



# Mars

Just another world



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Just another world

# Who I am?



# Who I am?

I really don't know (yet)





Once upon a time...



There was Squeak...



Welcome to...  
**Squeak 3.0**

Squeak is a work in progress based on Smalltalk-80, with which it is still reasonably compatible. Every Squeak release includes all source code for the Squeak system, as well as all source code for its Virtual Machine (VM, or interpreter, also written in Smalltalk).

**Browser openBrowser**  
 [Blue items in this window are active text. If an item contains a URL, it will require internet access and may take a while to load]

Not only is all source code included, and changeable at will, it is also completely open and free. The Squeak system image runs bit-identically across all platforms, and VMs are available for just about every computer and operating system available. The history of the Squeak project can be read at <http://st.cs.uiuc.edu/Smalltalk/Squeak/docs/TFPSLA.Squeak.html>

The Squeak license and most other relevant information can be found on the Squeak Home Page, <http://www.Squeak.org>

**Morphic**  
 This release of Squeak uses the Morphic GUI framework. Squeak also includes an MVC architecture for GUI projects (see the world menu 'open...')



Sequence Order Graphics

The Worlds of Squeak

Game, Graphics, Morphic, The World of Squeak, The Net, 3D

- open...
- dismiss this menu
- browser
- package browser
- method finder
- workspace
- file list
- file...
- transcript
- inner world
- simple change sort
- dual change sort
- email reader
- web browser
- IRC chat
- mvc project
- morphic project

Game Project

Senders of add:afterIndex: [4]

OrderedCollection hierarchy

Collections-Sequenceable

ProtoObject	-- all --	add:
Object	accessing	add:after:
Collection	copying	add:afterIndex:
SequenceableCollect	adding	add:before:
OrderedCollection	removing	addAll:
GraphicSymbol	enumerating	addAllFirst:
SortedCollection	private	addAllLast:
	testing	addFirst:
		addLast:

instance ? class

di 3/15/1999 14:01 • adding • 1 implementor • in no change set •

senders | implementors | versions | inheritance | hierarchy | inst vars | class vars

**add: newObject afterIndex: index**  
 "Add the argument, newObject, as an element of the receiver. Put it in the sequence just after index. Answer newObject."  
 self insert: newObject before: firstIndex + index.  
 + newObject

Process Browser

Method Finder

```

#(1 2 3 4). #(2 3). true
*Collection includesAllOf:
#(1 2 3 4) includesAllOf: #(2 3) -> true
#(1 2 3 4) includesAnyOf: #(2 3) -> true
#(1 2 3 4) windowReqNewLabel: #(2 3)
#(1 2 3 4) ~= #(2 3) -> true
#(1 2 3 4) "" #(2 3) -> true
  
```

Type a fragment of a selector in the top pane. Accept it.

Or, use an example to find a method in the system. Type receiver, args, and answer in the top pane with periods between the items. 3. 4. 7

S  
q  
u  
e  
a  
k

T  
o  
o  
l  
s



...and Squeak had a lot of colors  
(yes... many people like them... just  
not me)



# ...and other not so good things

- no good keybinding and manual handling of tools.
- no cool widgets (like trees, etc.)
- no native user interface (of course, not Polymorph either)



