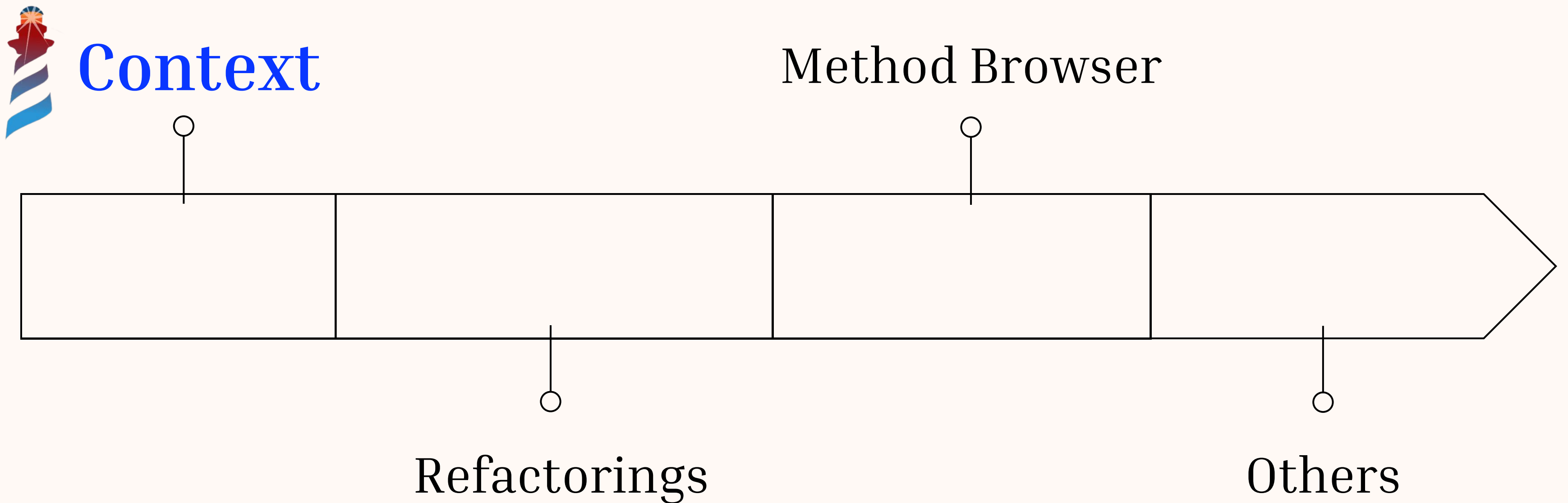


SMOOTH FLOW OF REFACTORINGS AND TOOLS

Presenting the work of Alexis Cnockaert and Stéphane Ducasse



PLAN



CONTEXT

- ✦ MASTER STUDENT AT LILLE (FRANCE)
- ✦ ALTERNANCE (HALF MASTER STUDENT, HALF PHARO DEV)
- ✦ IMPROVING PHARO UX
- ✦ REDUCING THE PAPER CUTS



alexiscnockaert@gmail.com



AlexisCnockaert

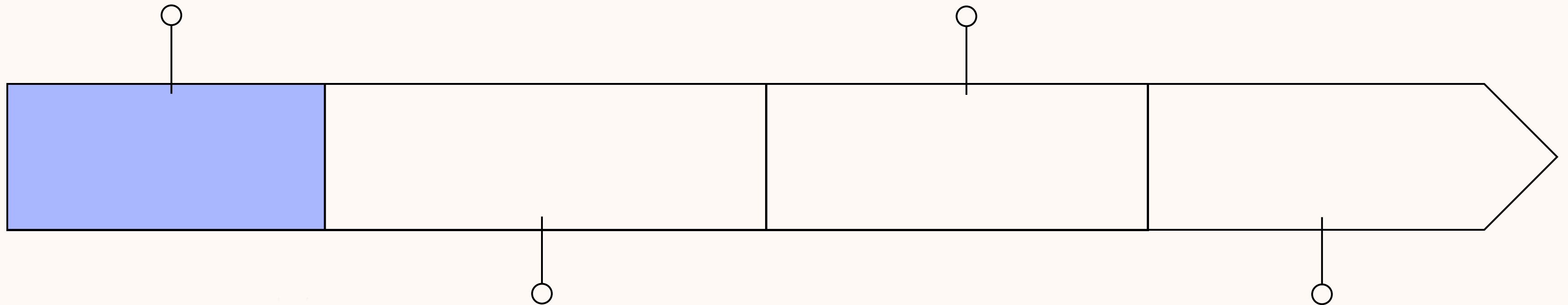


AlexisCnockaert

PLAN

Context

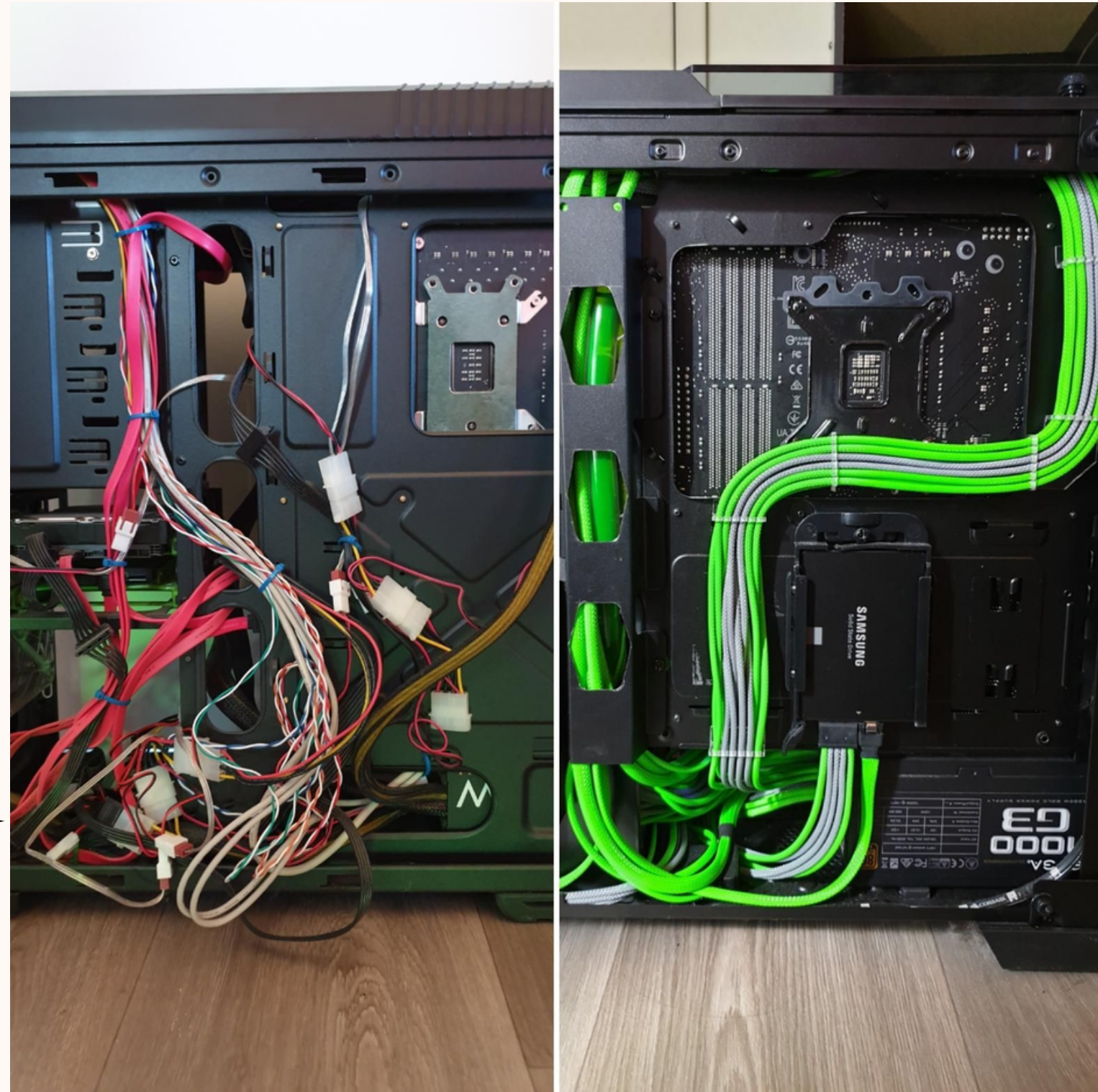
Method Browser



Refactorings

Others

DEFINITION



Refactoring:

