

Cavrois - an Organic Window Management

Alexis Cnockaert - Stéphane Ducasse



Some systems feels like ...



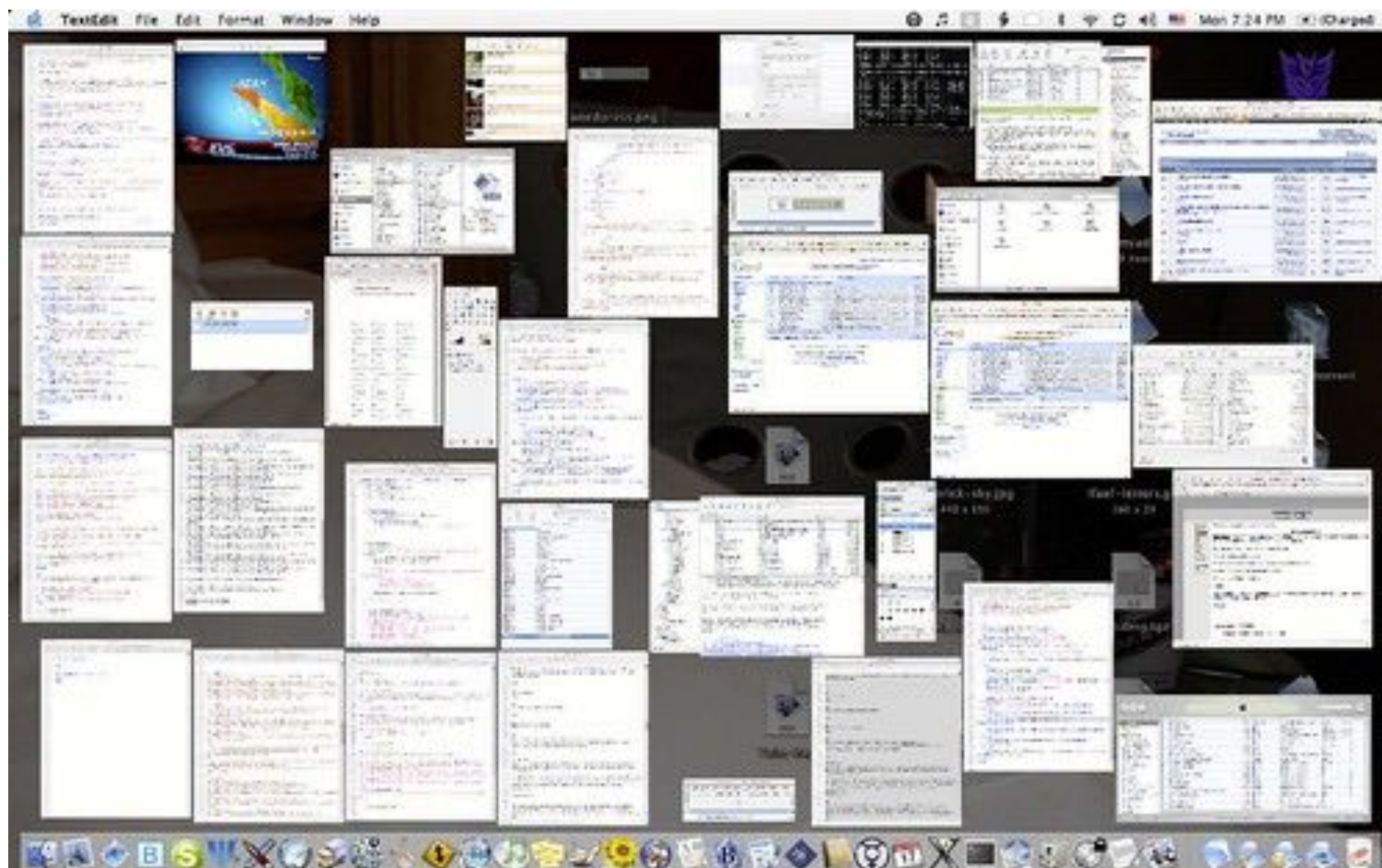
They IMPOSE their flow

They know what is good for your flow :(

- You cannot open a browser on typing anywhere you want
- You cannot have multiple workspaces, browsers side by side
- You cannot have workspaces on top of the others
- You have to press that button...
- You can only see one of this window

Others are a jungle

- Pharo windows can be a mess!



What we want...

A system that let us work the way we **want**
but in a better **organized** way

Outline

- **Developer activity profiles**
- Existing challenges
- Cavrois's concept
- Cavrois functionalities by example
- Tasks
- Achievements

