

Development of a cost model for correcting the violations of programming rules

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- > code smells : patterns of **possibly** inappropriate code usage
- > In the literature code smells are identified with respect to
 - > Duplicated code,
 - > References,
 - > Parameters,
 - > Coding standards,
 - > Test behaviors,
 - >

What is a rule?

RBExcessiveArgumentsRule

rationale

^ 'Long argument lists (five or more) can indicate that a new object should be created to wrap the numerous parameters.'

checkMethod: aContext

aContext selector numArgs >= self argumentsCount

if True: [result addClass: aContext

selectedClass selector: aContext selector]

Where

argumentsCount

^ 5

What is a rule?

RBBooleanPrecedenceRule

rationale

^ 'Checks precedence ordering of & and | with equality operators. Since | and & have the same precedence as =, there are common mistakes where parenthesis are missing around the equality operators.'

initialize

super initialize.

self matcher

matchesAnyOf: #(

`@object1 | `@object2 = `@object3'

`@object1 | `@object2 == `@object3'

`@object1 & `@object2 = `@object3'

`@object1 & `@object2 == `@object3'

`@object1 | `@object2 ~= `@object3'

`@object1 | `@object2 ~~ `@object3'

`@object1 & `@object2 ~= `@object3'

`@object1 & `@object2 ~~ `@object3')

do: [:node :answer | node]

The problem

To fix

RBExcessiveArgumentsRule

You have to remove a method and create new one(s)

To fix

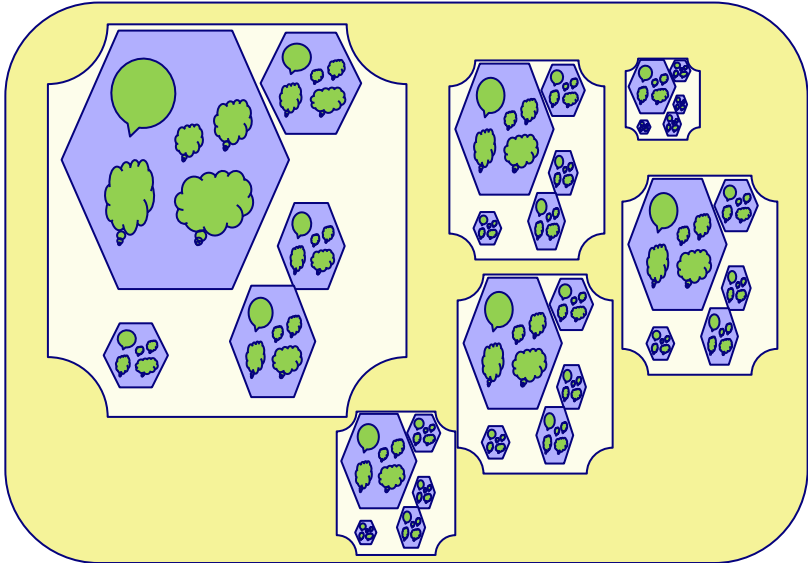
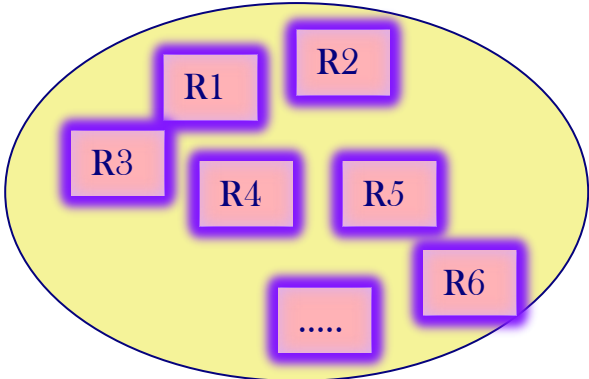
RBExcessiveArgumentsRule

You have to put parenthesis

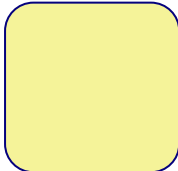


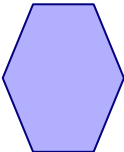

We can say that the cost to fix depend on the rule.