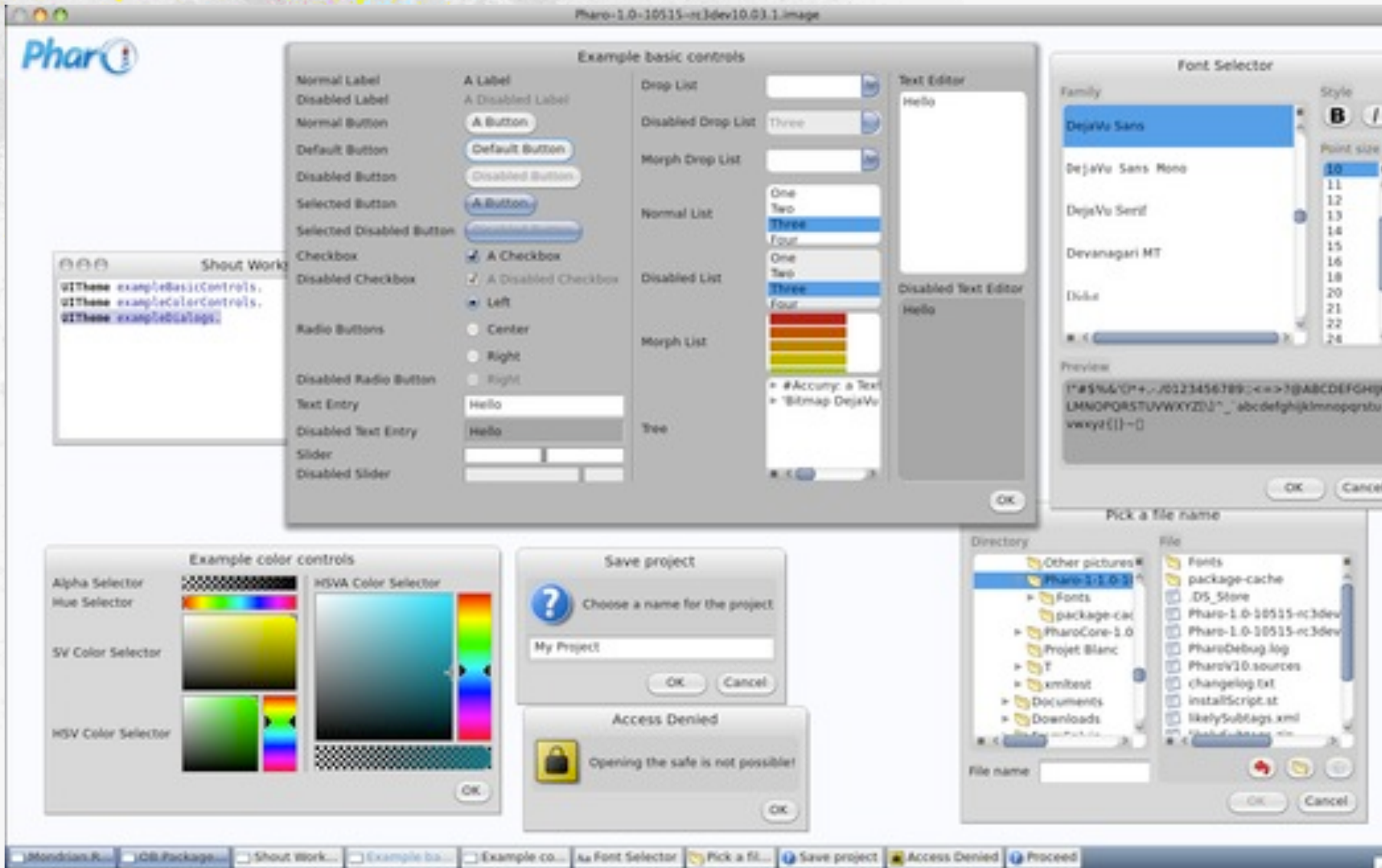


# Then came Pharo!



A professional  
open-source  
Smalltalk





# Pharo has good UI improvements

- With time, it incorporates
  - Polymorph!
  - A good set of key binds (like cmd+w, finally!)
- ...and most of this changes are now on Squeak too.







# So, why Mars?

- Because native applications rocks
  - The mac experience matters
  - We should be able to produce that experience using Pharo.



# And what's Mars?

An model, view, controller user interface framework for building native applications for the OSX, iPhone and iPad





# Architecture in a slide

- Cocoa/CocoaTouch
- The ObjectiveCBridge
- Model, View, Controller



# The bridge



martes 2 de noviembre de 2010

# Objective-C bridge

- Made by John McIntosh
- Present by default in all the latest vm builds
- Used on real applications for the iPhone