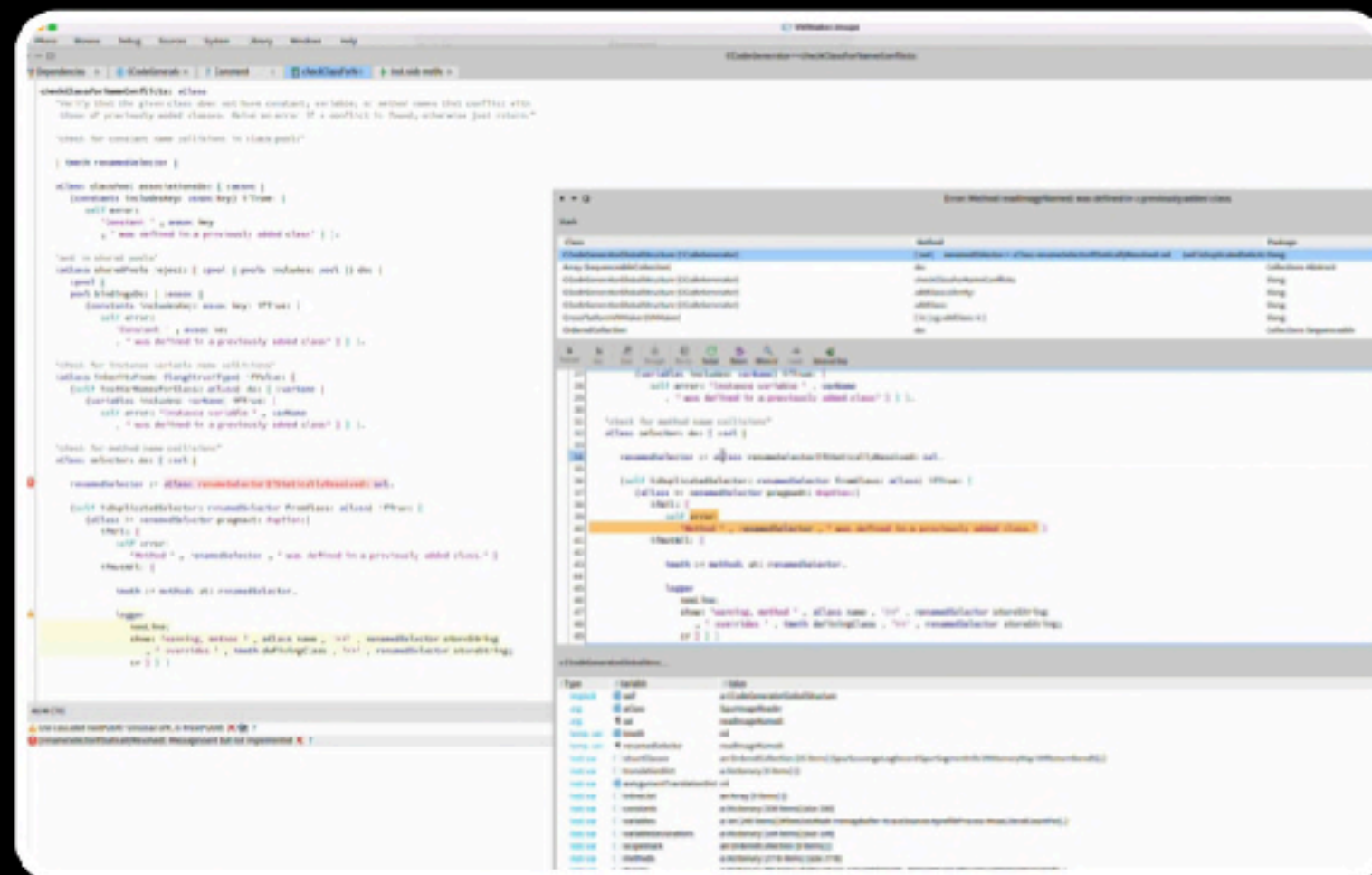


Existing Challenges

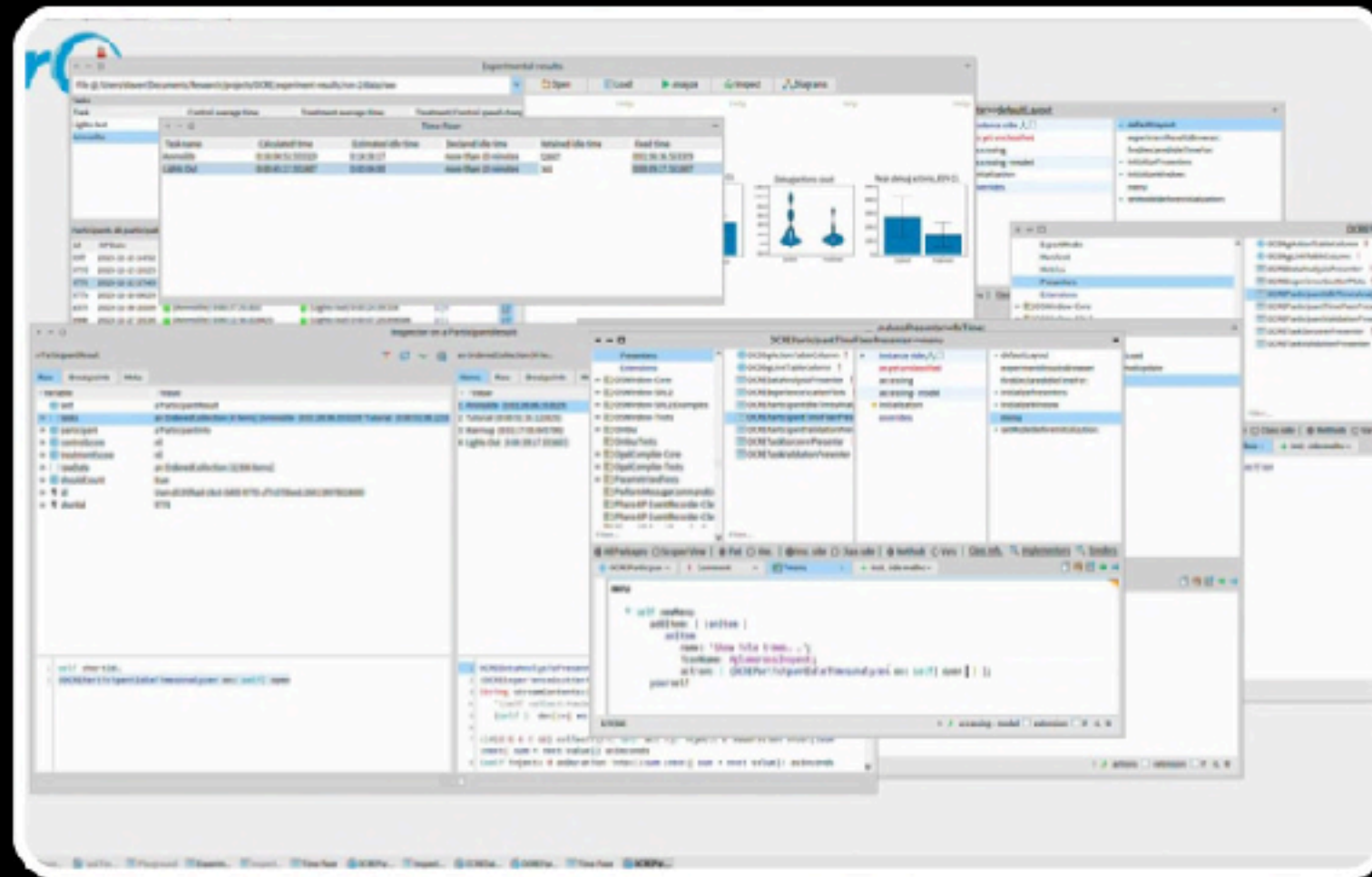
Santiago Viana of Univ. Santiago Chile study

How does Pharo's UI Impact these Developers?

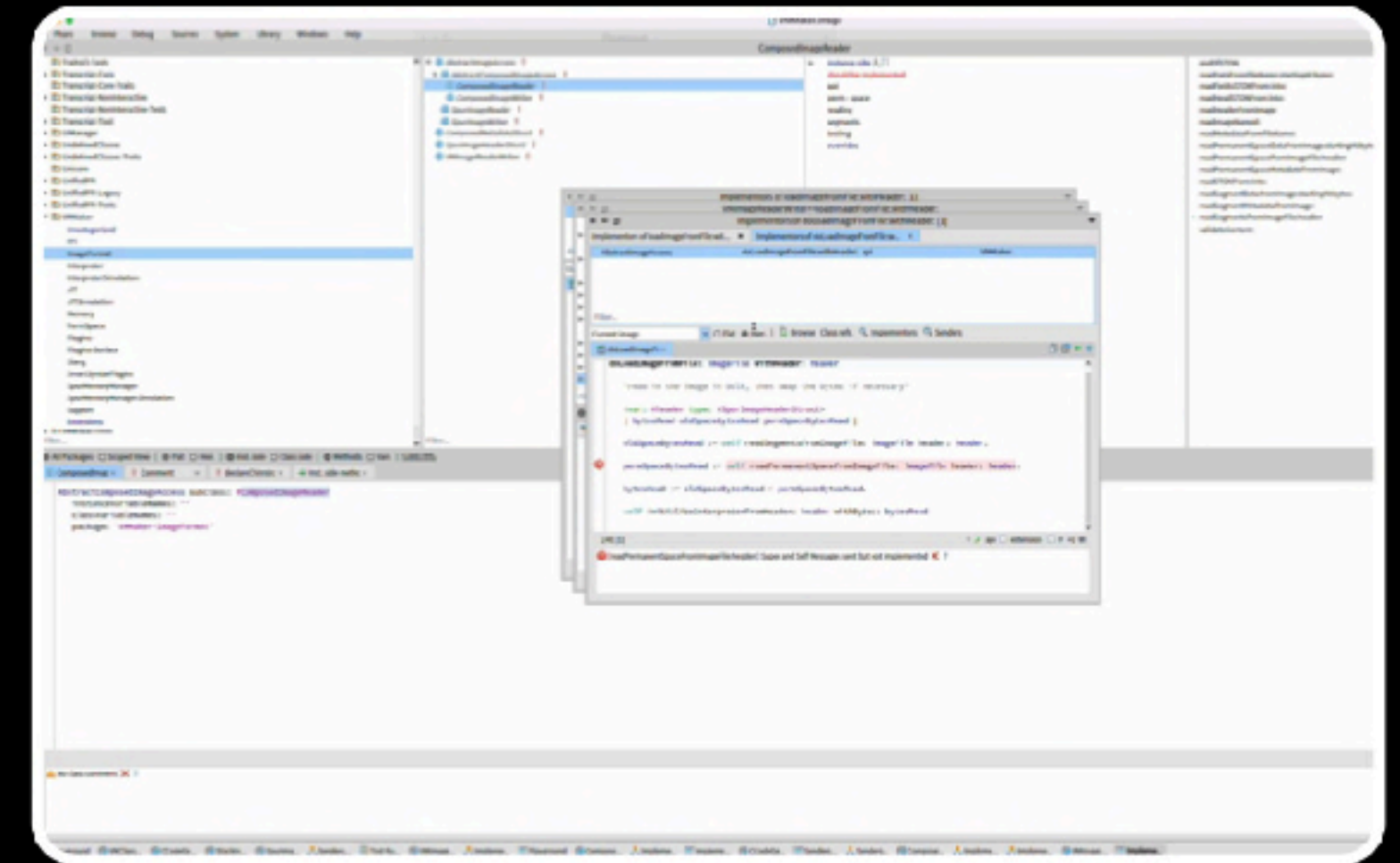
Specialist:



Explorer:



Stack Organizer:



1. Specialist

Perceived Efficiency



Time Spent on Workspace Organization



Layout Customization



Task Variety



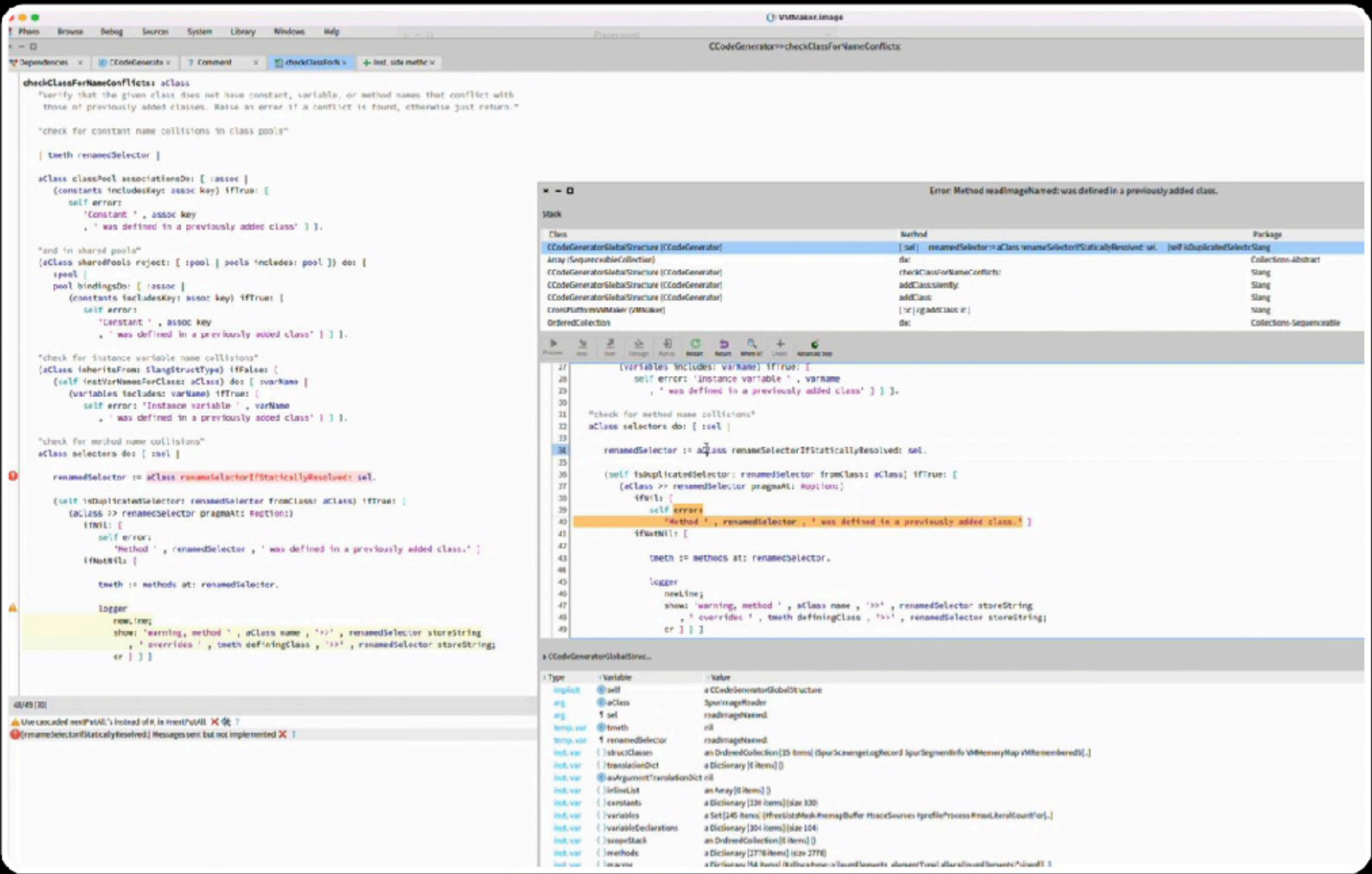
Interface Interaction:

- Carefully organizes their workspace and avoids having too many windows open in the first place.
- Prefers to maximize individual windows size to display as much information as possible without overloading the visual space.

Shortcut Use:

- Dives into code manually. Wants to be able to maximize windows with more accuracy and navigate code faster.

“This is the way I’m organizing it this time because I needed to see a lot of things at the same time.”



2. Explorer

Perceived Efficiency

Low ← ————|————→ High

Time Spent on Workspace Organization

Minimal ← ————|————→ Considerable

Layout Customization

Structured ← ————|————→ Cluttered

Task Variety

Limited ← ————|————→ Broad

Interface Interaction:

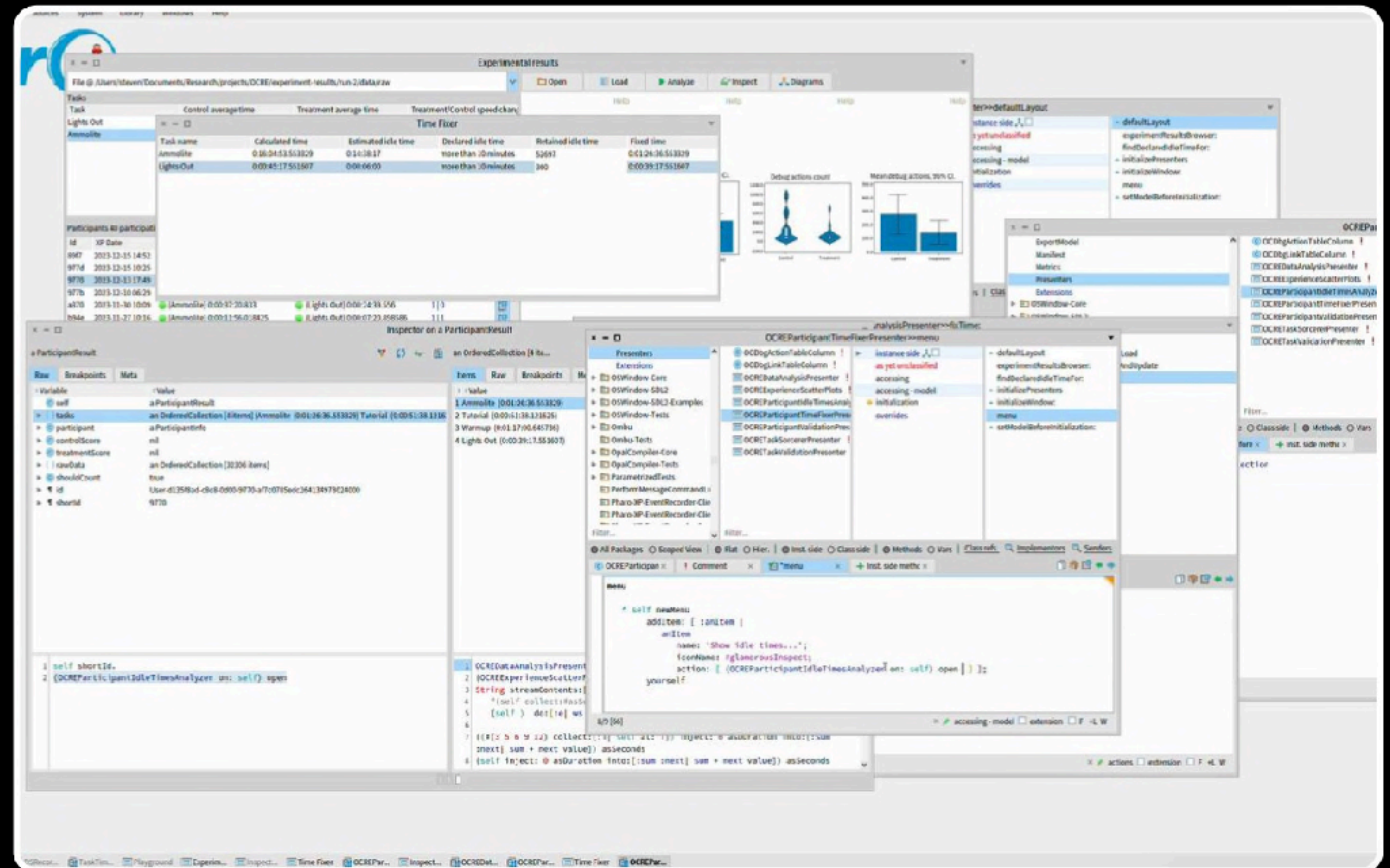
- They open windows as needed and close them once they're no longer useful or when too much information on the screen feels overwhelming.
- Dislikes having to arrange and rearrange windows for task specific layouts, won't do so unless necessary.

