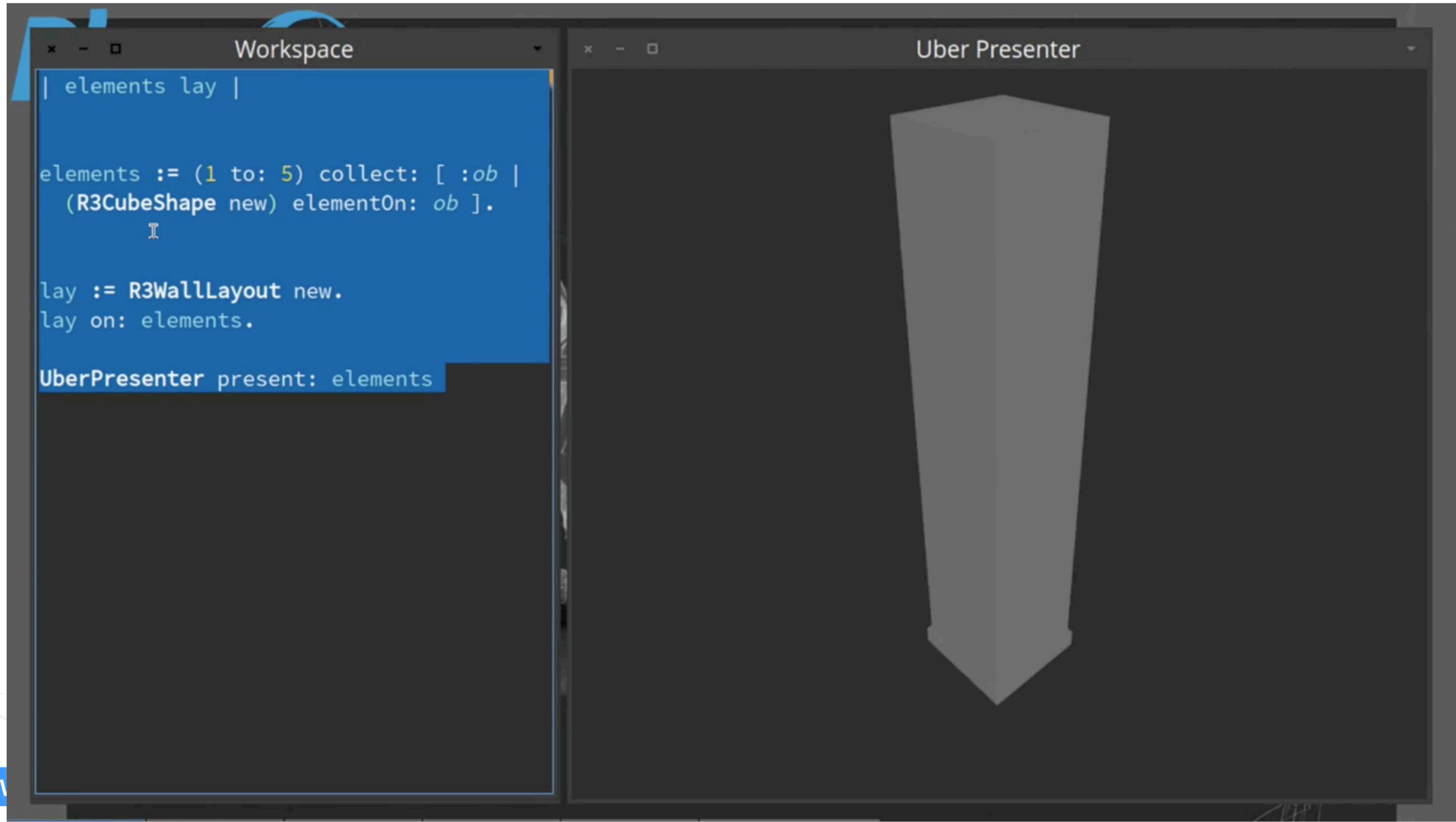
A large, vibrant blue aquarium tank filled with various marine life, including a large spotted shark, a manta ray, and many smaller fish. In the foreground, the silhouettes of several people are visible, looking at the tank. The scene is brightly lit, creating a clear and detailed view of the underwater environment.

