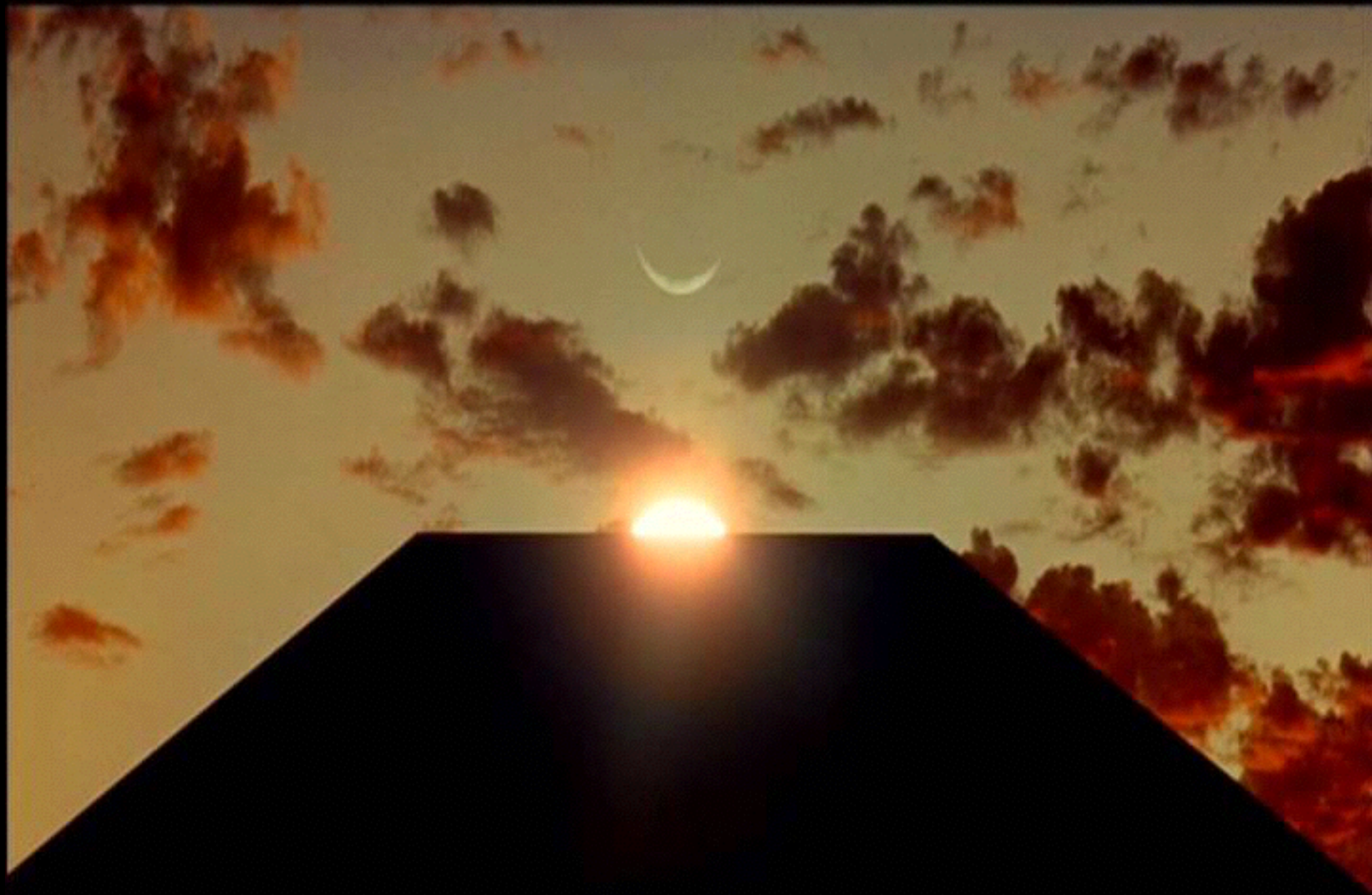


THE PHARO EVOLUTION

THE PHARO FIREMAN
ESTEBAN
LORENZANO



WHAT IS THE PHARO
VISION?