Shortcut Use:

- Uses shortcuts to open and close windows, as well as to copy and paste code. Wishes there were shortcuts to speed up arranging windows.

"I don't give importance to the code browser. It's going to take 20% of my time. But I prefer to open it. Use it and close it."

"So there's too much window. And... I cannot understand what I'm seeing. So I'm closing everything."



3. Stack Organizer

Perceived Efficiency

Low ←—————|—————●————→ High

Time Spent on Workspace Organization

Minimal ←—————|—————●————→ Considerable

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Structured ←—————|—————●————→ Cluttered

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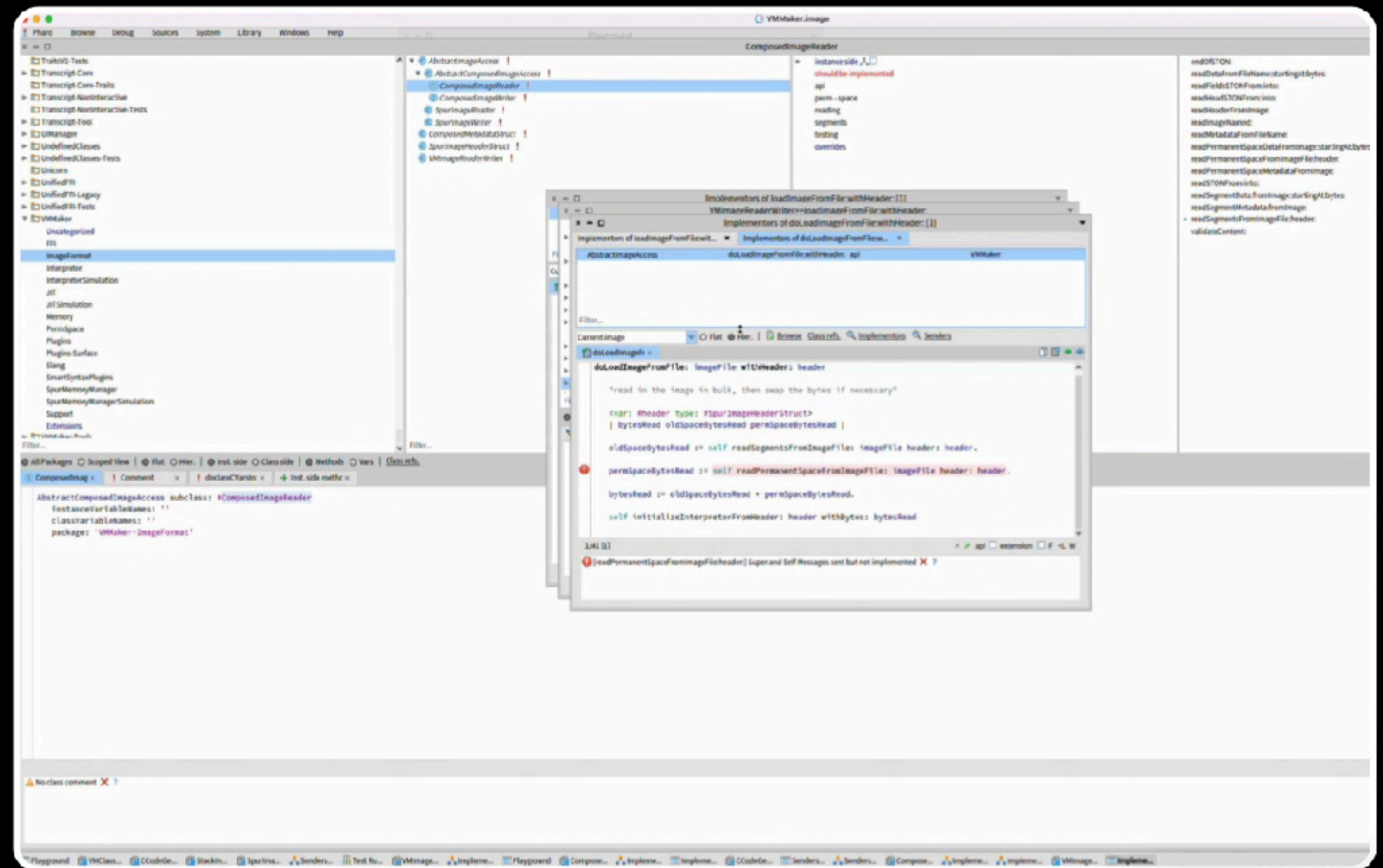
Interface Interaction:

- Maintains a basic layout with background windows, adding windows according to the flow of each task.
- Sets up stacks of windows related to each task, using a “mind map” to remember their layout and structure.

Shortcut Use:

- Uses shortcuts to optimize navigation and quick space organization.

