# The Squeak Environment

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# Smalltalk Run-Time Architecture

· Virtual Machine + Image + Changes and Sources

All the objects of the system
at a moment in time

IMAGE1.IM
IMAGE1.CHA

A byte-code interpreter:
the virtual machine interpretes the image

+

Standard SOURCES

IMAGE2.IM
IMAGE2.CHA

One per user

Shared by everybody

· Image = bytecodes
· Sources and changes = code (text)

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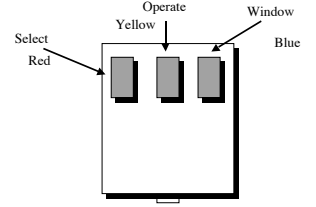# Runtime Architecture

· The byte-code is in fact translated into native code by a just-in-time compiler.
· The source and the changes are not necessary for interpreting the byte-code, this is just for the development. Normally they are removed for deployment.
· An application can be delivered as some byte-code files that will be executed with a VM. The development image is stripped to remove the unnecessary development components.
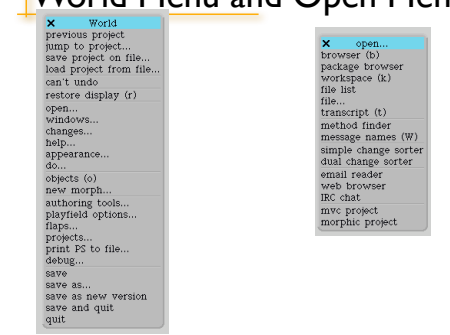
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# Mouse Semantics

Operate
Yellow

Window
Blue

Select
Red

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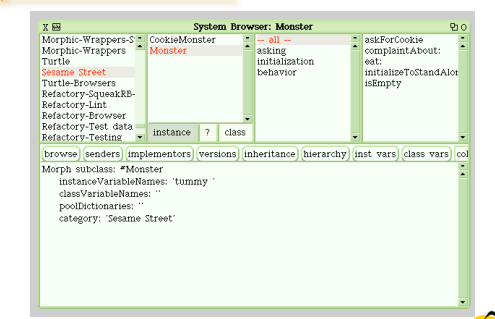# World Menu and Open Menu

World
previous project
jump to project...
save project on file...
load project from file...
can't undo
restore display (r)
open...
windows...
changes...
help...
appearance...
do...
objects (o)
new morph...
authoring tools...
playfield options...
flaps...
projects...
print PS to file...
debug...
save
save as...
save as new version
save and quit
quit

open...
browser (b)
package browser
workspace (k)
file list
file...
transcript (t)
method finder
message names (W)
simple change sorter
dual change sorter
email reader
web browser
IRC chat
mvc project
morphic project

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# Browsing a class

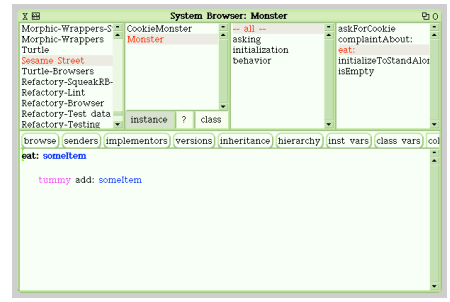System Browser: Monster

Morphic-Wrappers-S
Morphic-Wrappers
Turtle
Sesame Street
Turtle-Browsers
Refactory-SqueakRB-
Refactory-Lint
Refactory-Browser
Refactory-Test data
Refactory-Testing

CookieMonster
Monster

-- all --
asking
initialization
behavior

askForCookie
complaintAbout:
eat:
initializeToStandAlor
isEmpty

instance   ?   class

browse  senders  implementors  versions  inheritance  hierarchy  inst vars  class vars  col

Morph subclass: #Monster
    instanceVariableNames: 'tummy '
    classVariableNames: ''
    poolDictionaries: ''
    category: 'Sesame Street'

---

# Browsing methods

System Browser: Monster

Morphic-Wrappers-S
Morphic-Wrappers
Turtle
Sesame Street
Turtle-Browsers
Refactory-SqueakRB-
Refactory-Lint
Refactory-Browser
Refactory-Test data
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CookieMonster
Monster

-- all --
asking
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askForCookie
complaintAbout:
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instance   ?   class

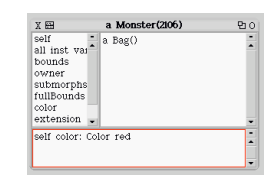browse  senders  implementors  versions  inheritance  hierarchy  inst vars  class vars  col

eat: someItem

    tummy add: someItem

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# Inspector

· To look inside objects
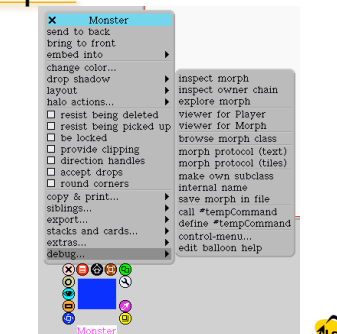· Violates encapsulation!!!
· Monster new inspect

a Monster(2106)

self
all inst var
bounds
owner
submorphs
fullBounds
color
extension

a Bag()

self color: Color red

---

# Direct Manipulation

· Bring the halo
· Experiment

Monster
send to back
bring to front
embed into
change color...
drop shadow
layout
halo actions...
resist being deleted
resist being picked up
be locked
provide clipping
direction handles
accept drops
round corners
copy & print...
siblings...
export...
stacks and cards...
extras...
debug...

inspect morph
inspect owner chain
explore morph
viewer for Player
viewer for Morph
browse morph class
morph protocol (text)
morph protocol (tiles)
make own subclass
internal name
save morph in file
call #tempCommand
define #tempCommand
control-menu...
edit balloon help

Monster

# Debugger?



S.Ducasse

# Debugger !!!



S.Ducasse

# FileList



S.Ducasse

# Message Names Finder



S.Ducasse



S.Ducasse

# Methods in ChangeSets + Versions



S.Ducasse

# Preferences



S.Ducasse

# SUnit



S.Ducasse

# Transcript is Slooooooooooooow

# Squeak Map Package Loader

# Monticello

# Monticello Change Browser

# Repository

# SqueakSource

# Changes Menu…Recently logged files

· Everything you do is recorded

# ChangeSorter: to sort your changes

# Cool Packages to Load

Shout
Refactoring Browser
eCompletion

# Change your Mind

Everything you do is recorded !!
So try and learn how to recover your code

You are smart so
    Experiment,
    Learn for you, browse,
    educate your taste (not all Squeak code is good)
    Be aggressive, ***all*** the code is there