- ✦ Pharo is not a blackbox
- ✦ Pharo is fully inspectable and reflective
- ✦ You can get immersed in objects

Immersed and interacting

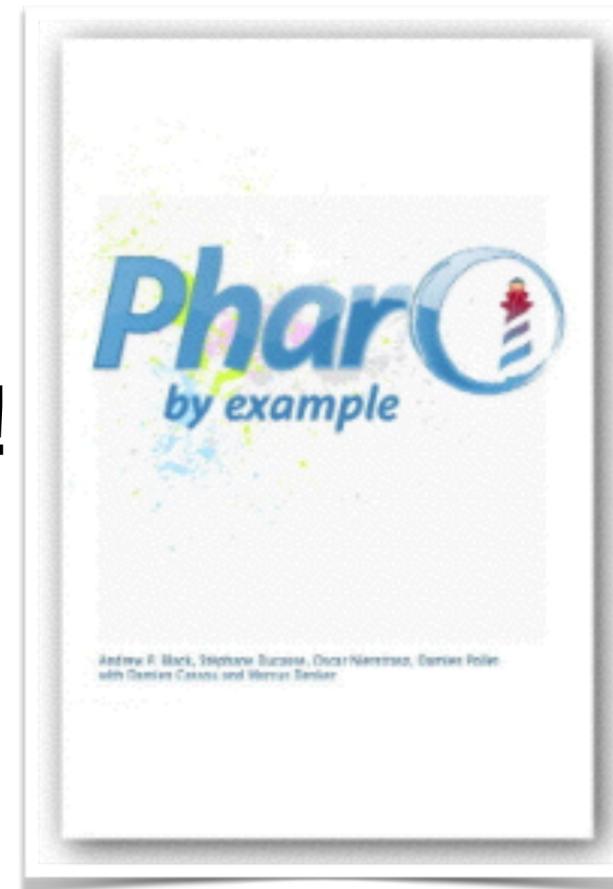
* You can interact with objects

Immersive



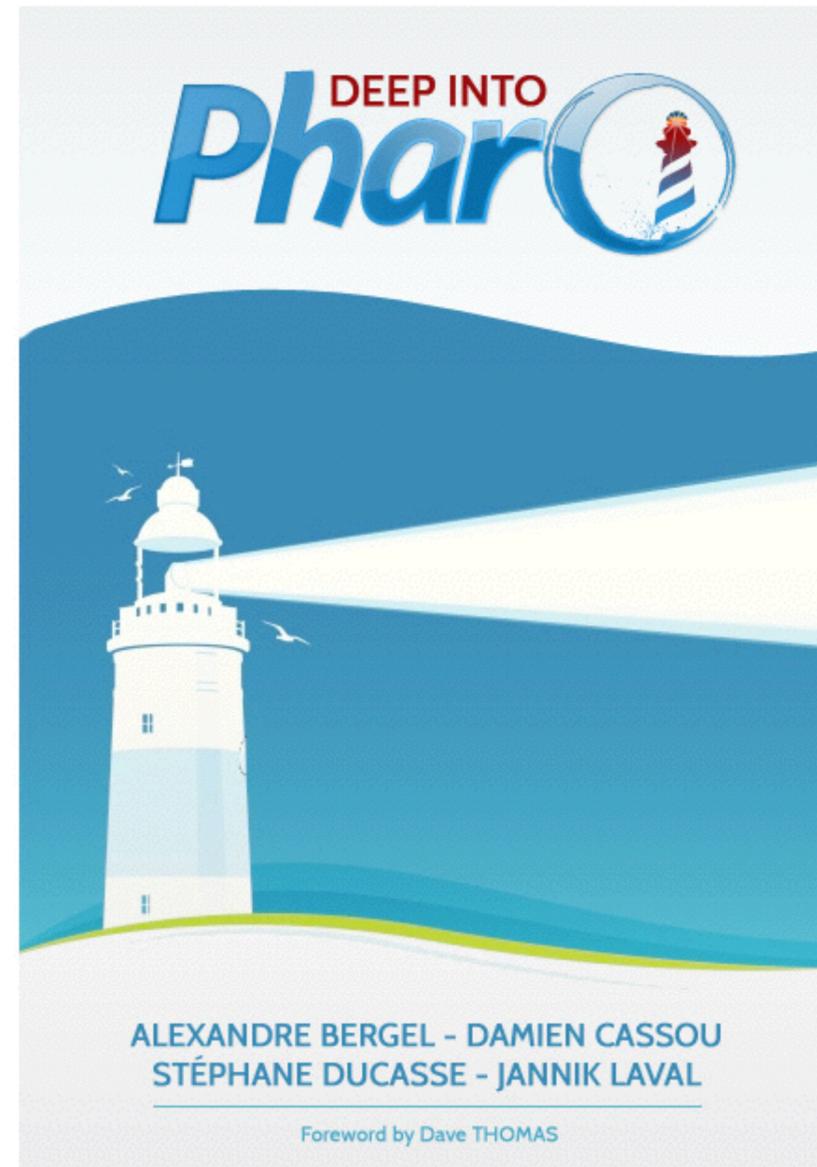