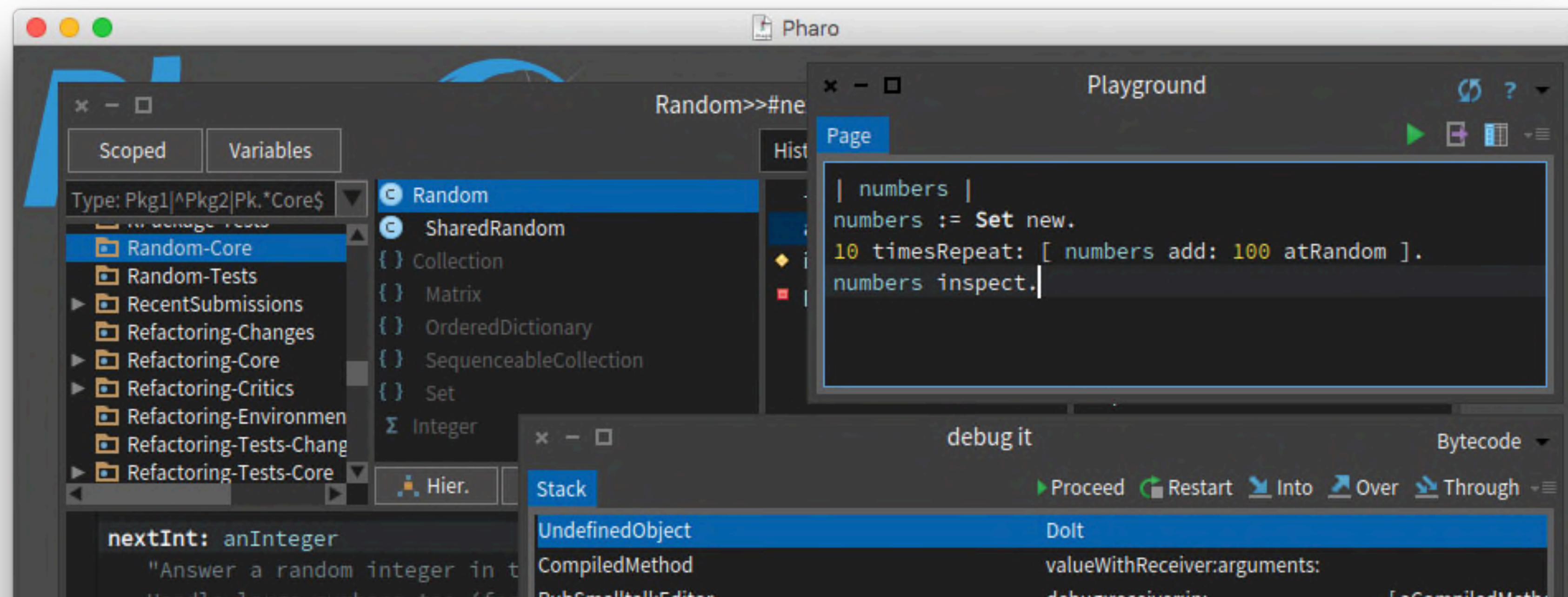
“I use the windows as a stack. Because it's the most comfortable to use with the keyboard, with the current design. That is. I open windows. I close windows. And they open in a stack.”



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- **Existing challenges**
- Cavrois's concept
- Cavrois functionalities by example
- Tasks
- Achievements





Pharo windowing jungle

- + Powerful environment with tons of tools
- + Full freedom
- Far too many messy windows
- You have to resize the windows again and again...grrrrr
- Loss of productivity for the user



Why yet another windowing manager?

Most windowing managers force developers to adapt to the manager

We want

- a windowing manager that the developer can adapt to its **own** flow
- support multiple tasks, organisations

Outline

- Existing challenges
- Developer activity profiles
- **Cavrois's concept**
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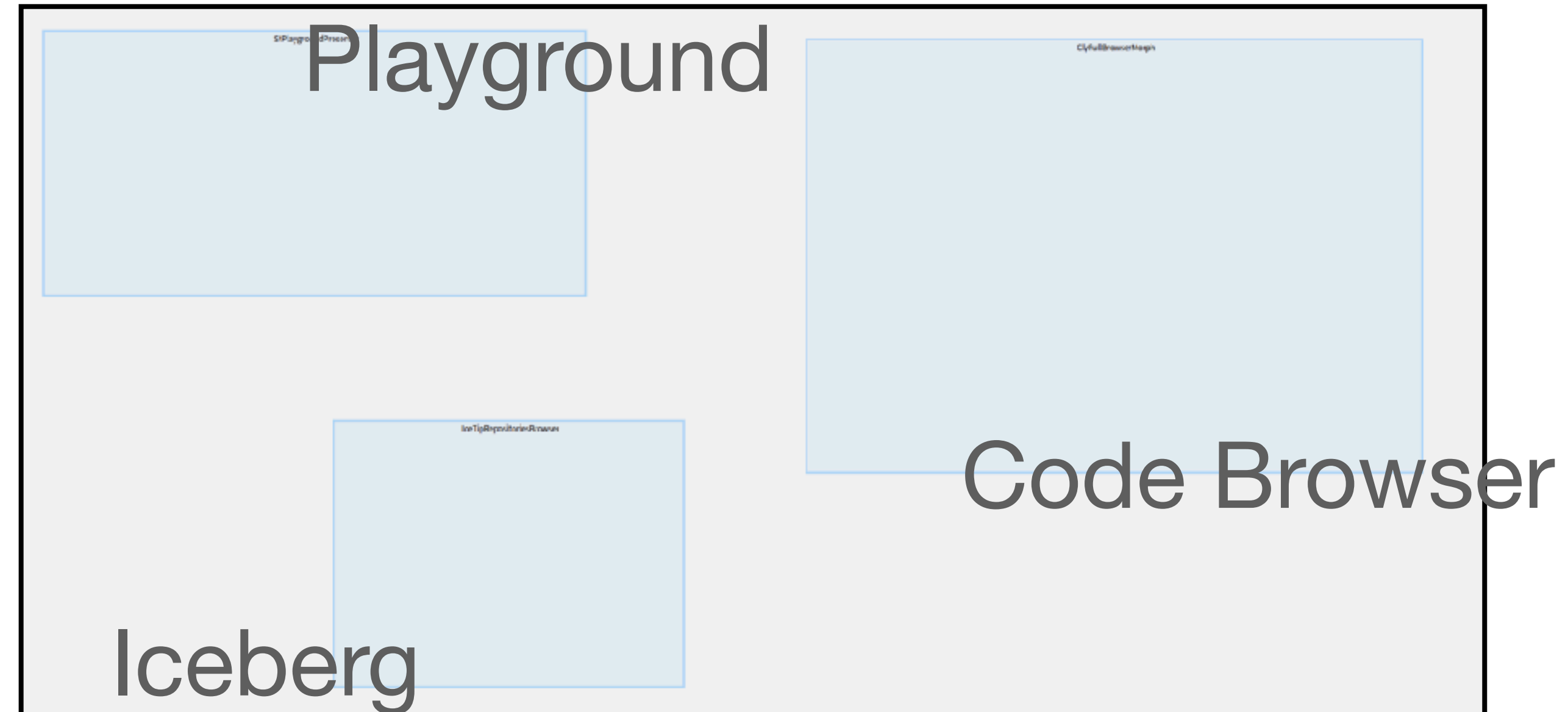
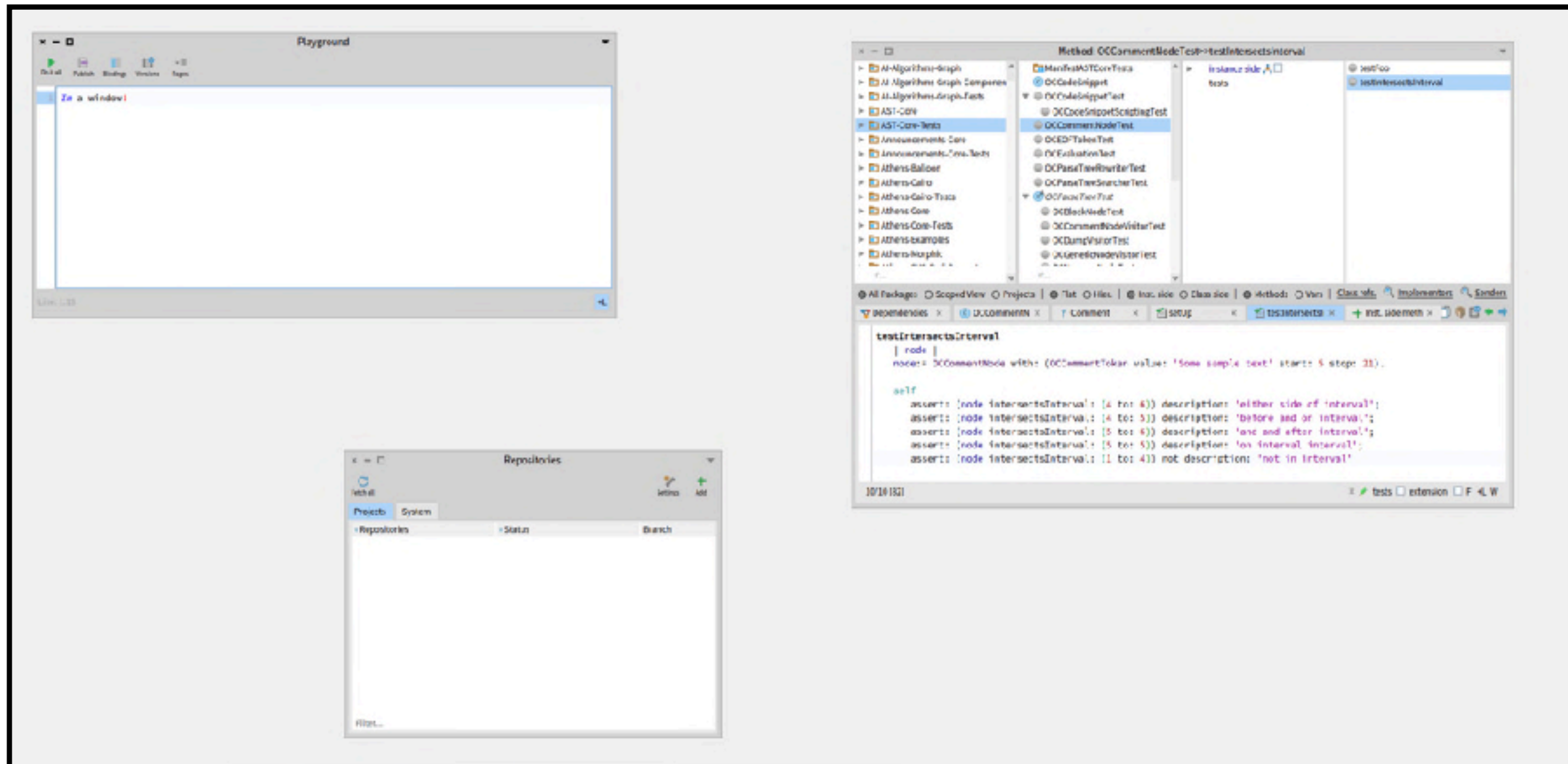
Cavrois: an organic window manager