Shout Workspace

Object

Object

Kernel-Numbers	ObjectTracer	-- all --	→
Kernel-Objects	ObjectViewer	*Polymorph-EventEnhe	=
Kernel-Processes	ProtoObject	*Polymorph-Widgets	acceptDroppingMorp
Kernel-ST80 Remnants	Object	*Polymorph-Widgets-ov	actAsExecutor
KernelTests-Chronology	Boolean	*metacello-core	actionForEvent:
KernelTests-Classes	False	*monticello	actionForEvent:ifAbs
KernelTests-Methods	True	*omnibrowser-converti	actionMap
KernelTests-Numbers	DependentsArray	*services-base	actionSequenceForEv
KernelTests-Objects	MessageSend	*splitjoin	actionsDo:
KernelTests-Processes	Model	*system-support	adaptToFloat:andCom
LED	UndefinedObject	*tools-browser	adaptToFloat:andSen
Metacello-Core-Exceptio	WeakActionSeque	*tools-explorer	adaptToFraction:and
Metacello-Core-Loaders		accessing	adaptToFraction:andS
Metacello-Core-Member		associating	adaptToInteger:andCo

instance ? class

browse hierarchy variables implementors inheritance senders versions view

actionMap

```

+EventManager actionMapFor: self

```

Monticello Browser

+Package

Browse

Changes

Save

+Rep

AST-Core (AST-Core-lr.67)

AST-Tests-Core (AST-Tests-Core-lr.9)

Announcements (Announcements-adrian_lien)

ArchiveViewer (ArchiveViewer-MarianoMart)

AutomaticMethodCategorizer (AutomaticMethod

AutomaticMethodCategorizerOB (AutomaticMeth

Balloon (Balloon-MarcusDenker.33)

Bogus (Bogus-cwp.18)

BogusInfo (BogusInfo-lr.18)

Bogusext (BogusExt-cwp.4)

Collections-Abstract (Collections-Abstract-Steph

http://www.squeaksource.com/PharoInbox/

http://www.squeaksource.com/MetacelloRepos

http://seaside.gemstone.com/ss/metacello

http://source.lukas-renggli.ch/omnibrowser

http://www.squeaksource.com/autoMethodCat

http://www.squeaksource.com/shout

http://www.squeaksource.com/RoelTyper

http://www.squeaksource.com/OCompletion

http://www.squeaksource.com/PharoSound

 Shout Workspace Object Monticello Browser

Pharo

System Browser

Kernel-Objects	Boolean	-- all --	->
Kernel-Pragmas	False	*Polymorph-EventEnhanc	=
Kernel-Processes	MessageSend	*Polymorph-Widgets	acceptDroppingMorph:e
Kernel-ST80 Remnants	Model	*Polymorph-Widgets-ove	actAsExecutor
KernelTests-Chronology	Object	*System-Object Storage	actionForEvent:
KernelTests-Classes	ProtoObject	*monticello	actionForEventifAbsent:
KernelTests-Exception	True	*system-object storage	actionMap
KernelTests-Methods	UndefinedObject	*system-settings-browse	actionSequenceForEvent
KernelTests-Numbers	WeakActionSequence	*system-support	actionsDo:
KernelTests-Objects	WeakMessageSend	*tools-browser	adaptToFloat:andCompa
KernelTests-Processes		*tools-explorer	adaptToFloat:andSend:
MenuRegistration-Core		accessing	adaptToFraction:andCor
MenuRegistration-Event			adaptToFraction:andCor

instance ? class

browse senders implementors versions inheritance hierarchy inst vars

actionMap

```

^EventManager actionMapFor: self

```

Workspace

Object

+Package +Slice Browse

- Announcements (Announcements-
- Balloon (Balloon-StephaneDucasse
- Collections-Abstract (Collections-)
- Collections-Arrayed (Collections-A
- Collections-Sequenceable (Collect
- Collections-Stack (Collections-Sta
- Collections-Streams (Collections-Streams-St
- Collections-Strings (Collections-Strings-Marcu
- Collections-Support (Collections-Support-Ste