*“Code transformation
preserving the behavior of
the program”*

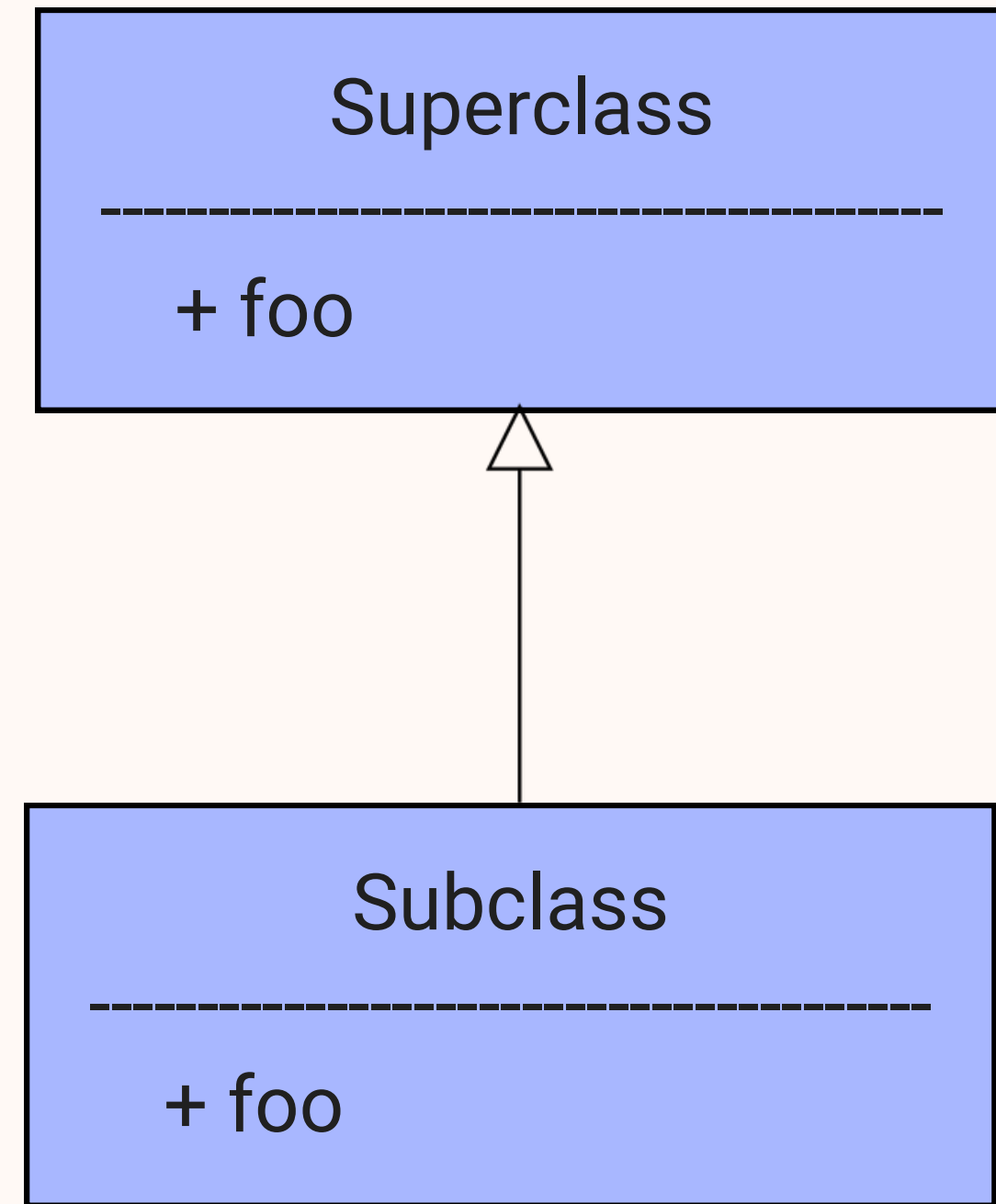
Example: Pulling up a method

DEFINITION

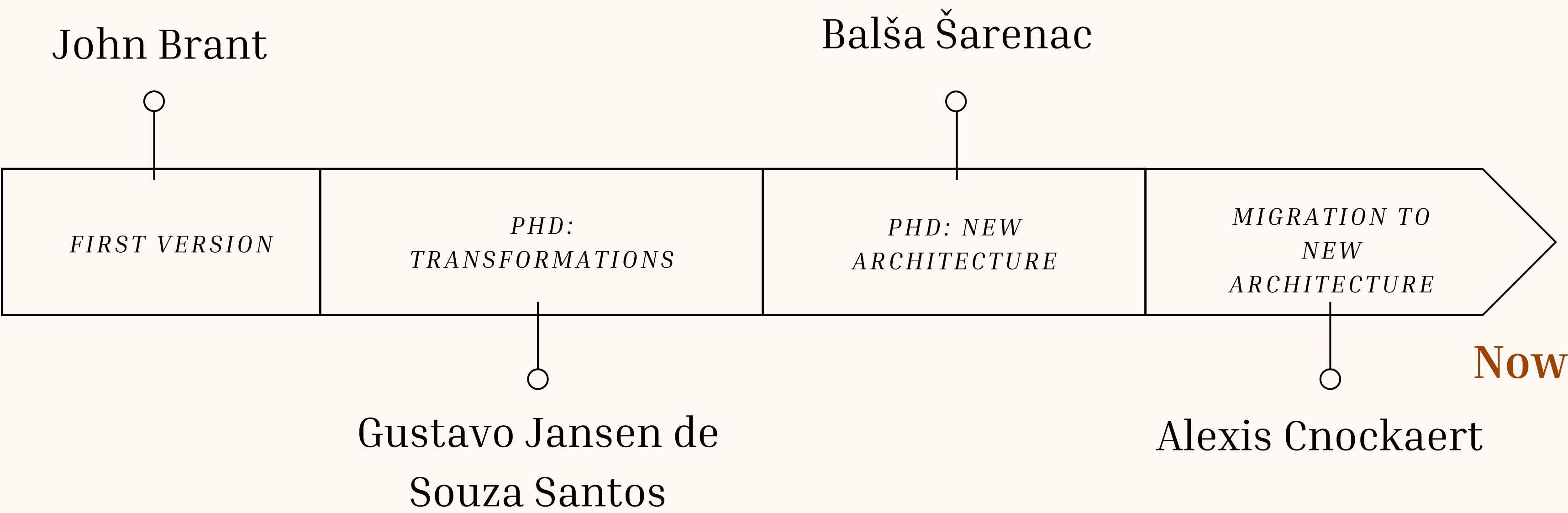
Transformation:

“Code transformation altering the program’s behavior”

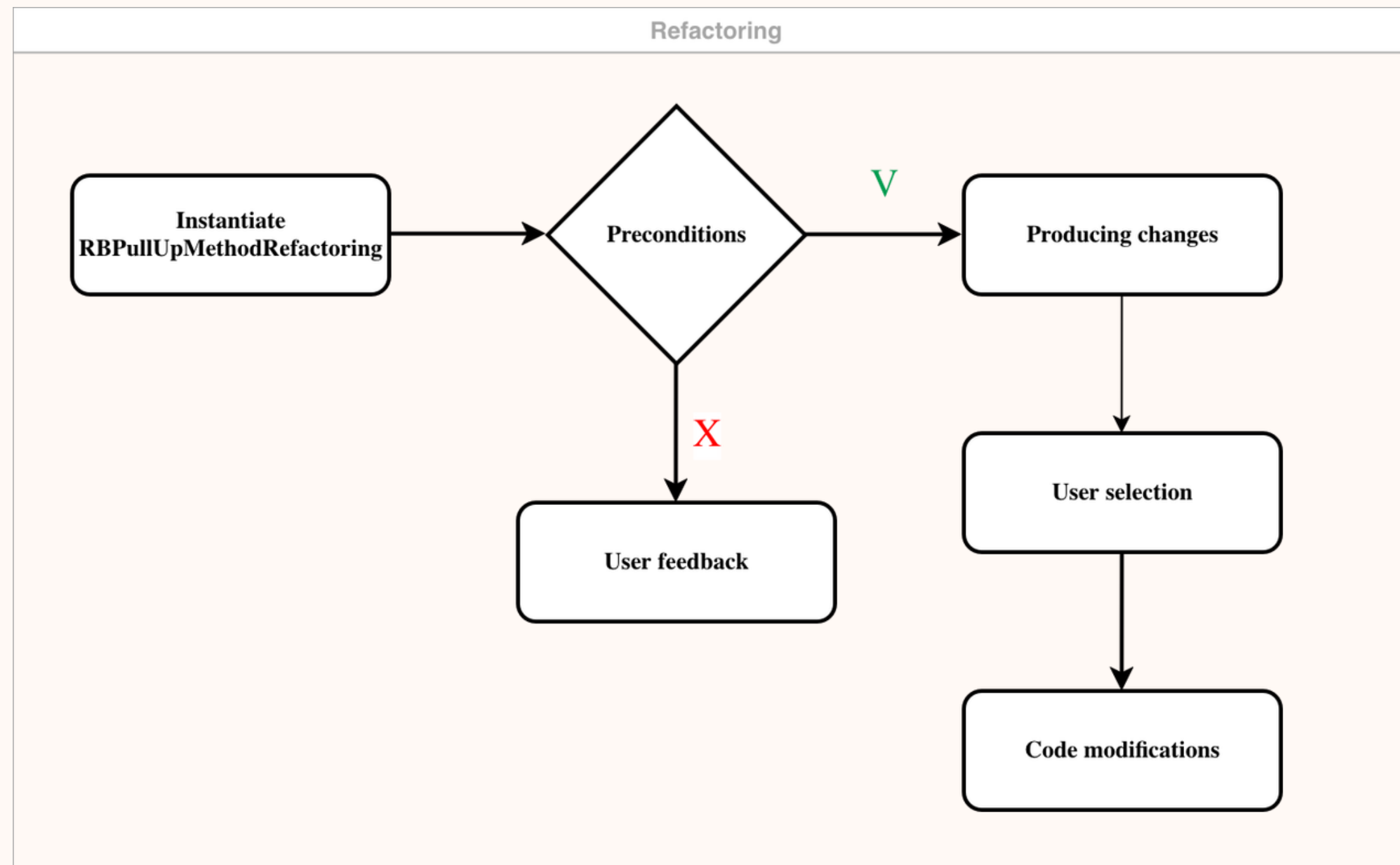
Example: The superclass has the method to pull up