- Place your tools the way you want
- Specify your way of interacting for a specific tool
- Define a specific profile for each different tasks
- The system will “place” automatically the tools in your “right” place

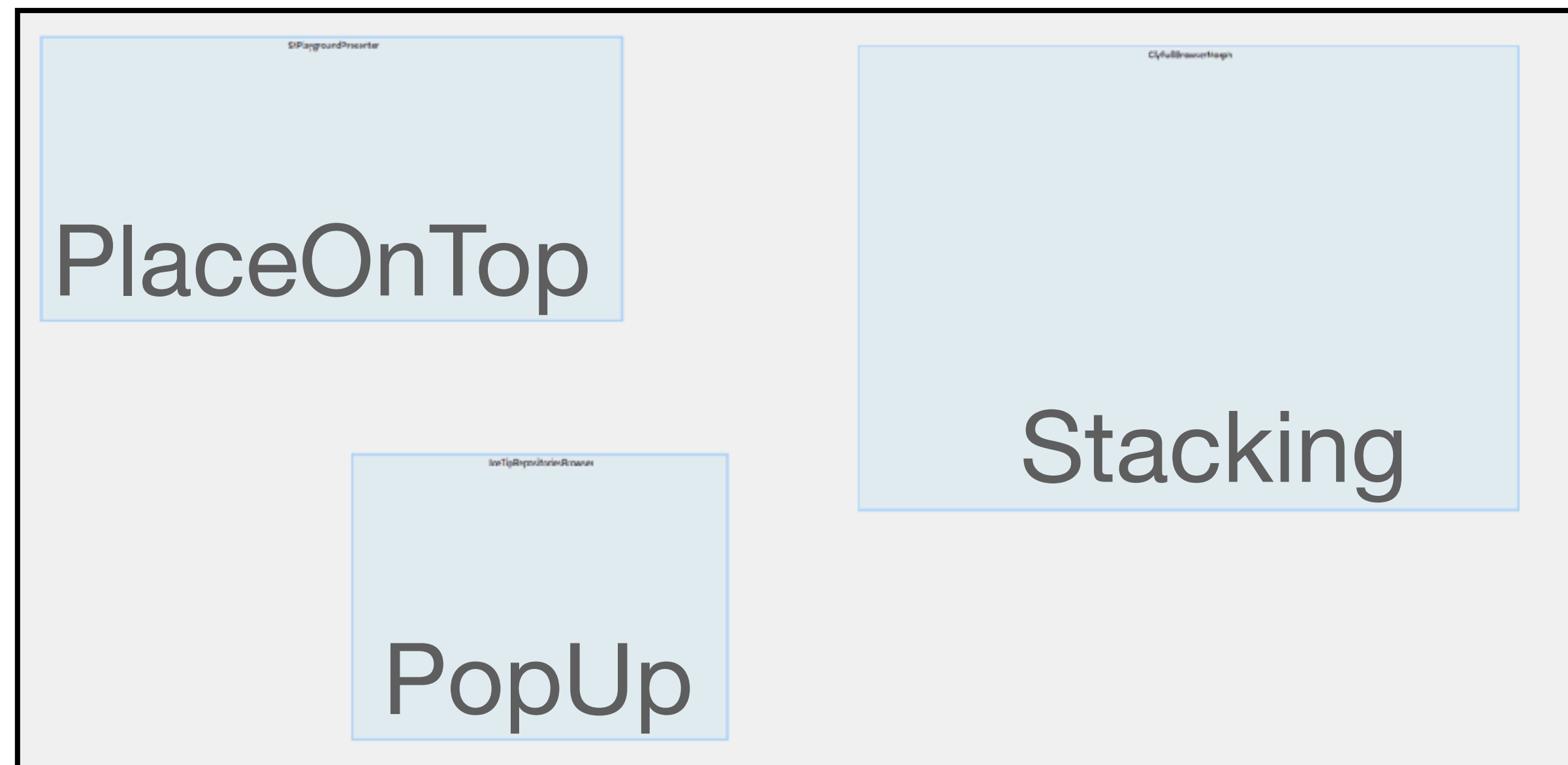
Profiles, placeholders and strategies

- Profiles: a **group** of configured placeholders
- Placeholder: **represents** a type of tool (position and size)
- Strategy: **what** do we do when we request a tool

A profile and its placeholders



Placeholders and strategies



Strategies: Replace

Replace:

opens a new instance of the tool at the placeholder and
replaces an existing one if there is one

Strategies: Place on Top

Place on Top:

opens a new instance or place on top of the existing one

You see only one!