Object

- Kernel-Objects
- Kernel-Pragmas
- Kernel-Processes
- KernelTests-Chronology
- KernelTests-Classes
- KernelTests-Exception
- KernelTests-Methods
- KernelTests-Numbers
- KernelTests-Objects
- KernelTests-Processes
- MenuRegistration-Core
- MenuRegistration-examp
- MimeConverter

- Boolean
- False
- MessageSend
- Model
- Object**
- ProtoObject
- True
- UndefinedObject
- WeakActionSequence
- WeakMessageSend

- all --
- *Graphics-Display Object
- *Morphic
- *Polymorph-EventEnhanc
- *Polymorph-Widgets
- *Polymorph-Widgets-ove
- *SimpleMorphic
- *System-Object Storage
- *System-Settings-Browse
- *System-Support
- *Tools-Base
- *Tools-Browser
- *Tools-Debugger

- >
- =
- acceptDroppingMorph:e
- actAsExecutor
- actionForEvent:
- actionForEventifAbsent:
- actionMap**
- actionSequenceForEven
- actionsDo:
- adaptToFloat:andCompa
- adaptToFloat:andSend:
- adaptToFraction:andCom
- adaptToFraction:andCo

Instance ? Class

Browse Senders Implementors Versions Inheritance Hierarchy Inst vars Class vars

actionMap

^EventManager actionMapFor: self

Workspace

Object

+Package +Config +Slice

- Announcements-Core (StephaneD)
- Announcements-Help (StephaneD)
- Announcements-Tests-Core (StephaneD)
- Announcements-View (StephaneDucasse.6)
- Balloon (StephaneDucasse.53)
- Collections-Abstract (MarcusDenker.123)
- Collections-Arrayed (StephaneDucasse.61)
- Collections-Sequenceable (MarcusDenker.82)
- Collections-Stack (MarcusDenker.7)

<http://www.squeaksource.com/PharoTreatedInBo...>



Workspace

Object

Object>>actionMap

- Kernel-Objects
- Kernel-Pragmas
- Kernel-Processes
- KernelTests-Chronology
- KernelTests-Classes
- KernelTests-Exception
- KernelTests-Methods
- KernelTests-Numbers
- KernelTests-Objects
- KernelTests-Pragmas
- KernelTests-Processes
- MenuRegistration-Core

- Boolean
- False
- MessageSend
- Object
- ProtoObject
- True
- UndefinedObject
- WeakActionSequence
- WeakMessageSend

- all --
- *Graphics-Display Object
- *Morphic
- *Polymorph-EventEnhanc
- *Polymorph-Widgets
- *System-Object Storage
- *System-Settings-Browse
- *System-Support
- *Tools-Base
- *Tools-Browser
- *Tools-Explorer
- *Tools-Inspector

- >
- =
- acceptDroppingMorph:e
- actAsExecutor
- actionForEvent:
- actionForEventifAbsent:
- actionMap
- actionSequenceForEvent:
- actionsDo:
- adaptToFloatandCompa
- adaptToFloatandSend:
- adaptToFractionandCorr
- adaptToFractionandC

Instance ? Class

Browse Senders Implementors Versions Inheritance Hierarchy Inst vars Class vars

actionMap

^EventManager actionMapFor: self

Monticello Browser

+Package +Config +Slice Browse

- Announcements-Core (MarcusDenker.30)
- Announcements-Help (MarcusDenker.4)
- Announcements-Tests-Core (IgorStasenko.1)
- Announcements-View (StephaneDucasse.9)
- Balloon (StephaneDucasse.78)
- Collections-Abstract (StephaneDucasse.13)
- Collections-Arrayed (StephaneDucasse.63)
- Collections-Atomic (MarcusDenker.5)
- Collections-Native (MarcusDenker.5)