Pharo by Example

- * <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

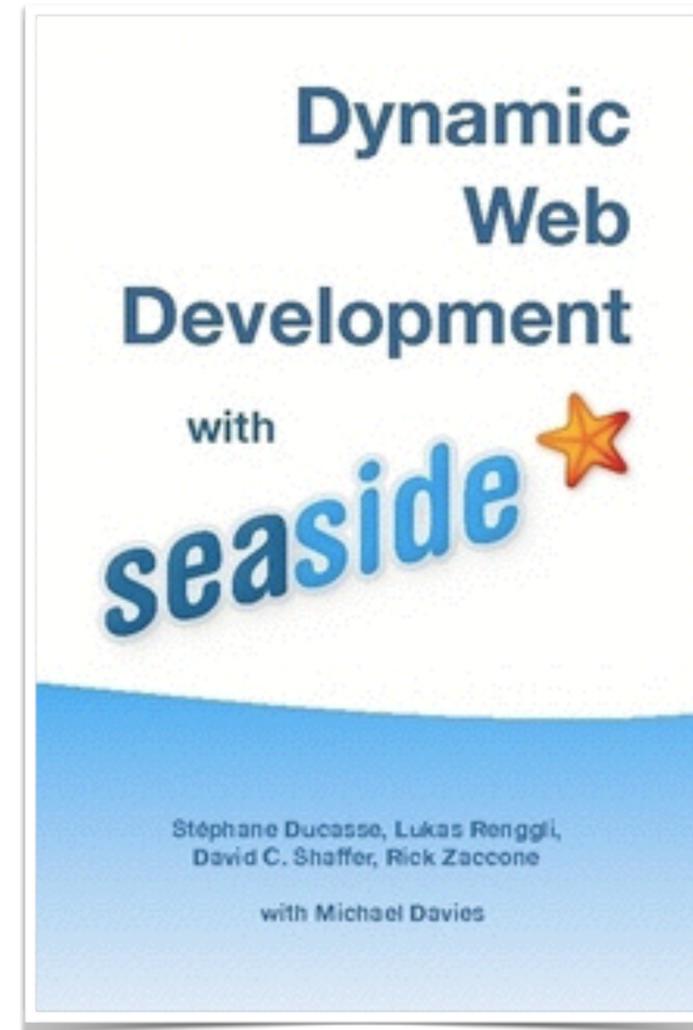
- * <http://books.pharo.org>
- * Web related
 - * Encodings,
 - * Mustache
 - * JSON
 - * WebSockets
 - * HTTP/HTTPS