SOME HISTORY

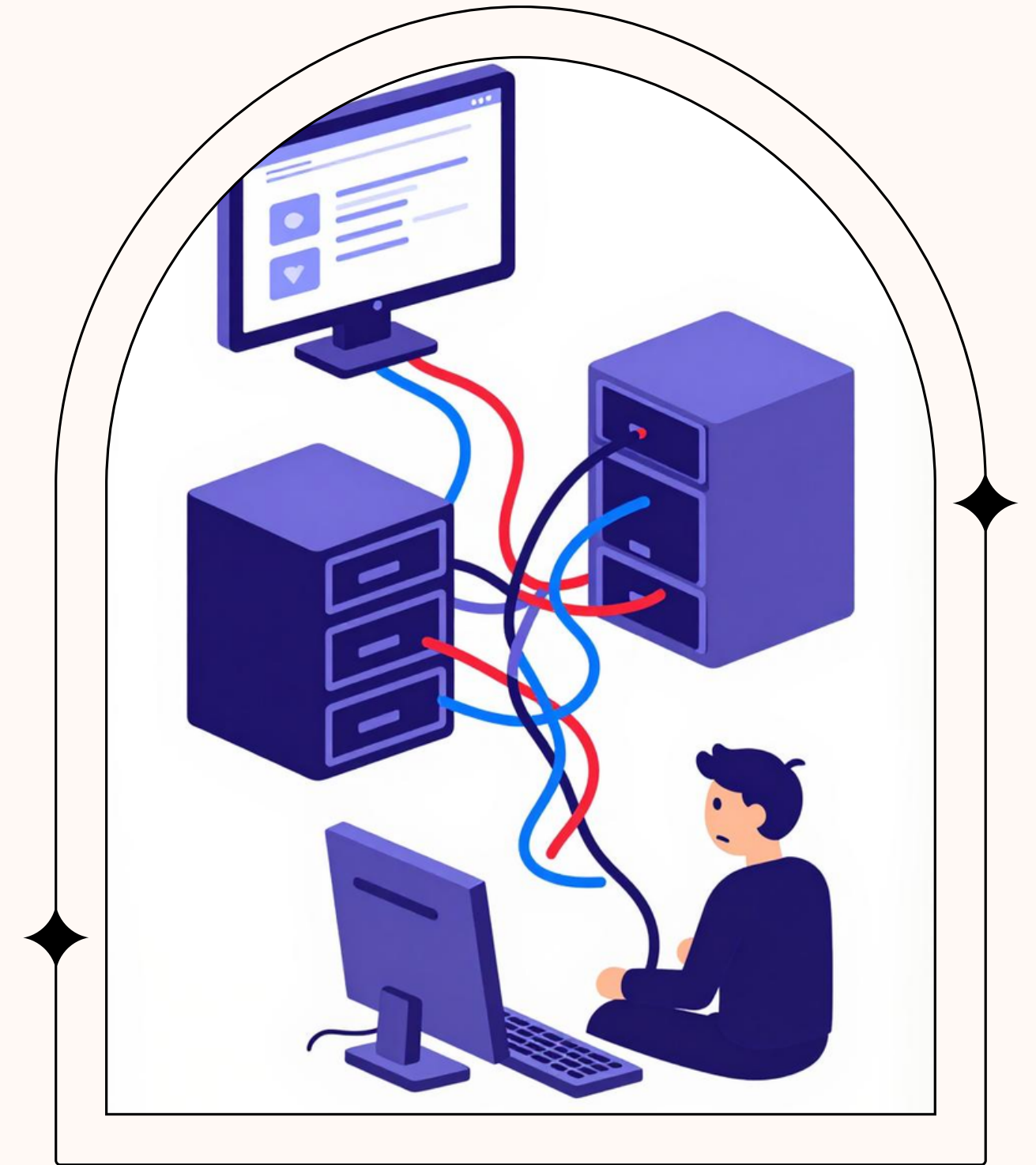


PREVIOUS FLOW

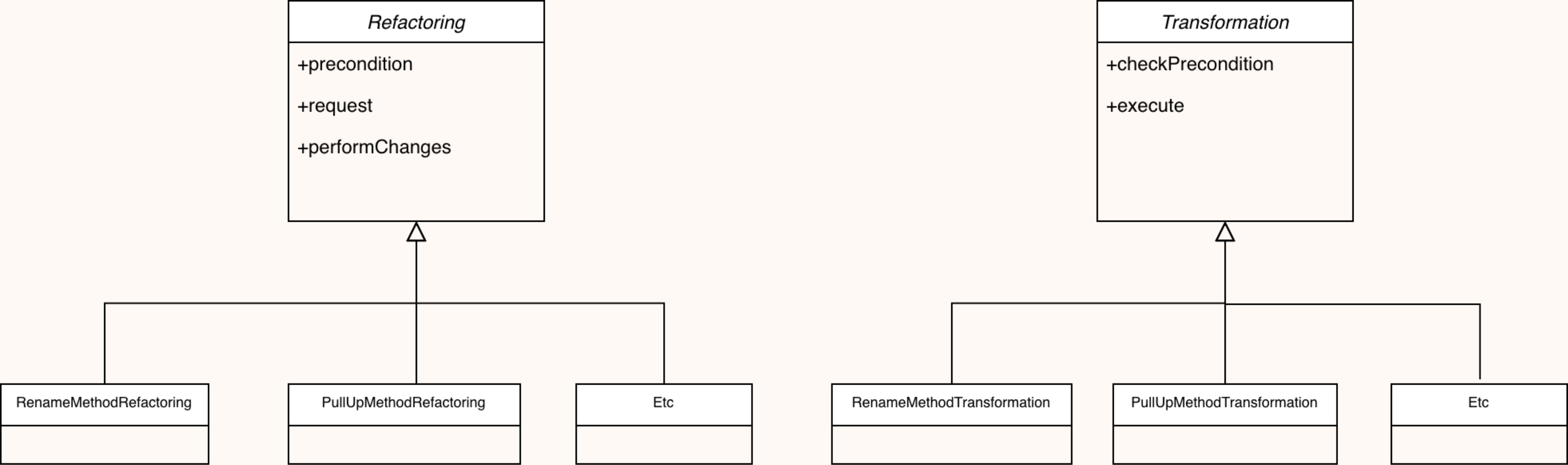


LIMITATIONS

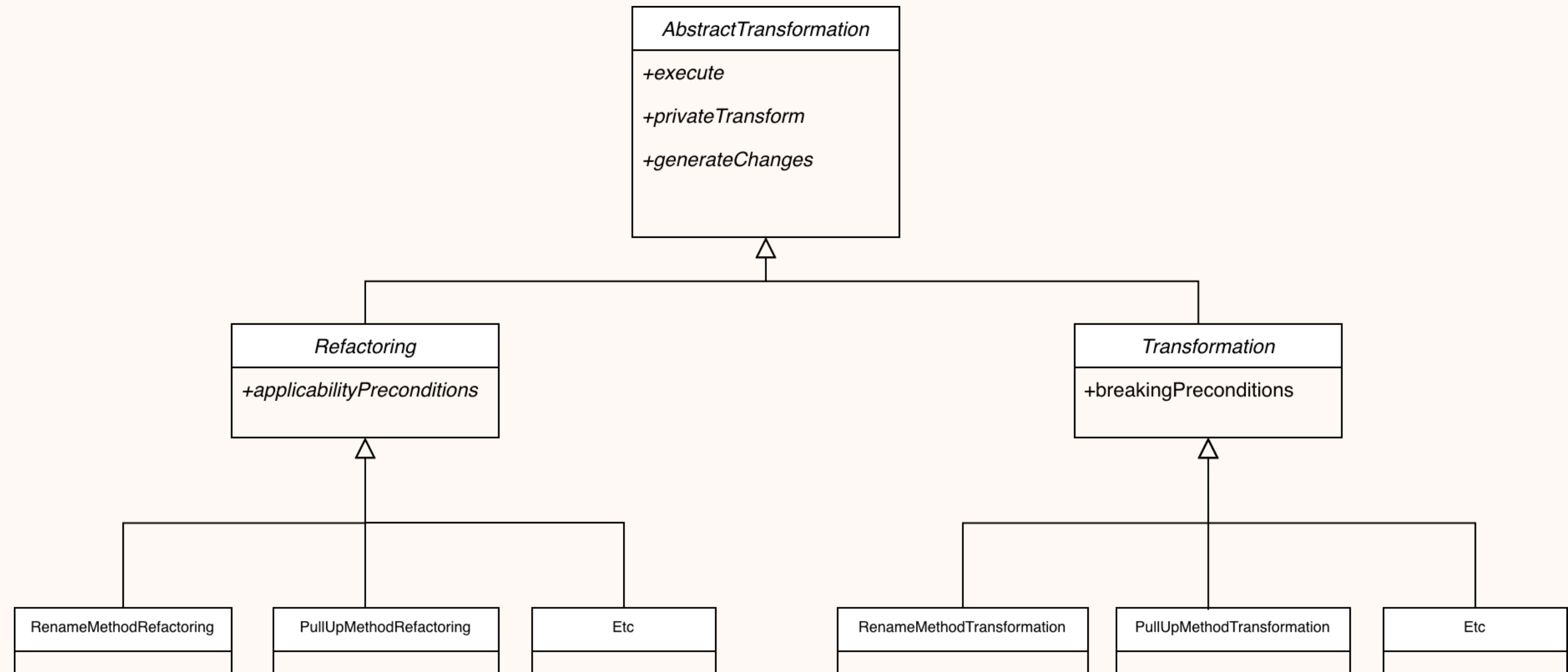
- ✦ POOR **USER FEEDBACK**
- ✦ **DUPLICATION** BETWEEN REFACTORINGS AND TRANSFORMATIONS
- ✦ NO OPTION ON **PRECONDITION FAILURE**
- ✦ UI AND MODEL **MIXED**