Pharo

Object

- Kernel-Objects
- Kernel-Pragmas
- Kernel-Processes
- KernelTests-Chronology
- KernelTests-Classes
- KernelTests-Exception
- KernelTests-Methods
- KernelTests-Numbers
- KernelTests-Objects
- KernelTests-Pragmas
- KernelTests-Processes

ProtoObject

- Object
- Boolean
- False
- True
- MessageSend
- UndefinedObject
- WeakActionSequence
- WeakMessageSend

-- all --

- *Graphics-Display Object
- *Kernel-Exceptions-debug
- *Morphic
- *Polymorph-EventEnhance
- *Polymorph-TaskbarIcons
- *Polymorph-Widgets
- *Polymorph-Widgets-Utili
- *Ring-Core-Kernel
- *Shout-Parsing
- *System-Breakpoints

Instance ? Class

Browse Hierarchy Variables Implementors Inheritance Senders Versions View

actionMap

^EventManager actionMapFor: self

Object

+Package +Config +Slice

Hit return to accept

- AST-Core (lr.92)
- AST-Semantic (lr.15)
- Announcements-Core (StephaneDucasse.51)
- Announcements-Help (MarcusDenker.5)
- Announcements-Tests-Core (StephaneDucas
- Announcements-View (StephaneDucasse.9)
- Balloon (MarcusDenker.82)

http://ss5.gemstone.com/ss/PharoInbox

http://www.squeaksource.com/PharoTreatedIn

http://www.squeaksource.com/MetaRepoForPh

http://seaside.gemstone.com/ss/metacello

http://www.squeaksource.com/MetacelloRepo:



Object>>#actionMap

- Kernel-Numbers
- Kernel-Objects
- Kernel-Pragmas
- Kernel-Pragmas-Collectors
- Kernel-Processes
- KernelTests-Chronology
- KernelTests-Classes
- KernelTests-Exception
- KernelTests-Methods
- KernelTests-Numbers
- KernelTests-Objects

ProtoObject

- Object
- Boolean
- False
- True
- DeepCopier
- MessageSend
- UndefinedObject
- WeakActionSequence
- WeakMessageSend

class membership

- comparing
- converting
- copying
- dependents access
- drag and drop
- error handling
- evaluating
- events-accessing
- events-registering
- events-removing
- events-triggering
- filter streaming

actionMap

- =
- acceptDroppingMorph:ifAccepted
- actAsExecutor
- actionForEvent:
- actionForEvent:ifAbsent
- actionMap
- actionSequenceForEvent:
- actionsDo:
- adaptToFloat:andCompare
- adaptToFloat:andSend:
- adaptToFraction:andCompare

Groups Hierarchy Class side Comments

Object >>#actionMap

actionMap

^EventManager actionMapFor: self

38

Object

+Package +Config +

Hit return to accept

- AST-Core (MarcusDenker.11)
- AST-Semantic (StephaneDucasse.5)
- AST-Tests-Core (MarcusDenker.21)
- AST-Tests-Semantic (StephaneDucasse.5)
- AndreasProfiler (EstebanLorenzano.5)
- Announcements-Core (MarcusDenker.37)
- Announcements-Help (MarcusDenker.5)

- <http://ss3.gemstone.com/ss/PharoInbox>
- <http://www.squeaksource.com/MetacelloRepo>
- <http://seaside.gemstone.com/ss/metacello>
- <http://www.squeaksource.com/PharoTaskForce>
- <http://ss3.gemstone.com/ss/Spec>

pharo30.image

Pharo

Object>>#actionMap

Type: Pkg1|^Pkg2|Pk.*Core\$

- ProtoObject
- Object
- Boolean
- False
- True
- DeepCopier
- MessageSend
- UndefinedObject
- WeakActionSequence
- WeakMessageSend