Dynamic Web with Seaside

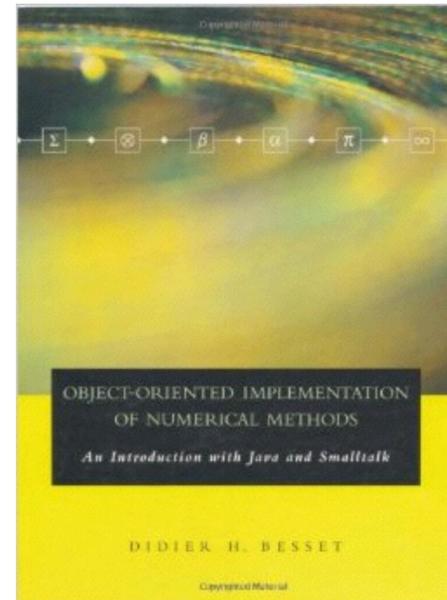
- * <http://book.seaside.st>
- * Full framework explained
- * DSL + Call:/answer:
- * Automatic form generation
- * Deployment

seaside 



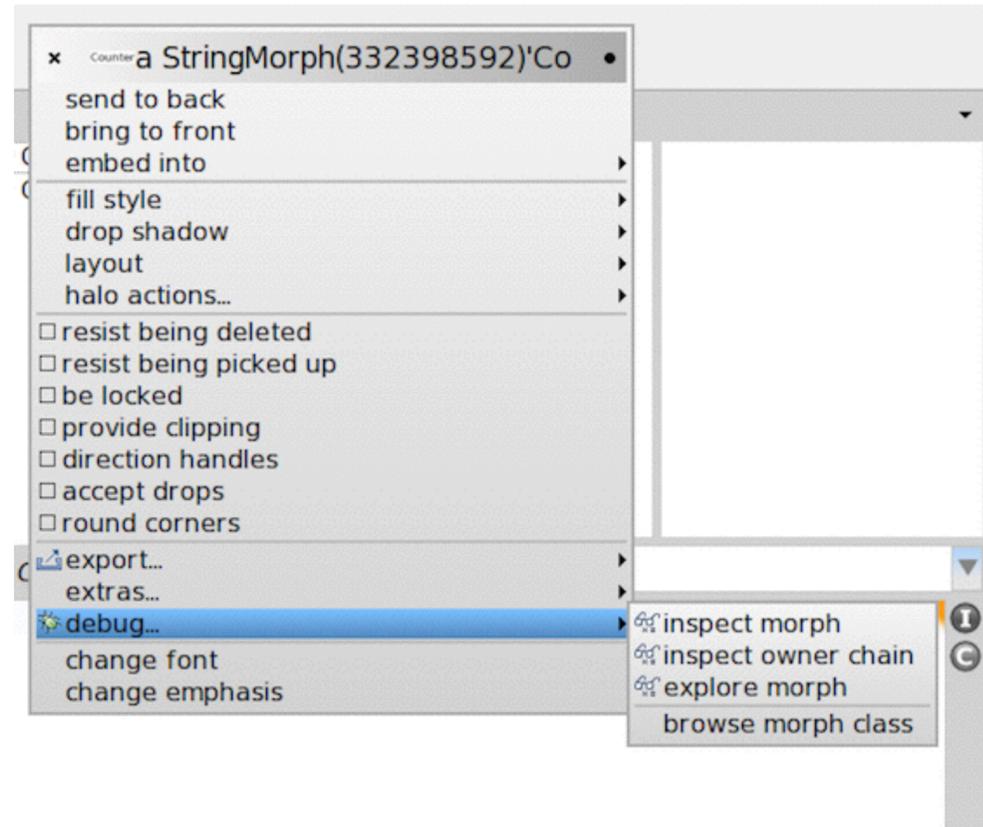
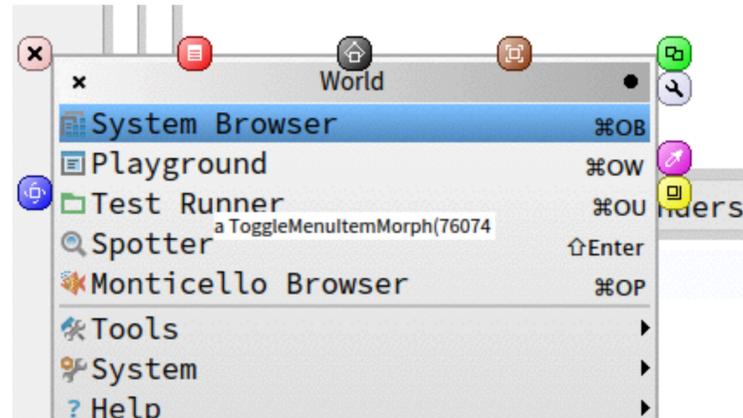
Numerical Methods