ARCHITECTURE - BEFORE



ARCHITECTURE - AFTER

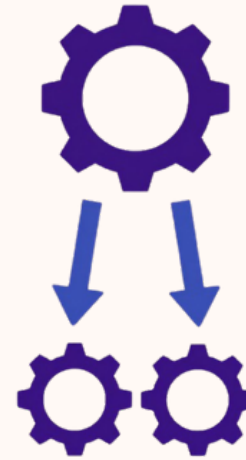


✦ INTERACTION DRIVERS ✦



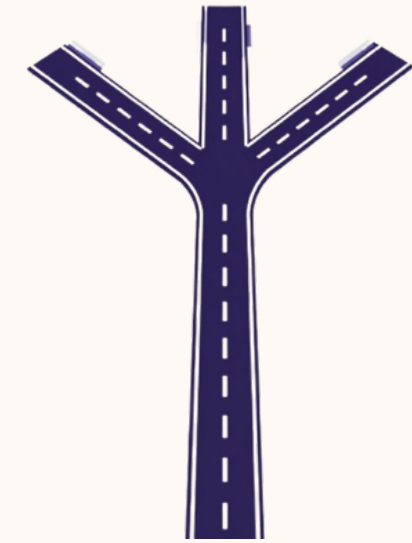
Split refactoring and UI

A driver can have multiple refactorings and transformations



Split preconditions + Reification

Between applicability and breaking preconditions



Introduce choices

Move to a transformation if breaking precondition is triggered

PRECONDITIONS AND CHOICES

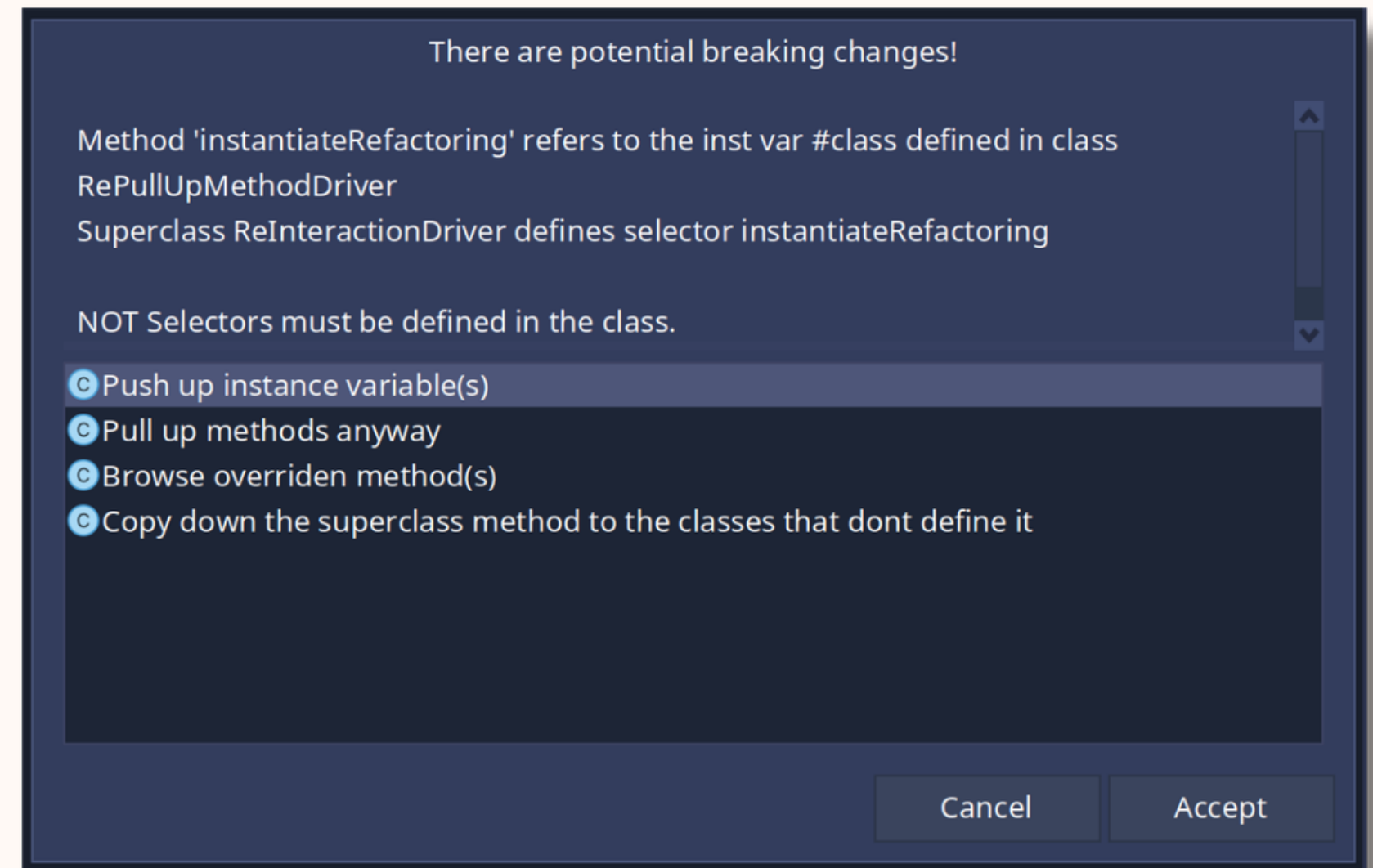
✦ APPLICABILITY PRECONDITIONS

- Selector defined in superclass
- Has superclass

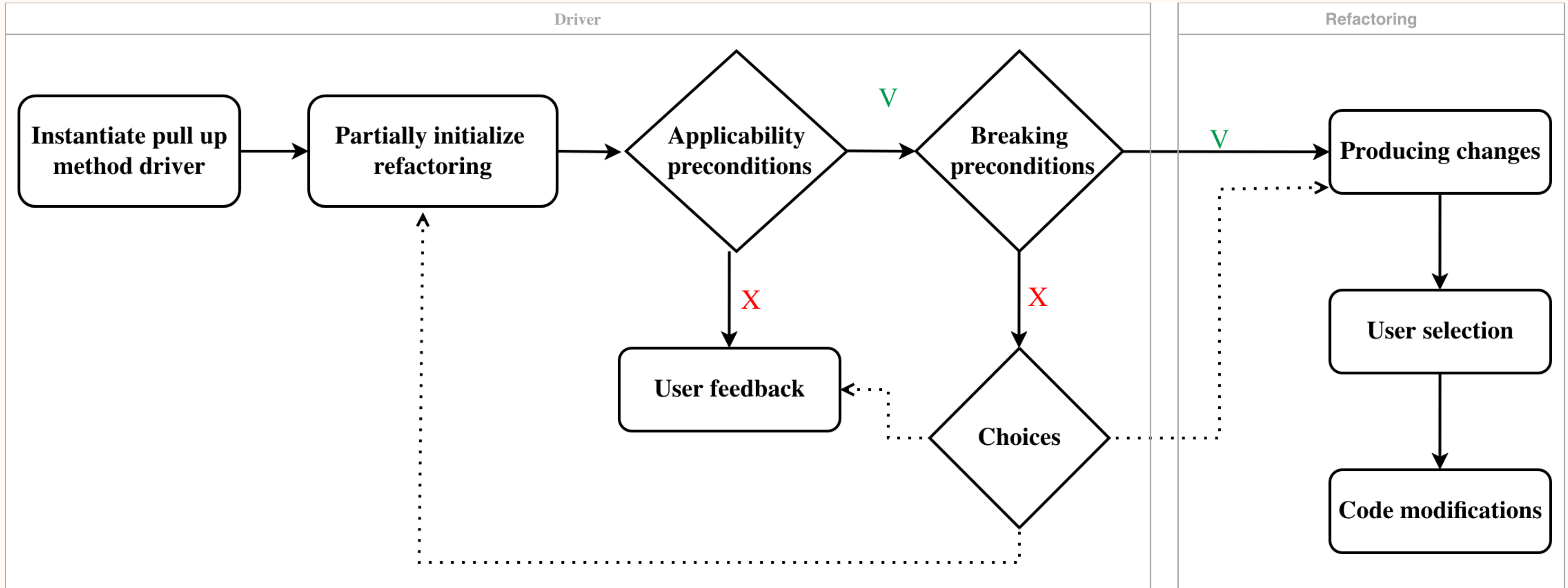
✦ BREAKING PRECONDITIONS

- References instance variable
- Sends **super**
- Etc

✦ CHOICES (**You can suggest new ones!**)