- error handling
- evaluating
- events-accessing
- events-registering
- events-removing
- events-triggering
- finalization
- flagging
- introspection
- literal testing
- logging deprecated

- >
- =
- acceptDroppingMorph: eve
- actAsExecutor
- actionForEvent:
- actionForEvent:ifAbsent:
- actionMap
- actionSequenceForEvent:
- actionsDo:
- adaptToFloat:andCompare

Groups Hierarchy Class side Comments Object >>#actionMap

Object

actionMap

```

^EventManager actionMapFor: self

```

38

+Package +Config

Hit return to accept

- AST-Core (MarcusDenker.208)
- AST-Interpreter-Core (MarcusDenker.36)
- AST-Interpreter-Extension (MarcusDenker.36) <http://smalltalkhub.com/mc/Pharo/Pharo30Inbox/marcusdenker.36>
- AST-Interpreter-Test (SvenVanCaekenberghe.92) <http://smalltalkhub.com/mc/estebanlm/IconsForPharo30/SvenVanCaekenberghe.92>
- AST-Tests-Core (SvenVanCaekenberghe.41)
- Announcements-Core (MarcusDenker.55)

Workspace Object>>#actionMap Monticello Browser



Object>>#actionMap

Type: Pkg1|^Pkg2|Pk.*Core\$

- ProtoObject
- Object
- Boolean
- False
- True
- DeepCopier
- MessageSend
- UndefinedObject
- WeakActionSequence
- WeakMessageSend
- NonReentrantWeakM

- drag and drop
- error handling
- evaluating
- events-accessing
- events-registering
- events-removing
- events-triggering
- finalization
- flagging
- introspection
- literal testing

- >
- =
- acceptDroppingMorph:ev
- actAsExecutor
- actionForEvent:
- actionForEvent:ifAbsent:
- actionMap
- actionSequenceForEvent:
- actionsDo:
- adaptToFloat:andCompa
- adaptToFloat:andSend

Groups Hierarchy Class side Comments History Navigator

Page

Object

```

actionMap
  ^EventManager actionMapFor: self
  
```

38

+Package +Config +Slice

Hit return to accept

- AST-Core (TheIntegrator.286)
- AST-Tests-Core (TheIntegrator.65)
- Announcements-Core (MarcusDenker.55)
- Announcements-Help (TheIntegrator.12)
- Announcements-Tests-Core (TheIntegrator.25)
- Announcements-Tests-Core (TheIntegrator.25)

<http://smalltalkhub.com/mc/Pharo/Pharo40Inbox/>



Playgro

Page

Object

Object>>#actionMap

Type: Pkg1|^Pkg2|Pk.*Core

- ProtoObject
- Object
- Boolean
- False
- True
- DeepCopier
- MessageSend
- UndefinedObject
- WeakActionSequence
- WeakMessageSend
- NonReentrantWeak

- deprecation
- error handling
- evaluating
- events-accessing
- events-registering
- events-removing
- events-triggering
- finalization
- flagging
- halting
- introspection

- =
- acceptDroppingMorph:e
- actAsExecutor
- actionForEvent:
- actionForEvent:ifAbsent
- actionMap
- actionSequenceForEven
- actionsDo:
- adaptToFloat:andComp
- adaptToFloat:andSend:

Groups Hierarchy Class side Comments History Navigator

```

actionMap
  ^EventManager actionMapFor: self
  
```

3/3 [34] Format as you read W +L Variables

x - □

M

+Package

+Config

+Slice

B

Hit return to accept

- AST-Core (TheIntegrator.314)
- AST-Tests-Core (TheIntegrator.70)
- Announcements-Core (MarcusDenker.55)
- Announcements-Help (TheIntegrator.12)
- Announcements-Tests-Core (TheIntegrator.25)
- AppKit-Core (TheIntegrator.10)

- <http://smalltalkhub.com/mc/PharoExtras/Catalo>
- <http://smalltalkhub.com/mc/Pharo/CodeImport>
- <http://smalltalkhub.com/mc/estebanlm/FastTab>

WHAT IS OUR PLACE?