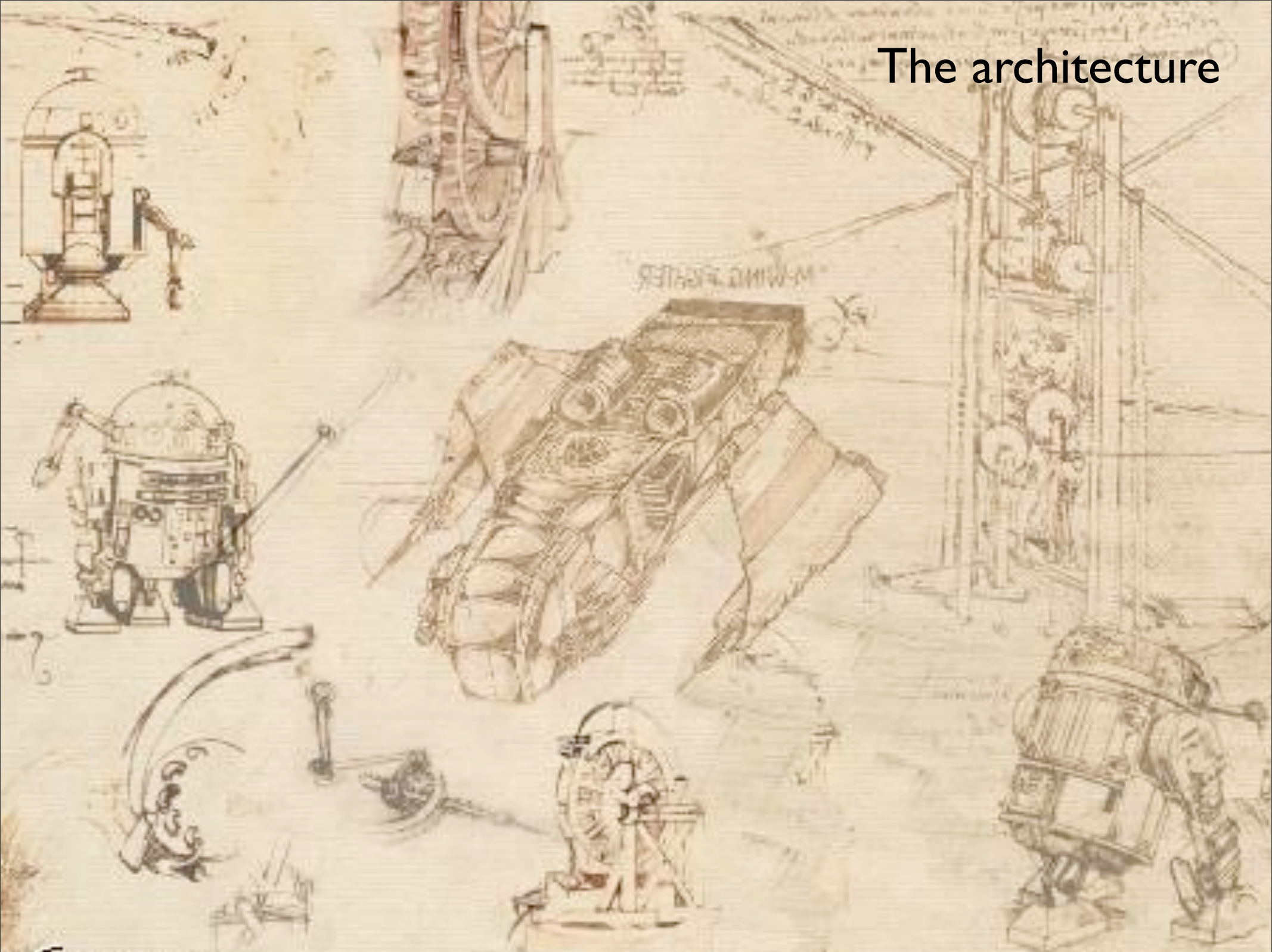


# Objective-C bridge

- An object in Pharo forward messages to Objective-C
- A proxy in Objective-C side interacts with a correspondent object in Pharo side.
- Everything is handled by semaphores waiting to do something, at both sides
- Yes, the coordination of that interaction is tricky, but the bridge does that for us.



# The architecture





# Architecture:View

- As said, any control has it's corresponding ObjectiveC object.
- Everything is inside an Application
- Everything is
  - a Window,
  - a child of a Window, or
  - a Dialog
- There are lot's of controls already made, and more to come





# Architecture: Controller

- Mars handles it's actions through callbacks installed as a proxy between Pharo and ObjectiveC
- Any callback installed is a independent process in Pharo side
- Yes, there are lots of processes if you run Mars right now.