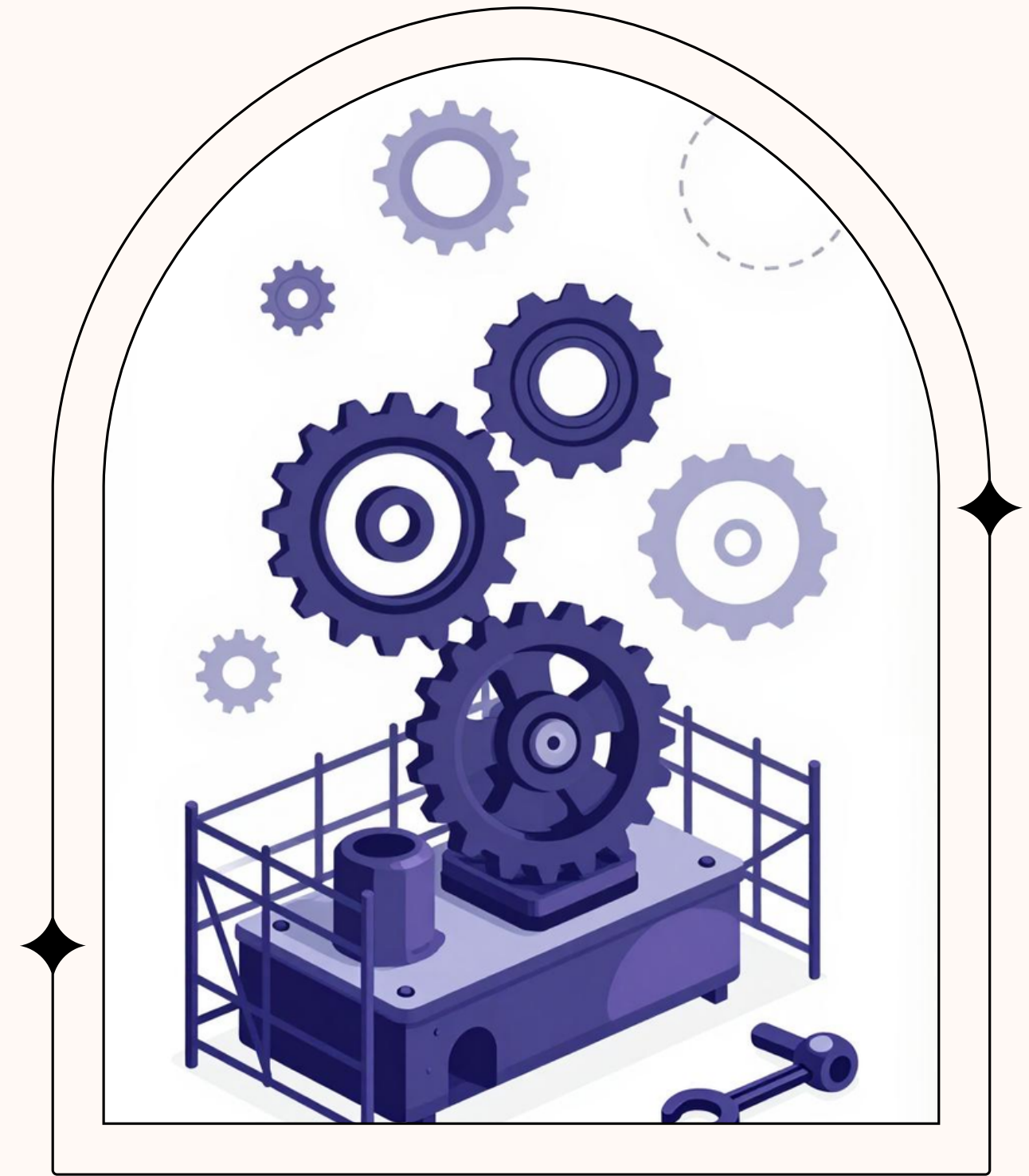


NEW FLOW



CURRENT STATE

- ✦ WORK IN PROGRESS
- ✦ ~ 90 PR INTEGRATED IN PHARO 14
- ✦ ~ 15 DRIVERS IMPLEMENTED
- ✦ LOT OF NEW TESTS

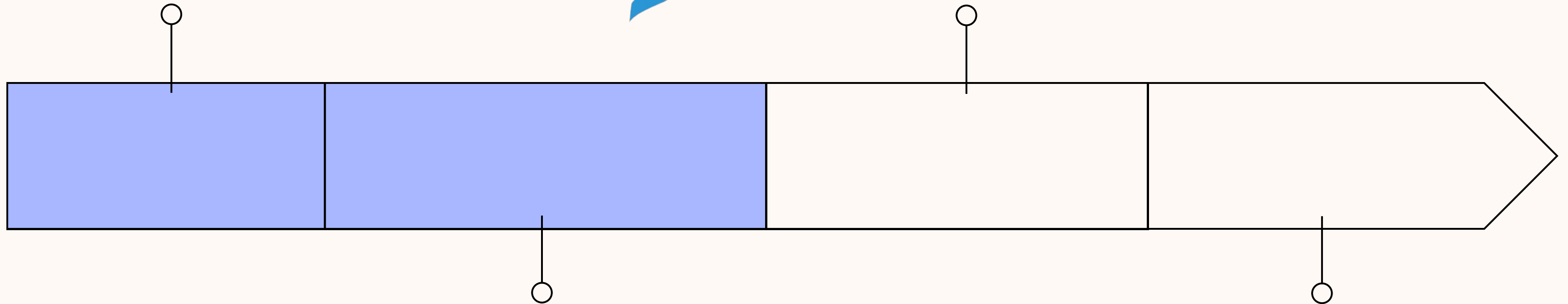


PLAN



Method Browser

Context



Refactorings

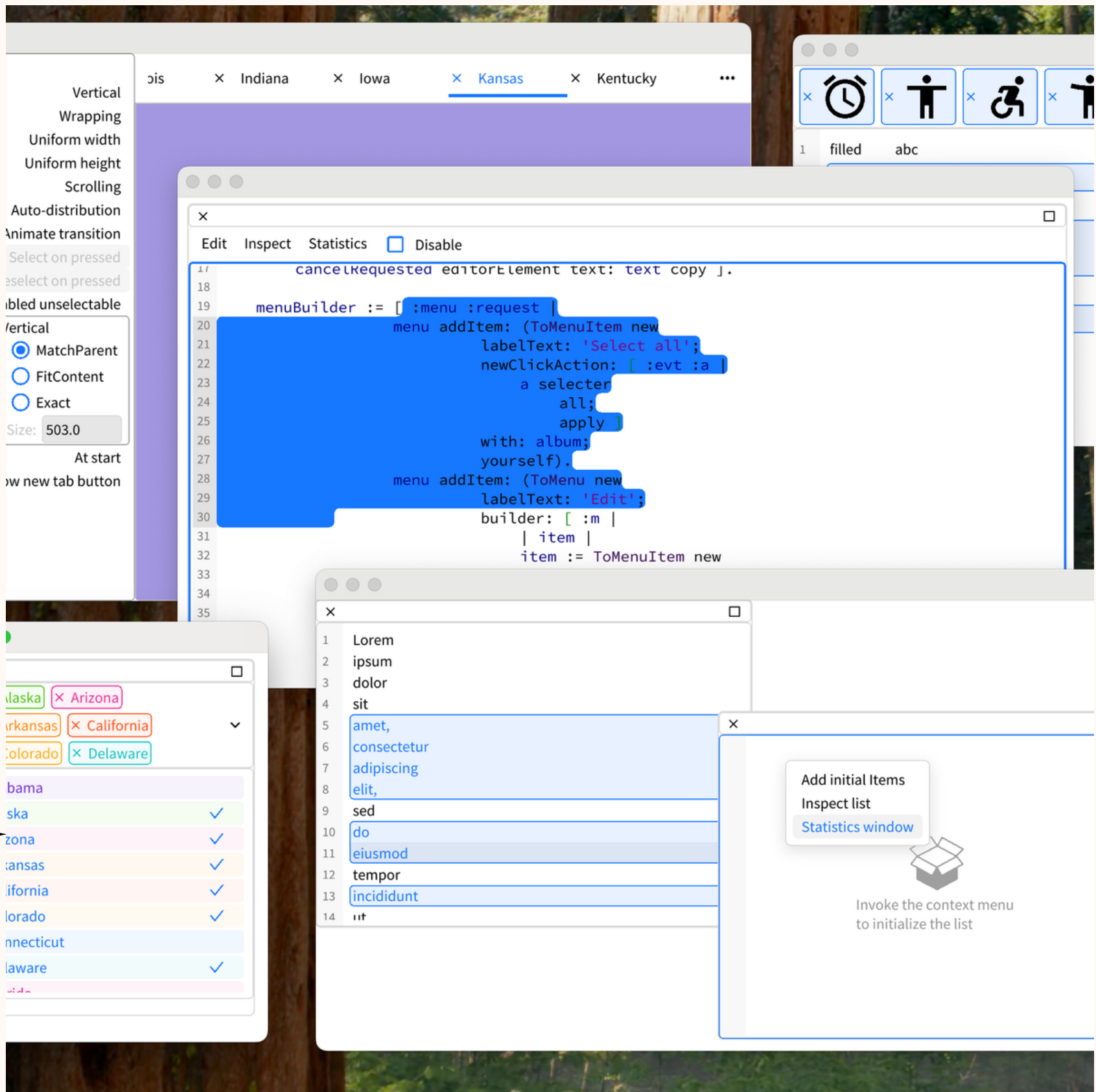
Others

METHOD BROWSER

The screenshot shows the 'Method Browser' window in an IDE, specifically the 'Implementors of privateTransform [106]' view. The window has a toolbar with 'Current image', 'Flat', 'Hier.', 'Browse', 'Class refs.', 'Implementors', and 'Senders'. The left pane displays a list of methods and their implementors, filtered by 'transforming'. The right pane shows the implementation of the selected method, 'privateTransform', which is a simple method call: 'self subclassResponsibility'.

Method	Implementor	Category
ReAbstractTransfopriateTransform	Refactoring-Core	transforming
RBAbstractClasprivateTransform	Refactoring-Core	transforming
RBAbstractInstprivateTransform	Refactoring-Core	transforming
RBAbstractVariprivateTransform	Refactoring-Core	transforming
RBAbstractVariprivateTransform	Refactoring-Transfo	transforming
RBAAddAssignmprivateTransform	Refactoring-Transfo	executing
RBAAddClassConprivateTransform	Refactoring-Transfo	executing
RBAAddClassVariprivateTransform	Refactoring-Core	transforming
RBAAddInstanceprivateTransform	Refactoring-Core	transforming
RBAAddMessageprivateTransform	Refactoring-Transfo	executing
RBAAddMethodCprivateTransform	Refactoring-Transfo	transforming
RBAAddMethodRprivateTransform	Refactoring-Core	transforming
RBAAddMethodTprivateTransform	Refactoring-Transfo	transforming
RBAAddPragmaTprivateTransform	Refactoring-Transfo	executing
RBAAddProtocolprivateTransform	Refactoring-Transfo	executing
RBAAddReturnStprivateTransform	Refactoring-Transfo	executing
RBAAddSubtreeTprivateTransform	Refactoring-Transfo	executing
! RBAAddTemporaprivateTransform	Refactoring-Transfo	executing
RBAAddVariableprivateTransform	Refactoring-Transfo	executing
RBAAddVariableTprivateTransform	Refactoring-Transfo	executing

```
1 privateTransform
2
3 self subclassResponsibility
```