- Modern applications demands different approaches.
- What are we good for?

WHAT ARE WE GOOD FOR?

- Really. Why people should prefer us over “Hyped language X”?
- Because we are good in dynamic contexts.
- And because we provide the best damn developing experience in the world!

YEAH, RIGHT

- We still dominate the “live environment” experience.
- ... and the super-hot debugger
- ... and the inspection/modifying tools (inspectors, browsers, etc.)
- ... and a long etc.

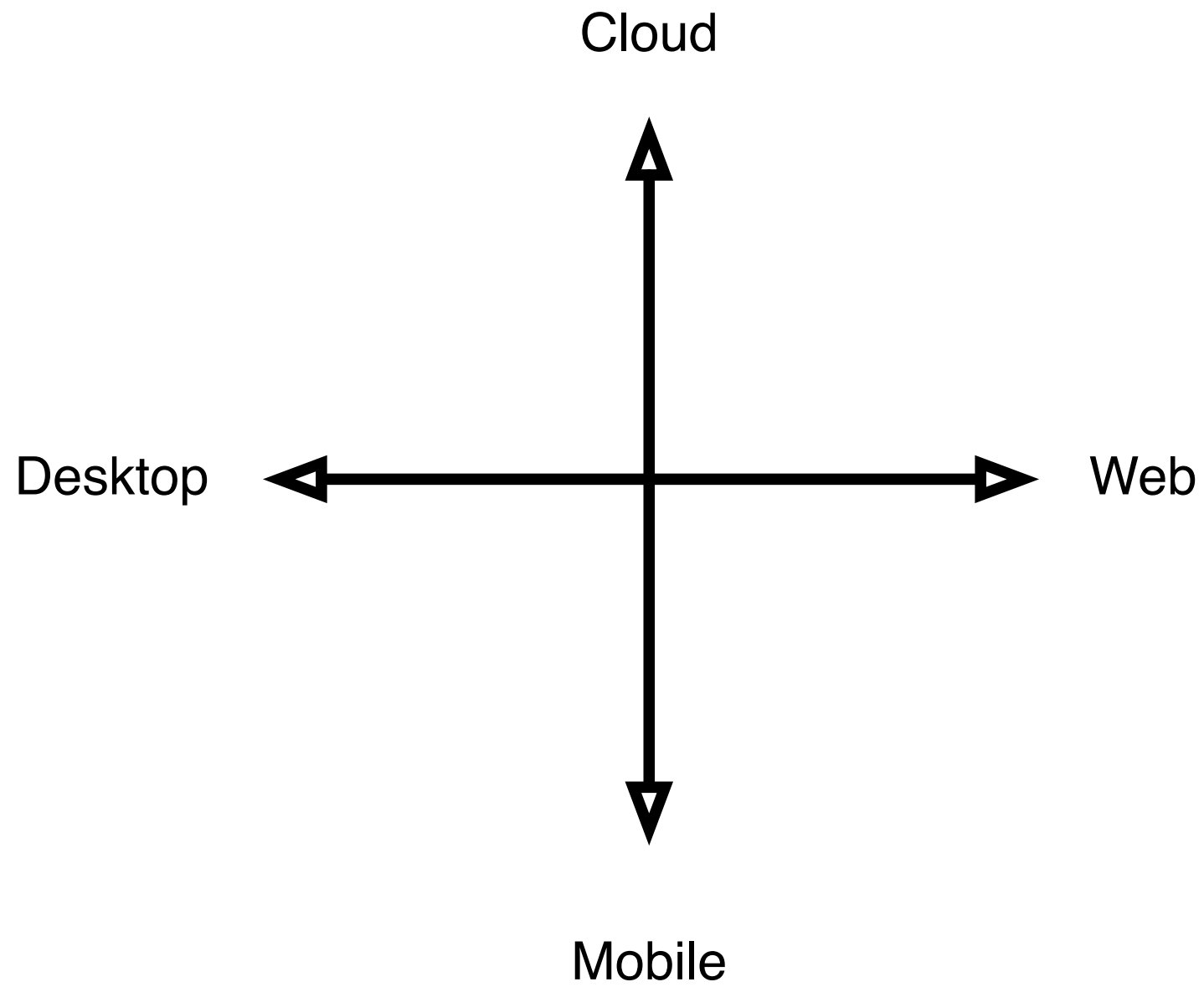
YEAH, RIGHT?