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

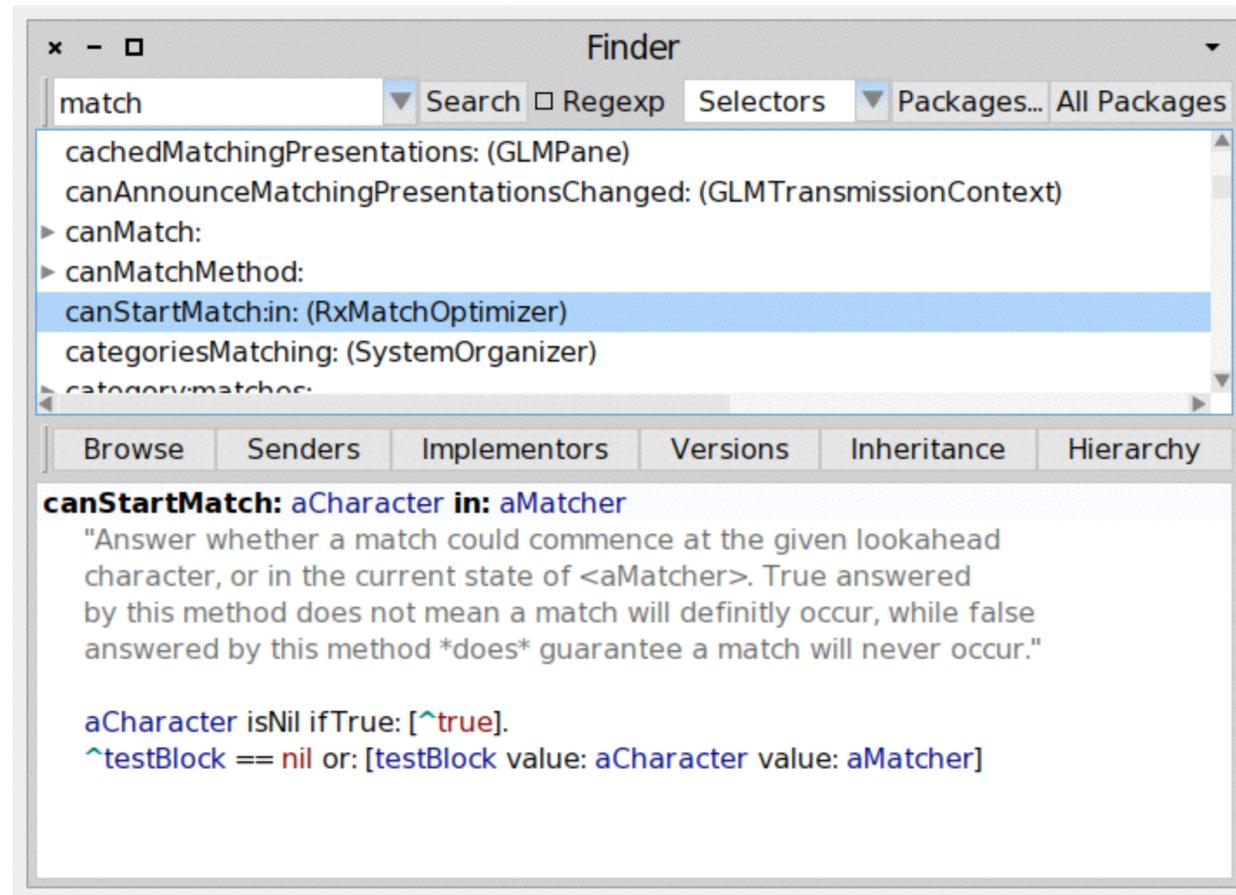


A System to Learn From

- ✱ Click on it