CONTEXT

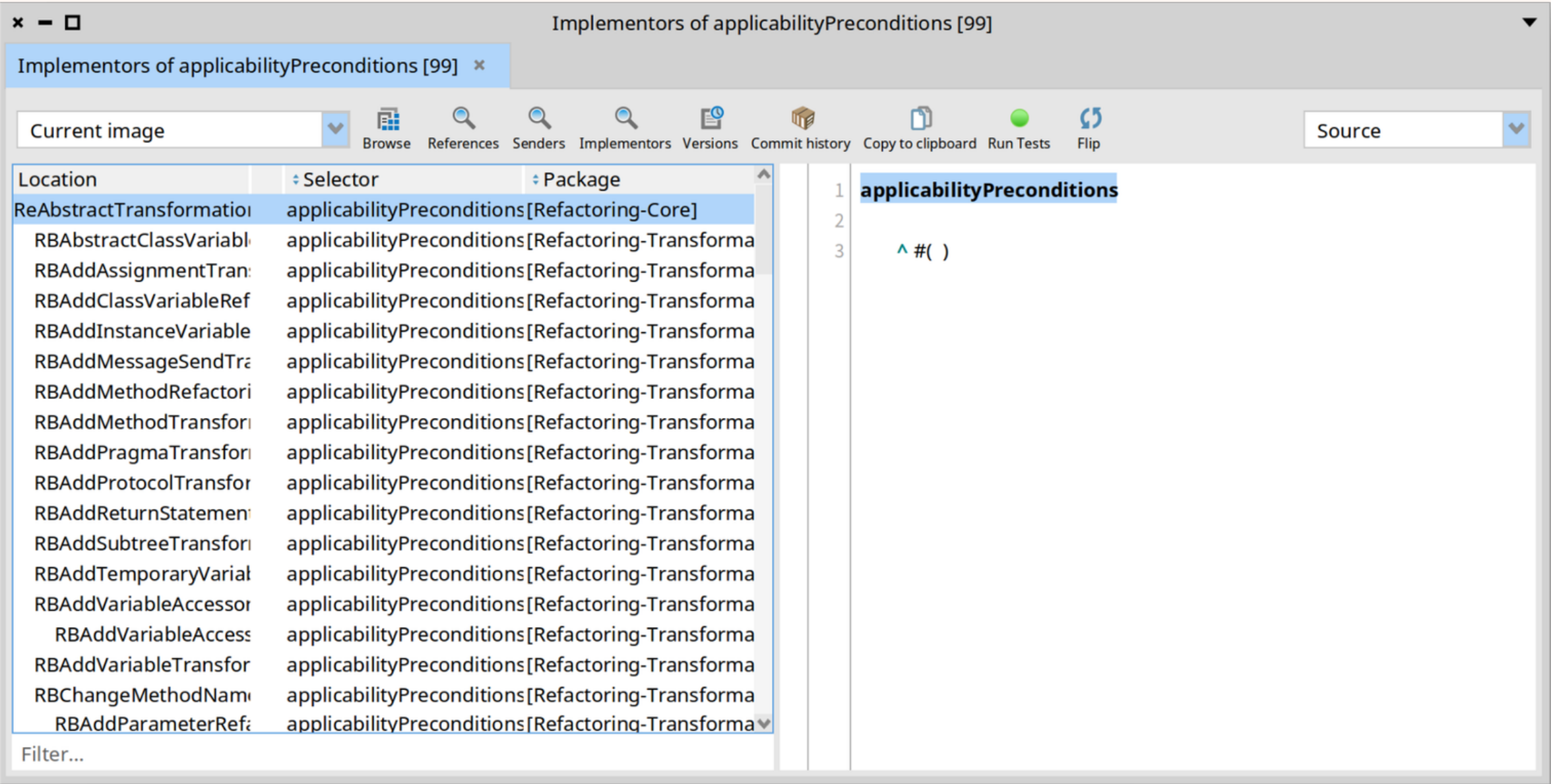
✦ MIGRATION TO BLOC/TOPLO

✦ CALYPSO AND METHOD BROWSER STILL IN MORPHIC

✦ CENTRAL TOOL

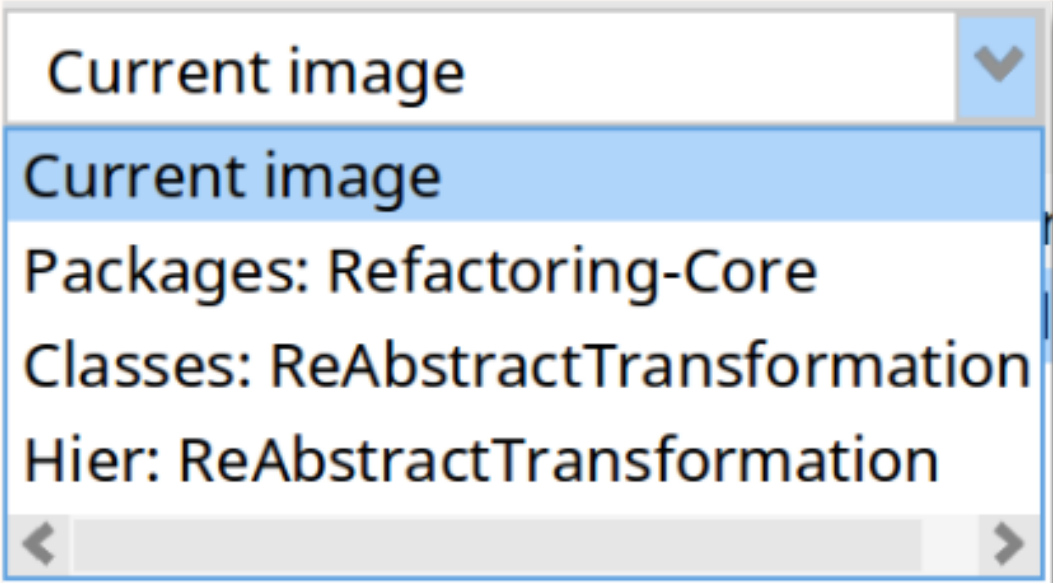
SPEC METHOD BROWSER

- ✦ STARTED BY ESTEBAN LORENZANO
- ✦ IN SPEC TO BE INDEPENDENT OF THE BACKEND



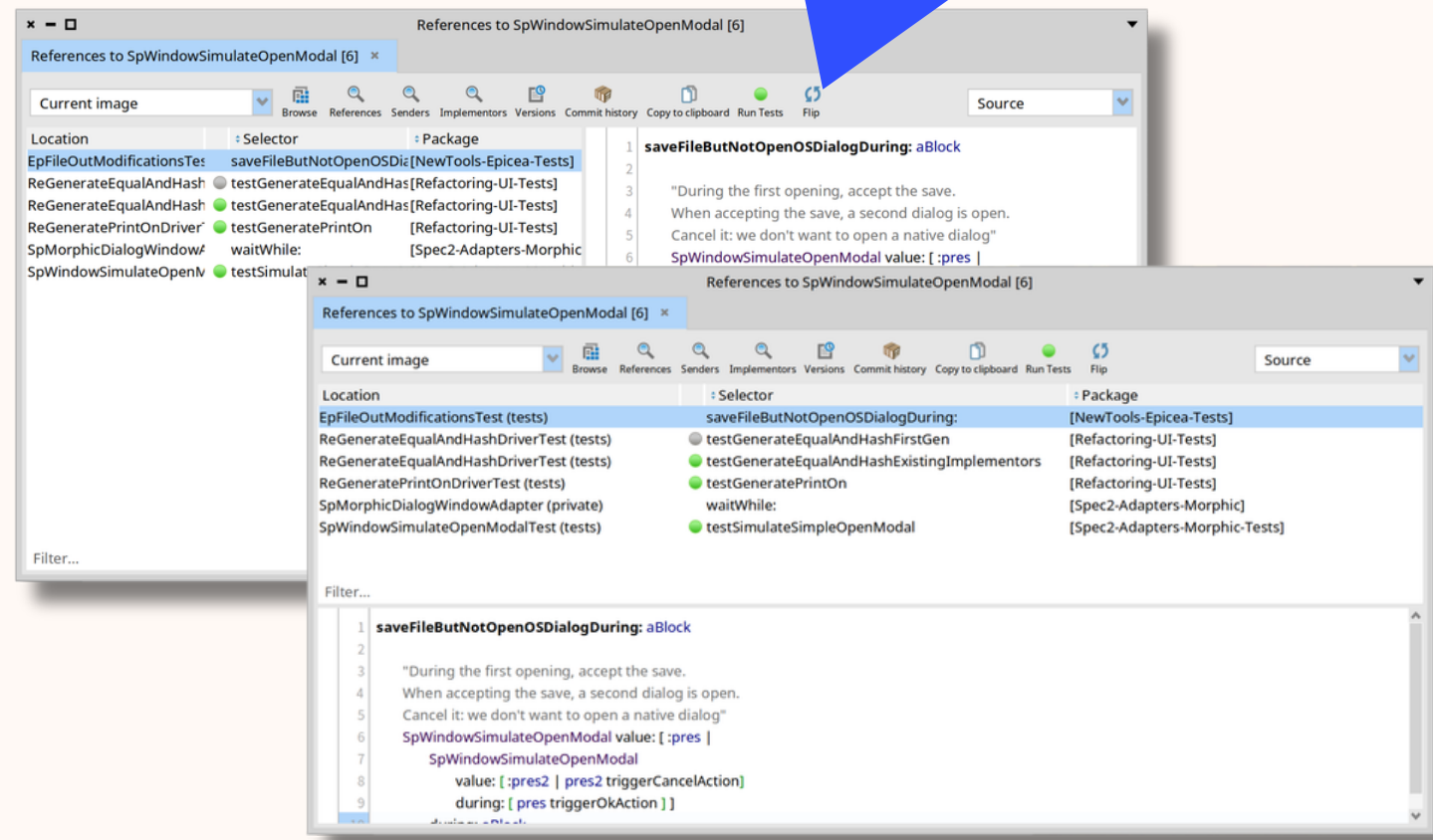
ENSURING ALL FEATURES ARE PRESENT

- ✦ RUNNING TESTS
- ✦ MANAGING TRAITS
- ✦ SCOPES
- ✦ CALYPSO INTEGRATION
- ✦ COMMAND REGISTRATIONS
- ✦ TABS

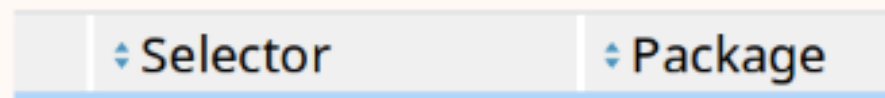


Location	Selector	Package
EpFileOutModificationsTes	saveFileButNotOpenOSDi	[NewTools-Epicea-Tests]
ReGenerateEqualAndHash	testGenerateEqualAndHas	[Refactoring-UI-Tests]
ReGenerateEqualAndHash	testGenerateEqualAndHas	[Refactoring-UI-Tests]
ReGeneratePrintOnDriver	testGeneratePrintOn	[Refactoring-UI-Tests]
SpMorphicDialogW	waitWhile:	[Spec2-Adapters-Morphic
SpWindowSimulate	testSimulateSimpleOpenN	[Spec2-Adapters-Morphic