- Tools can be cool, but they are based in 1995 technology (who was also based in 1981 technology)
- BitBlt... Really? Today? Then say goodbye to modern visualisation tools.
- Editor is not good ("okish" for editing small methods)
- Mouse based UI
- No good CVS management (No, Monticello is not enough)
- ... and a long etc.

AND AN IDE FOR DOING WHAT?

- Web?
- Desktop?
- Cloud?
- Mobile?
- All of them?

THE AXIS OF DEATH



DESKTOP VS. WEB

- A hyped new version of the eternal debate client-server (Seems to be decreasing this days).
- We have good web solutions
- We need better desktop experience

MOBILE VS. CLOUD

- Like quantum mechanics vs. relativism
- We need an "Unified Field Theory"
- We have certain advantages for both

THE MASTERPLAN

- Small steps, because there is no useless contribution.
- “Random” changes saw from a distance reveals perspective.
- Some times you need task forces oriented to a goal (me, for example :P)
- Synergy!

DESKTOP

- Athens: Vectorial graphics
- Bloc/Brick to replace Morphic (but still same paradigm)
- OSWindow: Multiple windows system (yes, finally!)
 - Touch events, gestures
- Lots of changes "behind the scenes"

DESKTOP: MODERN TOOLS

- GTools (But also basic tools)
- Rubric editor
- Git tools
- Others:
 - We want to integrate PetitParser (and recover Helvetia, maybe?)
 - We want to integrate a clean version of Magritte
 - We want to integrate also Pillar

IMAGE

- Bootstrap
- Modularisation
- Command-line improvements
 - Coral
 - More needed
- Custom images for different purposes

IMAGE CONTROL

- Slots
- Reflectivity

IMAGE REIFICATION

We want to reify the concept of Image

```
Pharo new.
```

```
Pharo fork.
```

```
Pharo forkAt: 'localhost:5555'.
```

```
pharo := Pharo fork.
```

```
pharo
```

```
  do: [ ... ]
```

```
  whenFinish: [ :result | ... ]
```

VIRTUAL MACHINE

- Spur 32bits (Soon™)
- Spur 64bits
- Sista adaptive recompiler
- ARM Spur
- Threaded VM
- Event driven VM

NO MAN IS AN ISLAND

- FFI, NBFFI, Alien, uFFI
- Our strategy here:
 - One layer to rule them all (now NB, tomorrow FFI and finally, when finished, uFFI)

THE ECOSYSTEM

- Of course we cannot (and do not want) create an ecosystem by ourselves. That's in the hands of the community.
- But we can provide the tools to make it easy:
 - CI (supported by INRIA)
 - Catalog
 - PharoCloud.com (is a community project, you need to check it)
 - And we clearly need to iterate over this :)

CONCLUSIONS

- Improve steady and constant
- Plan the next step with an eye farther
- Adapt and prevail :)

ESTEBAN LORENZANO

THE PHARO
EVOLUTION