- ✱ Cmd+Shift+Option

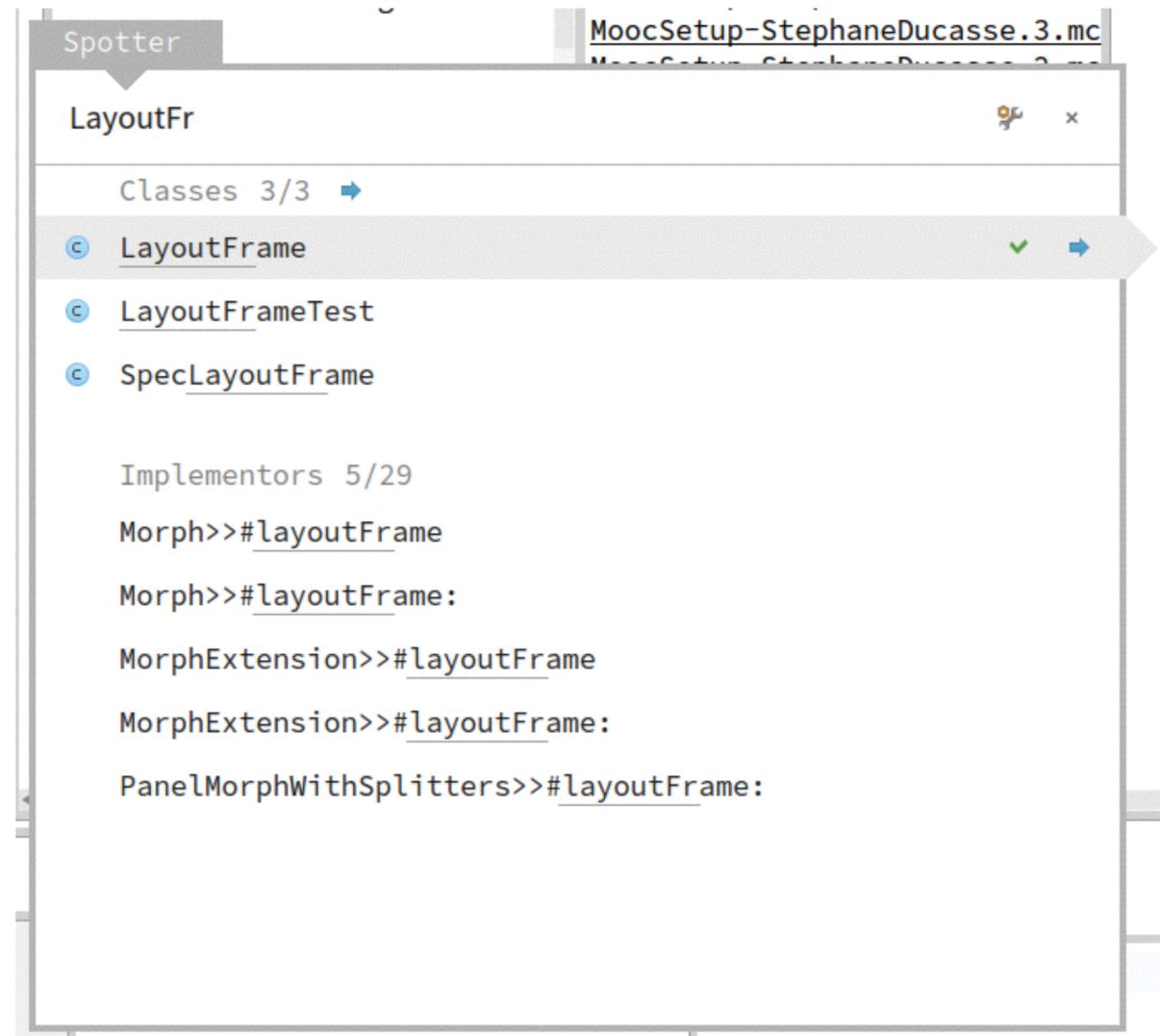


Ask the Finder

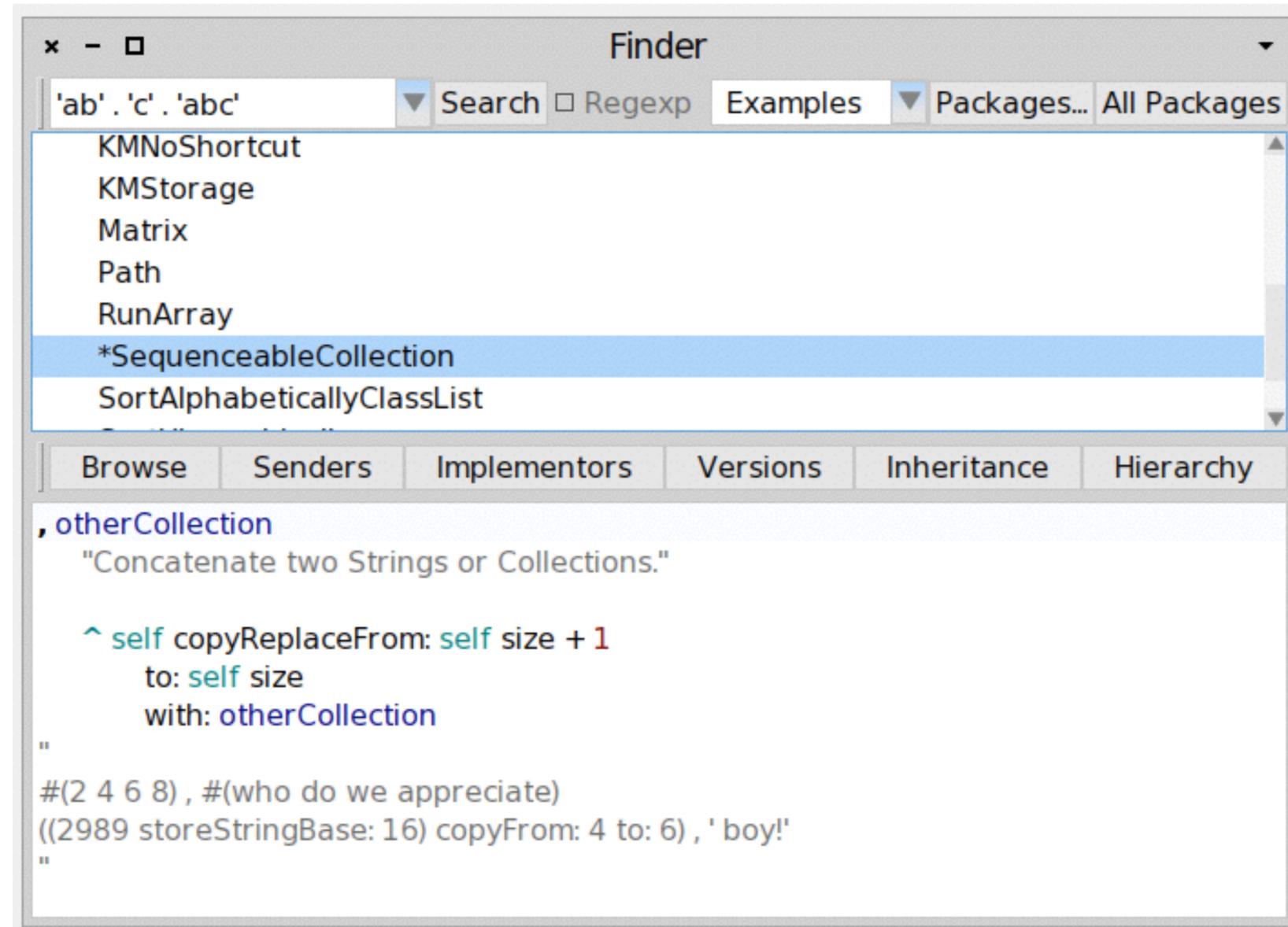


Ask Spotter

✱ Shift + Enter



From Examples to Messages



About OO Design

Programming in Pharo will change
the way you program and think OO



How not is implemented?