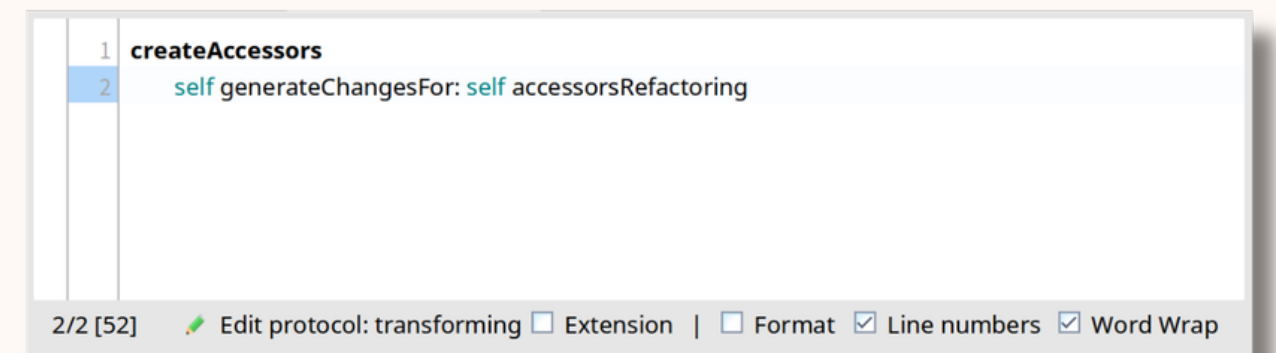
NEW FEATURES



Flip the code pane



Sorting



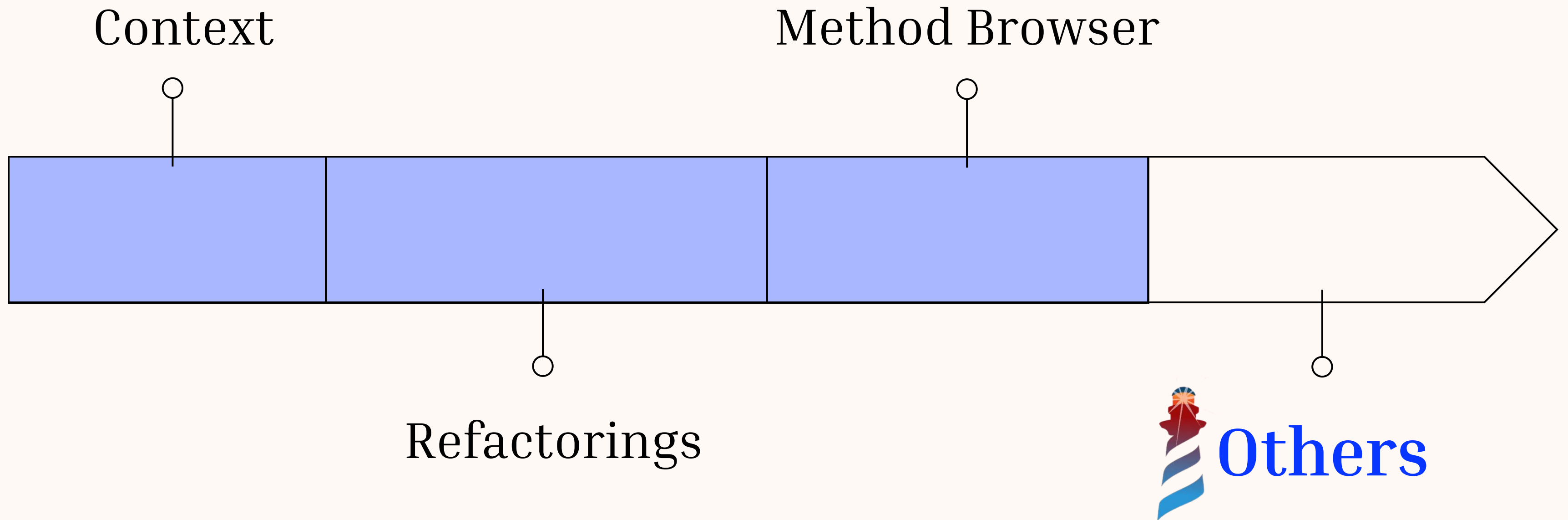
Unique code editor
(WIP)



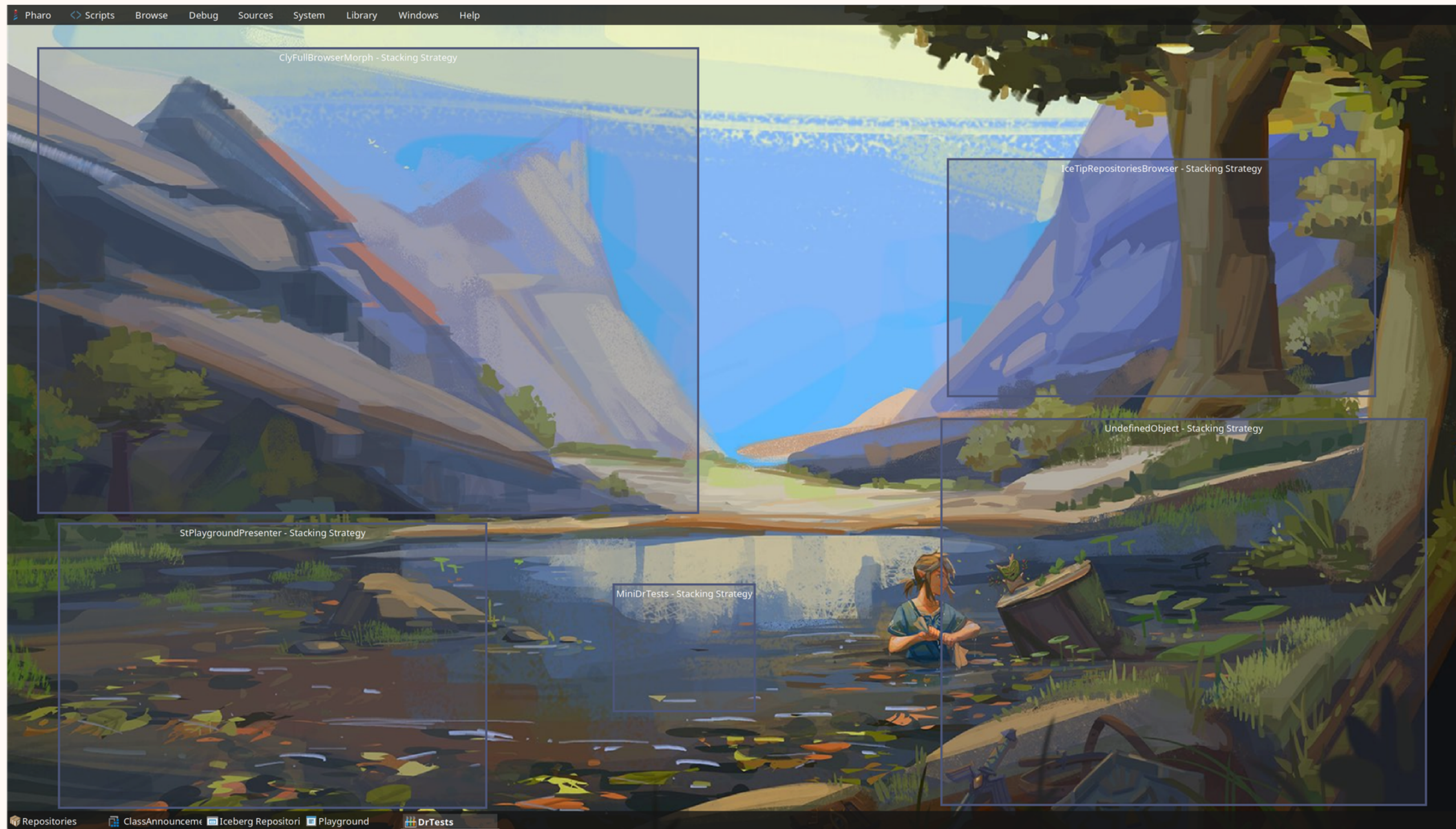
GIVE US
FEEDBACK ;)

