

Programmation objet immersive en Pharo

Live Object Programming in Pharo





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).

The screenshot shows the Pharo IDE interface. On the left is the **Class Browser** pane, which lists categories like Exceptions, Methods, Models, and Numbers. The **Numbers** category is currently selected. In the center is the **Playground** pane, which contains a text area with the following code:

```
| numbers |
numbers := Set new.
10 timesRepeat: [ numbers add: 100 atRandom ].
```

Below the playground is the **Debug it** pane, which shows a list of objects and their methods:

Object	Method
UndefinedObject	Dolt
CompiledMethod	valueWithReceiver:arguments:
[...] in RubSmalltalkEditor	debug:receiver:in:
[...] in BlockClosure	newProcess

Pharo

- ❖ Pure object language
- ❖ Powerful and living IDE
- ❖ MIT & Inspired by
Smalltalk



Elegant!

Fully Written in Itself

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



Only
Objects &
Messages!

Full 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
- All methods are public and virtual
- Attributes are protected
- Single Inheritance

2007

Immersive?



Immersive

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

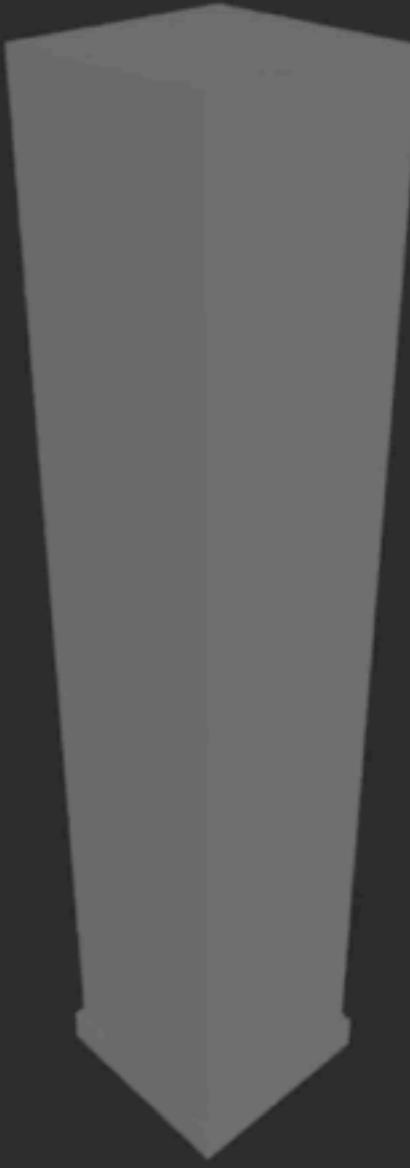
Immersed and

- * You can interact with objects

Workspace

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

Uber Presenter



Querying & Scripting Live Objects

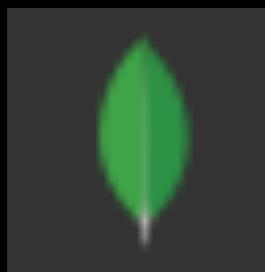
Any object can be lively
scripted and updated
network
web applications
code itself
graphics...

Unique tools



Highly productive

Gorgeous web stack



seaside*

WEBDRUCK.CH Web-To-Print Solution

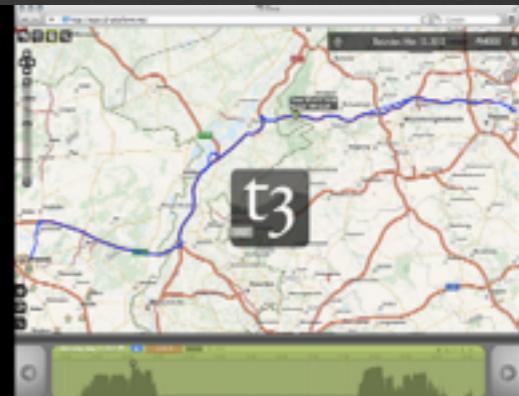
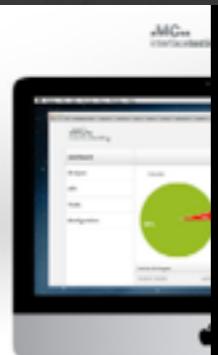
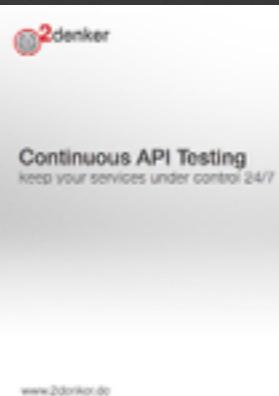
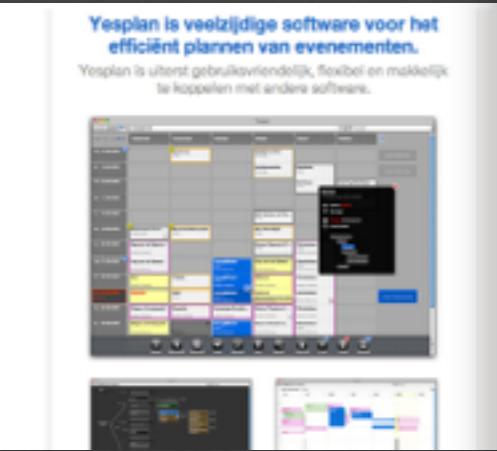
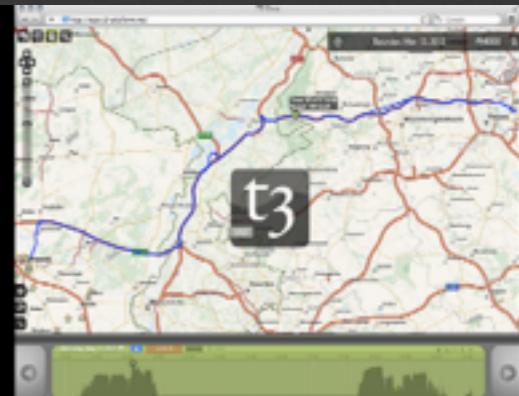
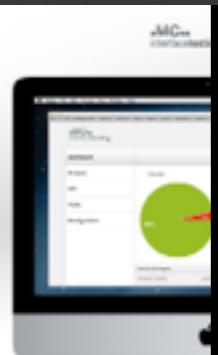
- Design and create individual printed matter
- eShop with credit card payment
- High quality PDF output with Printing Process integration
- Thousands of orders for seven Swiss printing companies



Success stories available at:

<http://pharo.org/>

success



Mooc

- Programming in Pharo
- Offering a different programming experience
- Working on a real small web application