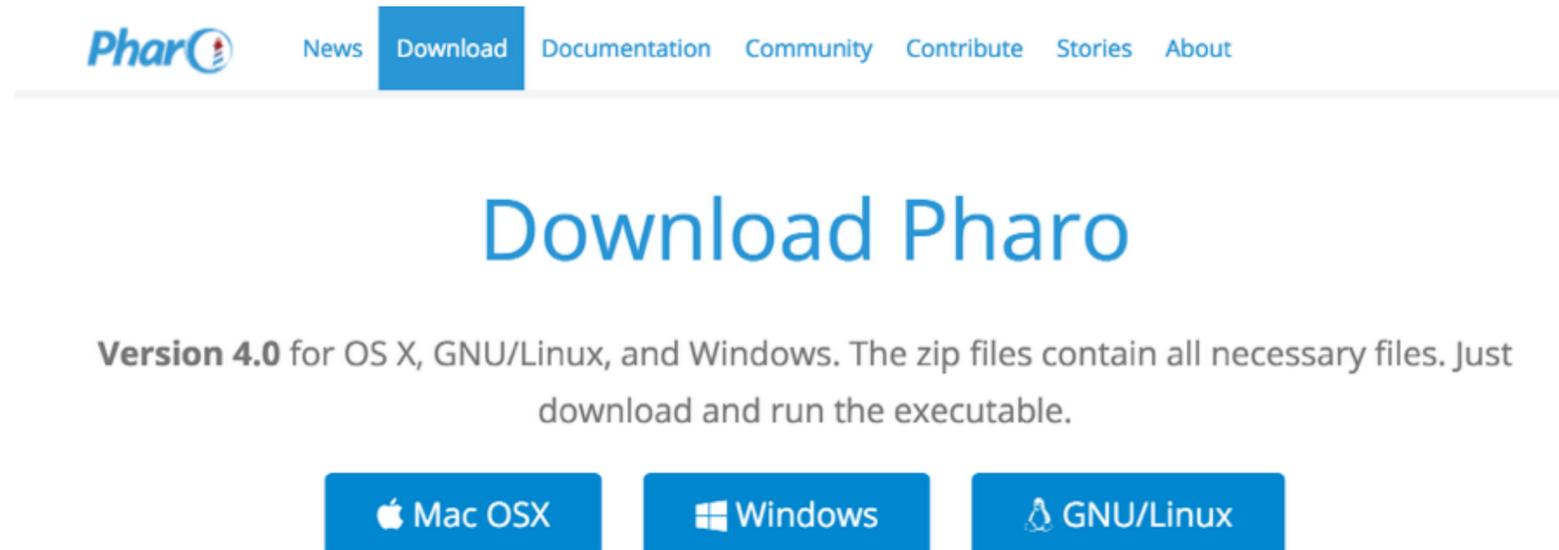
- * false not -> true
- * true not -> false

- * Why such question illustrates something so deep?



Try Pharo now!

<http://pharo.org/download>



The screenshot shows the Pharo website's navigation menu with the 'Download' link highlighted. Below the menu is the heading 'Download Pharo' and a paragraph describing version 4.0 for OS X, GNU/Linux, and Windows. Three buttons are provided for downloading on Mac OS X, Windows, and GNU/Linux.

Pharo [News](#) **Download** [Documentation](#) [Community](#) [Contribute](#) [Stories](#) [About](#)

Download Pharo

Version 4.0 for OS X, GNU/Linux, and Windows. The zip files contain all necessary files. Just download and run the executable.

[Mac OS X](#) [Windows](#) [GNU/Linux](#)



<http://www.pharo.org>

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

A course by



and



in collaboration with



Inria 2016

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