WE ALL HAVE
DIFFERENT WORKFLOWS
AND WE MIGHT HAVE
MISS SOME

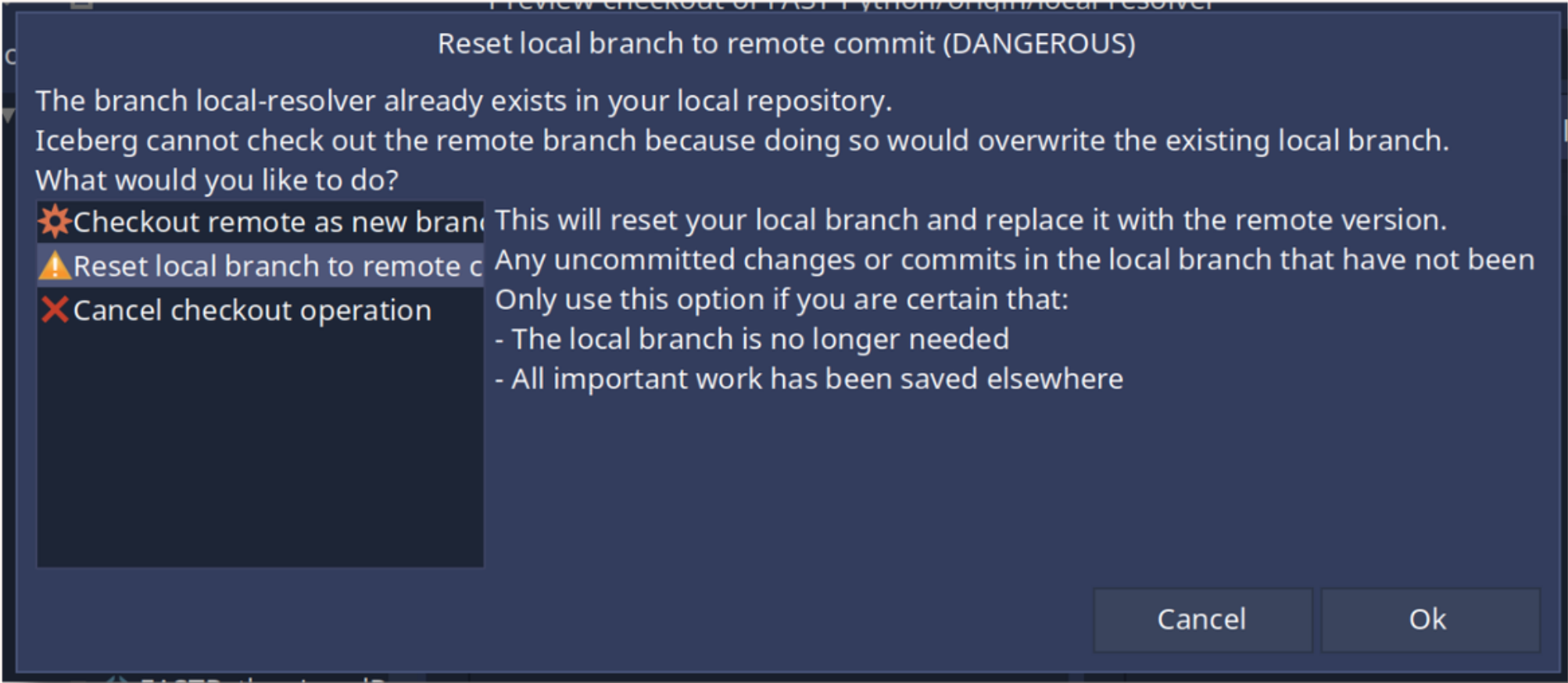
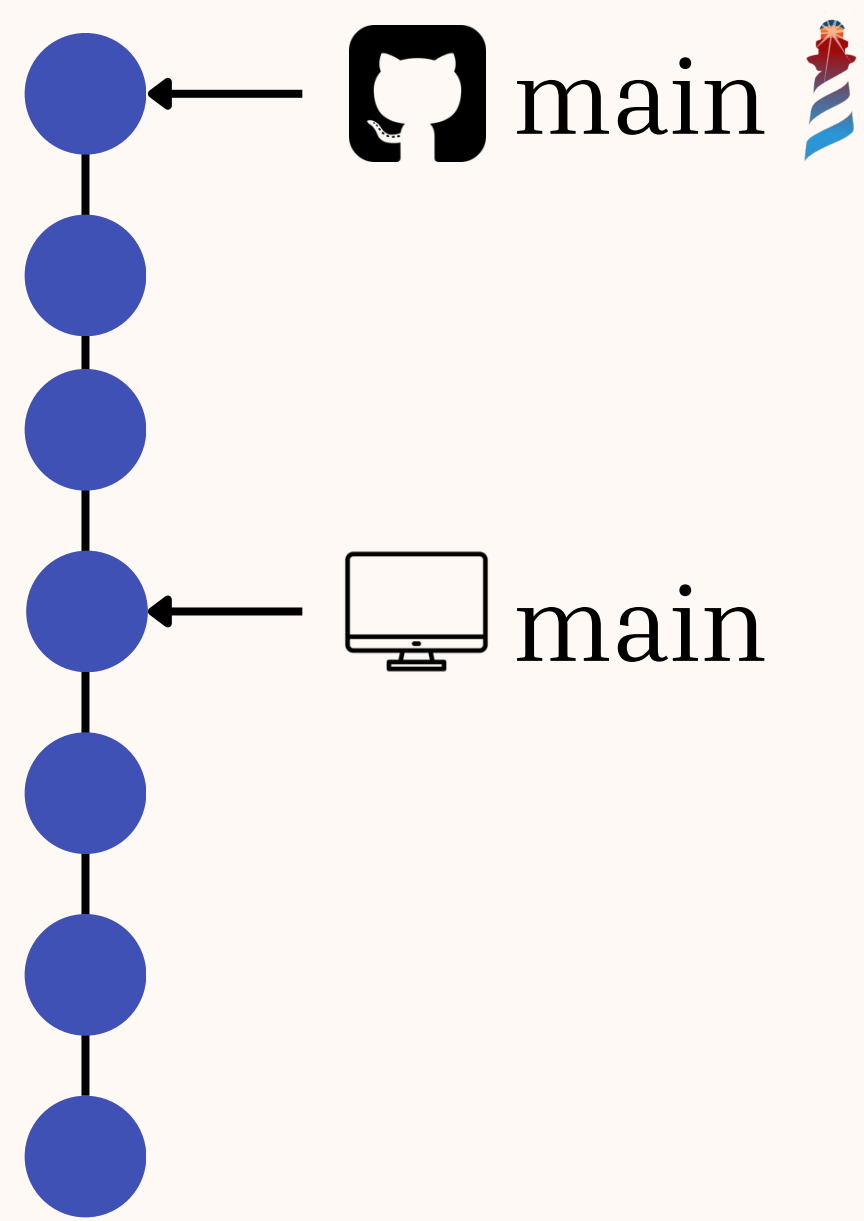
PLAN



CAVROIS - <https://www.youtube.com/watch?v=wPmDQDjb8rY> (ESUG 2025)



ICEBERG

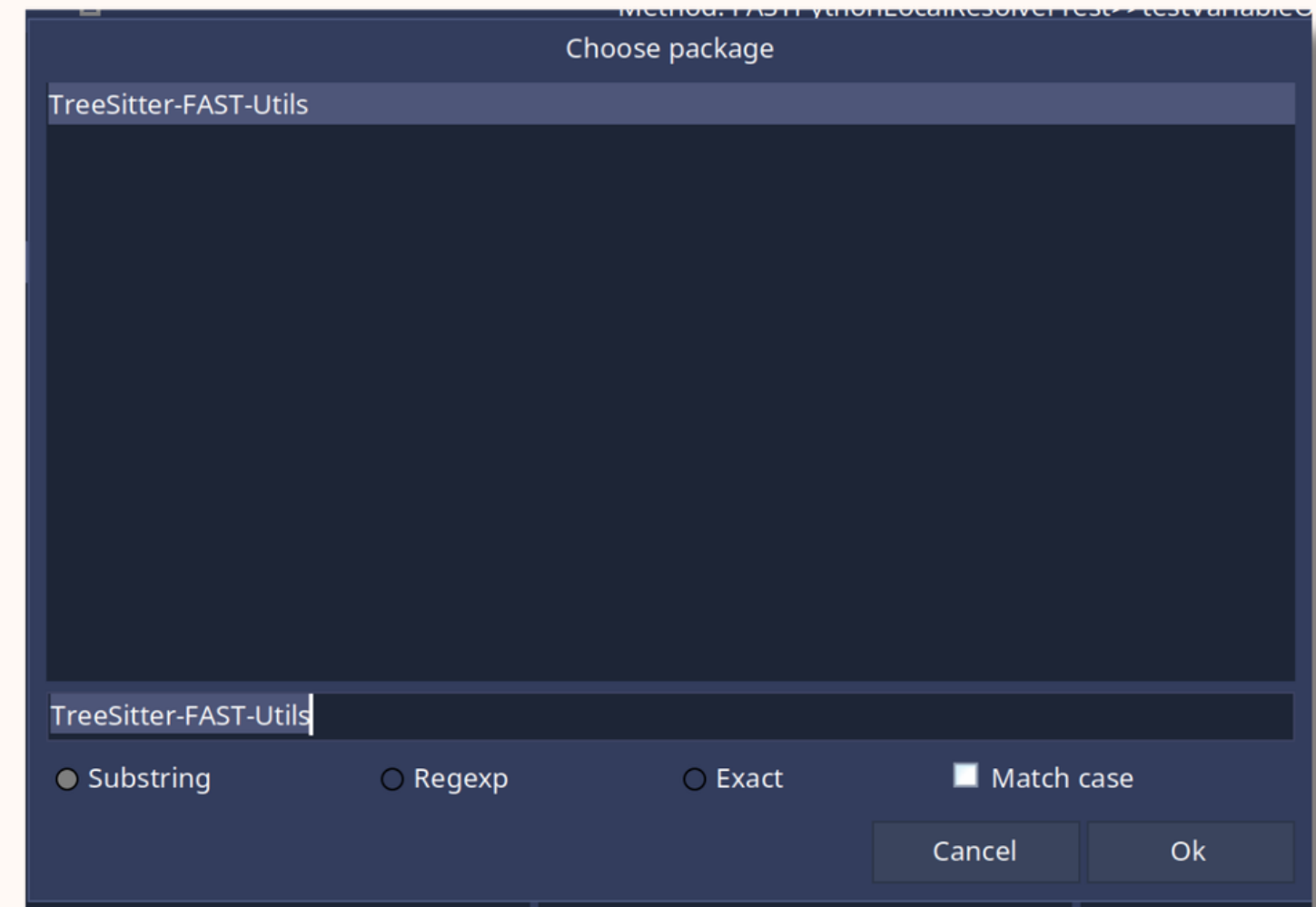


MULTIPLE UX IMPROVEMENTS

✦ WINDOW UNCLOSER



✦ SAVING PREVIOUS ENTRIES



✦ AND MANY MORE

THANK YOU FOR YOUR
ATTENTION! :)



✦ ALEXIS CNOCKAERT ✦

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