Can we guess how much it costs to fix a rule?

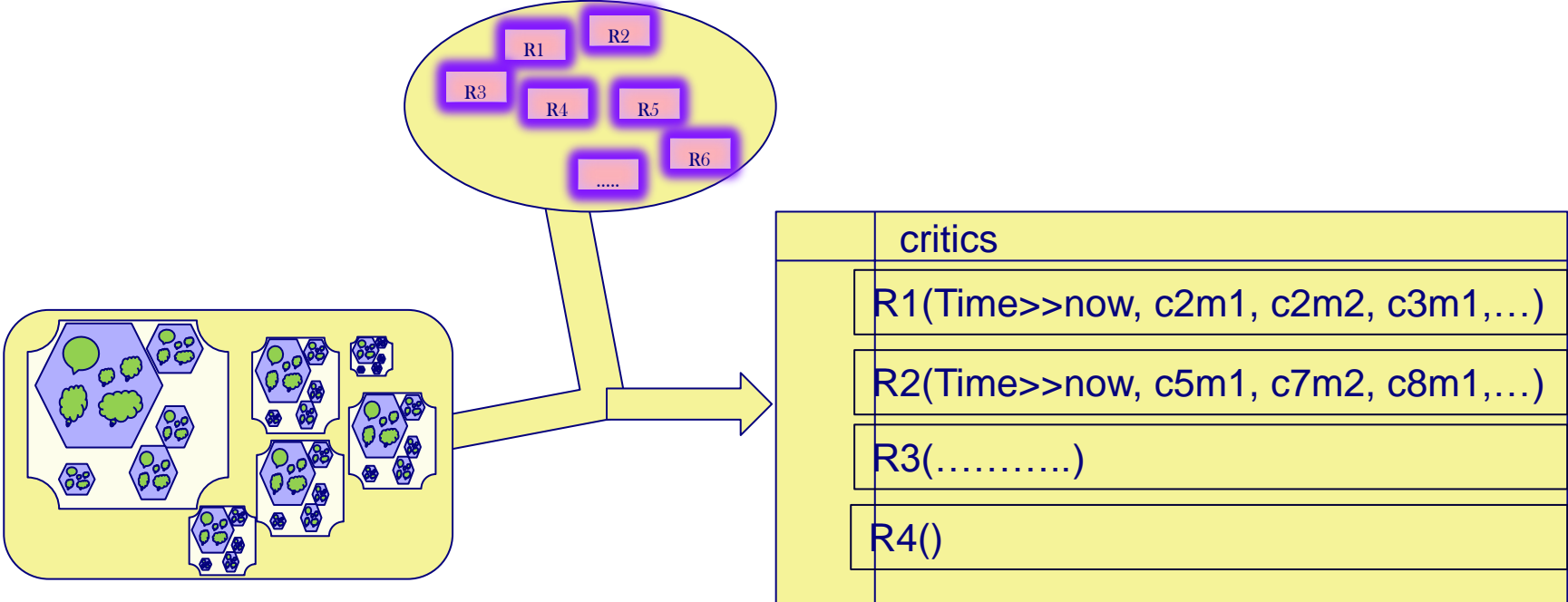
Pharo, Rules, Package, Classes, Methods



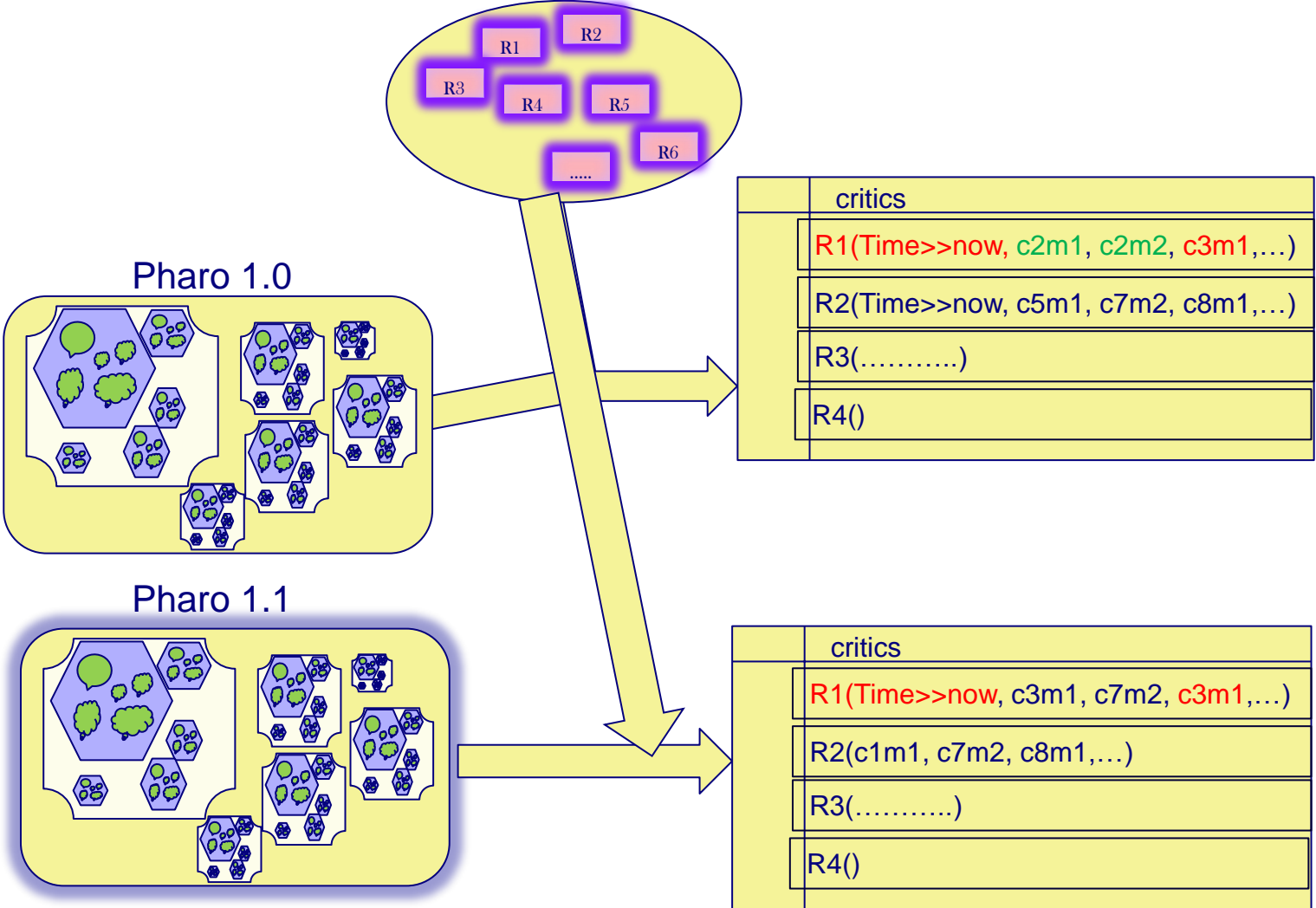
Legend

-  **Pharo**
-  **Rule**
-  **Package**
-  **Class**
-  **Method**

Pharo, Rules, Package, Classes, Methods



Pharo, Rules, Package, Classes, Methods



What was changed ?

What has changed in the method m1 of class c2?

- Number of literals?
- Number of temporaries variables?
- lines of code deleted?
- lines of code added?
- lines of codes modified?
- Tag deleted?
- Halt deleted?
-?