Strategies: Stacking

Stacks:

opens a new instance of the tool stacked on top existing ones

Strategies: Popup

Pop Up:

opens a new instance of the tool **if none**
place on top any existing ones

a.k.a jump over the mess

**You can have any number of the same
tools at different places...
Cavrois will cycle the tool windows**

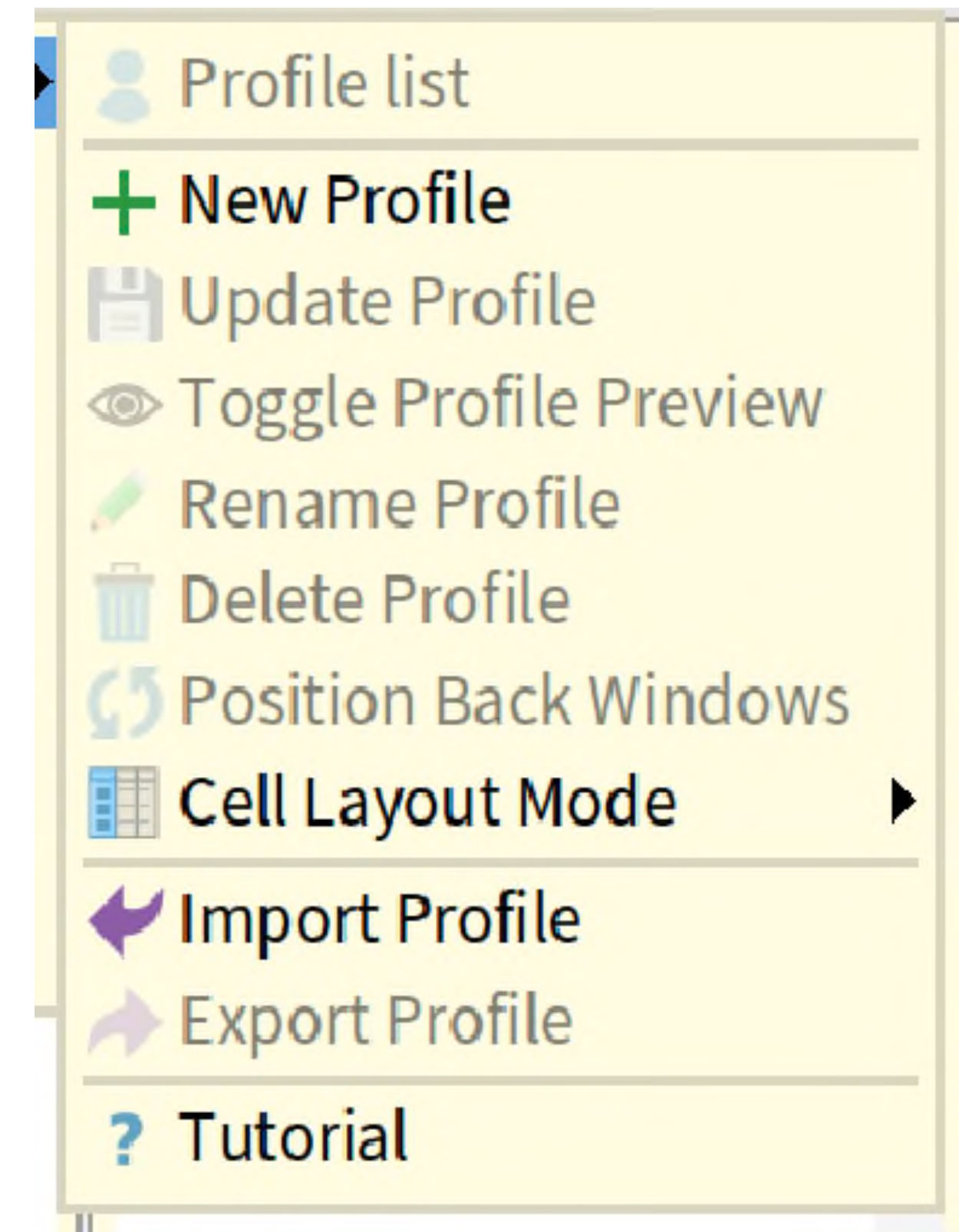
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- **Cavrois functionalities by example**
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Profile management

- Snapshot a profile
- Move windows according to current profile
- Switch windows between profiles



Place and create a profile

```
Object << #MyClass
  slots: {};
  package: ''
```

```
Object << #MyClass
  slots: {};
  package: ''
```

Playground

Do it all Publish Bindings Versions Pages

1

Dr Tests - Tests Runner

Tests Runner

Minimize

Packages

Tests Cases

Grouped by type of result

AI-Algorithms-Gr
AST-Core-Tests
Announcements-
Athens-Cairo-Tes

Results:

Repositories

Fetch all

Projects

System

Repositories

Status

Cozy

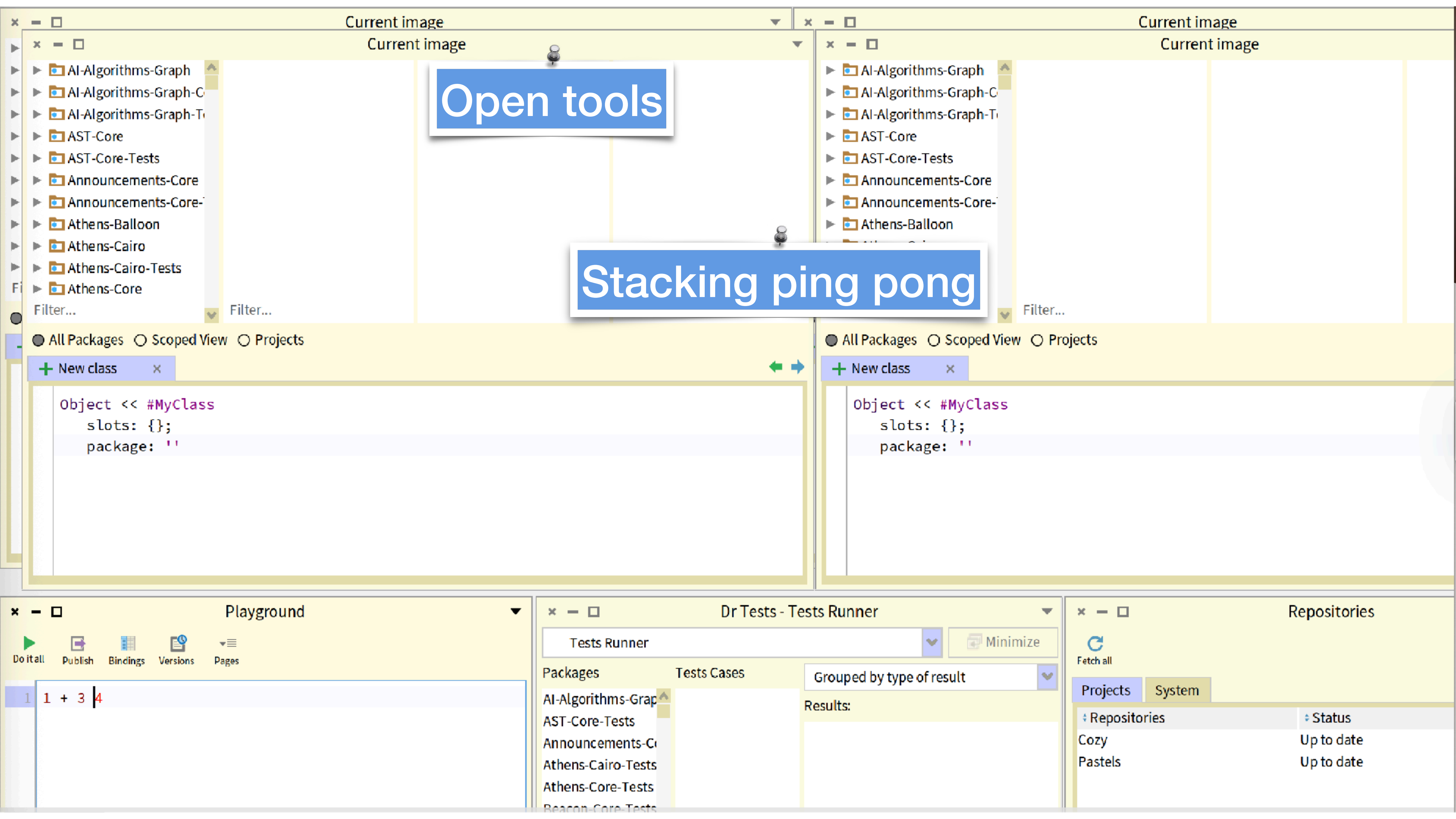
Up to date

Pastels

Up to date



Configure your placeholders



You can make your tool messy

Class: Announcement

Al-Algorithms-Graph

Al-Algorithms-Graph-C

Al-Algorithms-Graph-T

AST-Core

AST-Core-Tests

Announcements-Core

Announcements-Core-

Athens-Balloon

BasicObjects

Delays

Exceptions

Manifest

Messaging

Methods

Numbers

Objects

Processes

Extensions

Kernel-BytecodeEncod

AbstractAnnouncemer

AnnouncementSubs

WeakAnnouncement

Announcement

AnnouncementDeliver

AnnouncementSet

AnnouncementSetW

Announcer

instance side

extensions

converting

initialization

overridden

affectsClass:

affectsClassExtension

affectsClasses

affectsClassesDefinedInPar

affectsClassesExtendedInP

affectsCritiques

affectsMethod:

affectsMethods

Class: Point

AsciiCharset

Character

Point

Rectangle

arithmetic

comparing

converting

copying

extent functions

geometry

interpolating

point functions

printing

/

//

<

<=

=

>

>=

//

abs

Point

Comment

Inst. side meth

Object << #Point

slots: { #x . #y };

tag: 'BasicObjects';

package: 'Kernel'

Excessive number of methods

Current image

Al-Algorithms-Graph

Al-Algorithms-Graph-C

Al-Algorithms-Graph-T

AST-Core

AST-Core-Tests

Announcements-Core

Announcements-Core-

Athens-Balloon

Athens-Cairo

Playground

Do it all

Publish

Bindings

Versions

Pages

1

1 + 3 4

Line: 1:7

+L

Runner

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Up to date

Class: Announcement

AI-Algorithms-Graph

AI-Algorithms-Graph-C

AI-Algorithms-Graph-T

AST-Core

AST-Core-Tests

Announcements-Core

Announcements-Core-

Athens-Balloon

Athens-Cairo

Athens-Cairo-Tests

Athens-Core

Filter...

AbstractAnnouncemer

AnnouncementSubs

WeakAnnouncement

Announcement

AnnouncementDeliver

AnnouncementSet

AnnouncementSetW

Announcer

ManifestAnnouncemer

SubscriptionRegistry

WeakSubscriptionBuil

Filter...

instance side

extensions

converting

initialization

overridden

affectsClass:

affectsClassExtension

affectsClasses

affectsClassesDefinedInPa

affectsClassesExtendedInP

affectsCritiques

affectsMethod:

affectsMethods

affectsMethodsDefinedInC

Class: Point

BasicObjects

Delays

Exceptions

Manifest

Messaging

Methods

Numbers

Objects

Processes

AsciiCharset

Character

Point

Rectangle

instance side

extensions

accessing

arithmetic

comparing

converting

copying

extent functions

geometry

interpolating

point functions

printing

abs

Position them back

All Packages

Scoped View

Projects

Flat

Hier.

Inst. side

Class side

Methods

Vars

Class

Dependencies

Announcemen

Comment

Inst. side meth

Object << #Announcement

slots: {};

tag: 'Base';

package: 'Announcements-Core'

Point

Comment

Inst. side meth

Object << #Point

slots: { #x . #y };

tag: 'BasicObjects';

package: 'Kernel'

Excessive number of methods

Playground

Do it all

Publish

Bindings

Versions

Pages

1

1 + 3 4

Dr Tests - Tests Runner

Tests Runner

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Packages

Tests Cases

Grouped by type of result

Results:

AI-Algorithms-Grap

AST-Core-Tests

Announcements-Co

Athens-Cairo-Tests

Athens-Core-Tests

Beacon-Core-Tests

Repositories

Fetch all

Projects

System

Repositories

Status

Cozy

Up to date

Pastels

Up to date

Dr Tests - Tests Runner

Tests Runner

Packages (1 selected):

Al-Algorithms-Graph-T
AST-Core-Tests
Announcements-Core-
Athens-Cairo-Tests
Athens-Core-Tests
Beacon-Core-Tests
BeautifulComments
Calypso-Browser-Tests
Calypso-NavigationMo
Calypso-SystemPlugin
Calypso-SystemPlugin
Calypso-SystemPlugin
Calypso-SystemPlugin
Calypso-SystemPlugin
Calypso-SystemPlugin

Tests Cases (1 selected):

ClyAllBasisCritiqu
ClyAllMethodCrit
ClyAllProblemMe
ClyConcreteGrou
ClyCriticMethodC
ClyCritiqueQuery
ClyAllBasisCrit
ClyAllMethodC
ClyFilteringCri
ClyConcret
ClyFilteringCritiq
ClyConcreteGr
ClyGroupedCritiq

Grouped by type of result

Results:

Errors (0)
Failures (0)
Skipped tests (0)
Passing tests (36)
ExpectedFailures (0)
Unexpected passed tests (0)

Filter...

Filter...

Run Tests

2025-07-02 17:16: Tests finished.

Switch between profiles

Current image

Al-Algorithms-Graph
Al-Algorithms-Graph-C
Al-Algorithms-Graph-T
AST-Core
AST-Core-Tests
Announcements-Core
Announcements-Core-
Athens-Balloon
Athens-Cairo
Athens-Cairo-Tests

+ New class

Object << #MyClass
slots: {};
package: ''

Attracting cells to help you placing your tools



Use your profile in your startup

StartupAction

name: 'Load Profile'

code: [

CavroisWindowManager current makeProfileCurrent: 'Work'

]

Support different screen resolutions

- Yes you can switch between your screen and your laptop

Current Status

- First version in Pharo 13
- Current development in Pharo 14
- Limited investment in Morphic
- Looking soon at Bloc/Toplo but logic in 80% around Spec

Did we address the challenges?

- Devs do not have to resize multiple times the same tool :)
- Specific profiles to specific tasks
- Specific profiles for noobs
- Integration in the system
 - Ready to work out of the box
- **Feedback from users**

Outline

- Existing challenges
- Developer activity profiles
- Cavrois's concept
- Cavrois functionalities by example
- **Feedback and join the effort**




If you want to help improve Cavrois

You are welcome...

- Cavoris is hosted in
 - <http://github.com/Pharo-Spec/NewTools>

☰


pharo-spec / NewTools

👤

+

🕒

🔗

📧

<> Code

⬇ Issues 130

🔗 Pull requests 17

💬 Discussions

▶ Actions


📁 Projects 2

📖 Wiki

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NewTools
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🍴 Fork 69

★ Star 22

🔗 Pharo14

🔗 33 Branches

🏷 43 Tags

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<> Code

👤

Ducasse
Merge pull request [#1192](#) from balsa-sarenac/refactor/rename-r...

...

✖

d116cb6 · 2 days ago

🕒 4,048 Commits

📁 .github	Using Pharo64-14 directly (because alpha does not work)	2 weeks ago
📁 docs	Create debug-points-browser.md	last year
📁 resources/themes	Add resource folder	6 months ago
📁 src	Refactor: we've renamed this in Pharo, so needs to be up...	3 days ago
📄 .gitignore	Ignore DS_Store	6 months ago
📄 .project	add tag #system	3 years ago

About

All development tools for Pharo, developed with Spec

pharo

📖 Readme

📈 Activity

📋 Custom properties

★ 22 stars

👁 8 watching

🍴 69 forks

Report repository

Do not hesitate to give us feedback