# Architecture: Model

- It uses a standard “model” mechanism
- For malleability, we can use MRModelAdaptor
- It “borrows” something I saw in Dolphin.
- It is an adaptor for any model I need (well... at least any model I needed, but I can grow it later)



# Really small demo





# Problems



# Problems found

- The “dead lock” problem
  - Changed by changing the VM structure
- But now there are other problem: no scheduled proccess
- Being worked on by John and Eliot.  
Thanks!



# The future





# Next steps

Make it work, make it right, make it fast

- We are still someplace between “make it work” and “make it right”... but we will succeed! (and very soon)
- Needs testing (Maybe with FScript)
- Needs documentation
- Last minute addition: MRNibObject



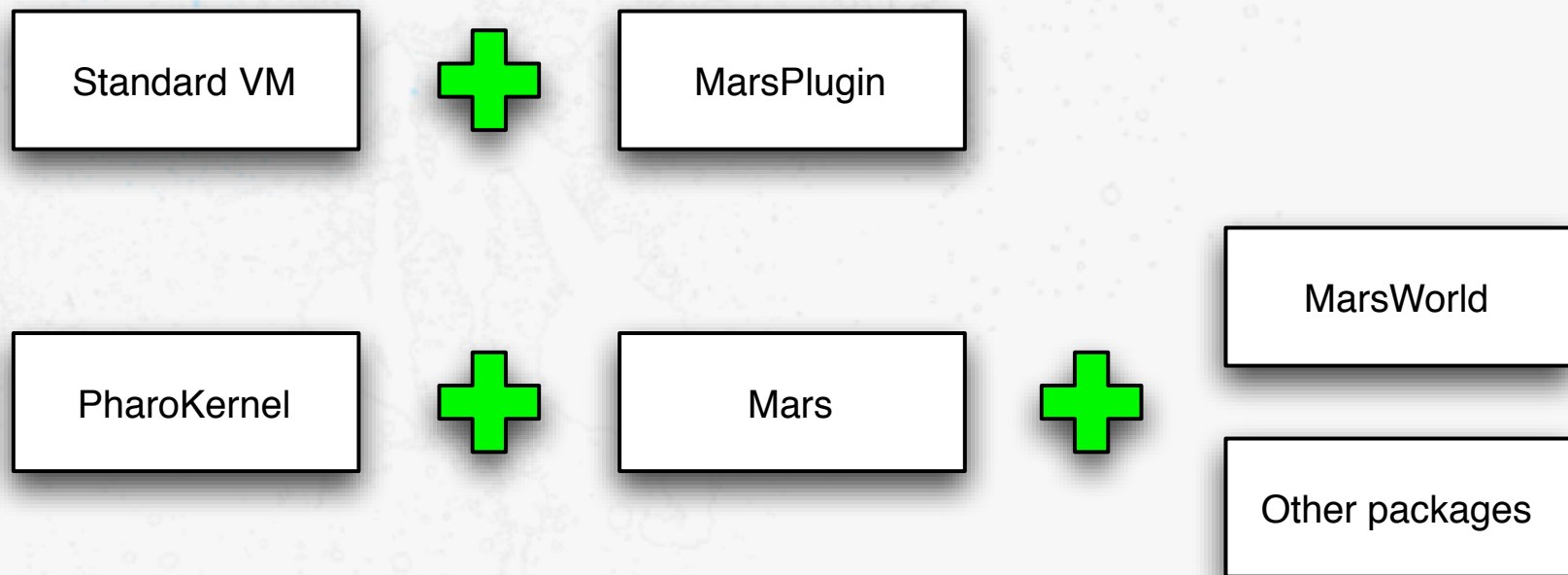
# Far next steps

- Mars for Linux and Windows?
- There are design issues, and abstraction layers are never a good idea (IMHO)



# I would like to see... (I)

Modular pharo in a standard (and/or Cog) VM





# I would like to see (2)

- The “great and unique and fantastique tool rebuilding call”
  - Our tools are most of the times old
  - And our tools are always ugly
  - Yes, it is an heresy... but a needed one.



# Where is Mars?

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

<http://code.google.com/p/marsonpharo>

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(No trafic, but specific questions and etc. can be sent there)





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Questions?

