# Pharo: a powerful tool for researchers

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http://www.pharo.org

WHAT ARE YOU DOING?! YOU'RE GOING TO BE LATE FOR SCHOOL! HURRY UP AND PUT YOUR CLOTHES ON RIGHT!

IT'S SAD HOW SOME PEOPLE CAN'T HANDLE A LITTLE VARIETY.

# To support research...

- Fast experimentation
- Simple but representative and realistic
- Be meta: Building tools to understand results

# Simple yet powerful language

- Syntax on a post card
- Uniform model
- Elegant
- Powerful (context,...stack manipulation)

# “Less is better”

- No constructors
- No types declaration
- No interfaces
- No packages/private/protected modifier
- No parametrized types
- No boxing/unboxing

# Available “Language” libraries

- Open compiler (full text to IR to BC)
- MOP
- Code models (Ring, FAMIX)
- Fully bootstrap kernel

# Code Manipulation

- Clean AST with 12 nodes
- PetitParser (Modular/Composible parser)
- OMeta
- Rewrite engine (parse tree unification)
- Refactorings
- Domain specific rules

# Execution Engines...

- ASM JIT available and modifiable on the fly
- Two virtual machines
- Full AST interpreter

# Moose: a MetaTool

- www.moosetechnology.org
- A platform for data and software analyses
- Crafting analyses easy

Moose technology: Home

http://www.moosetechnology.org/

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# Moose is a platform for software and data analysis.

It is an open source project since 1996. It is supported by several research groups around the world, and it is increasingly adopted in industrial projects.

Download 4.3

The Moose Book

**Moose 4.3**
21 February 2011
We are happy to announce the Moose Suite version 4.3: http://moosetechnology.org/download What is n...

**Preparing Moose Suite 4.3**
1 February 2011
We are getting close to releasing Moose Suite 4.3. There are only a handful of issues left: http://c...

**Follow Moose**
30 January 2011
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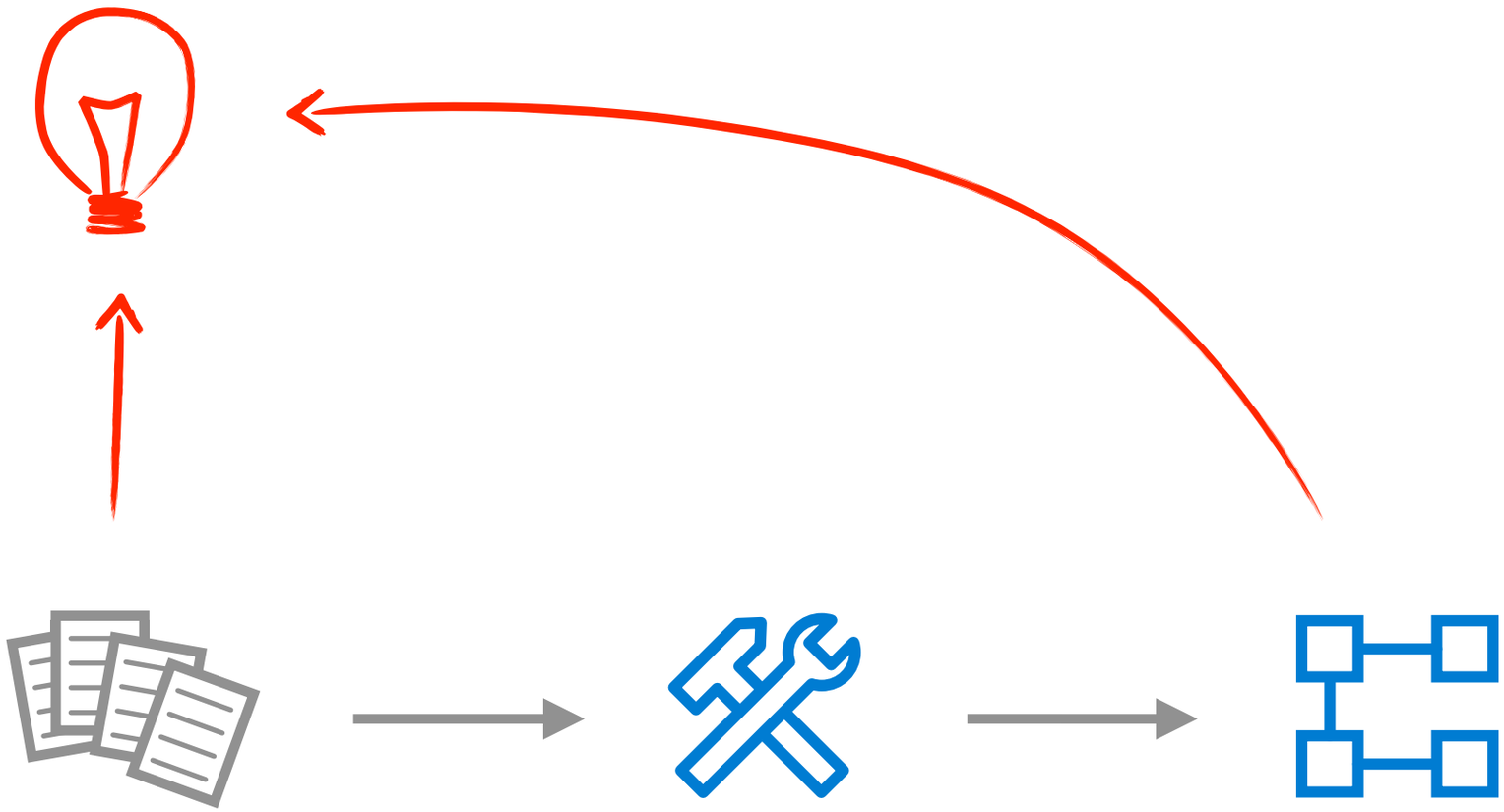
# Moose?

platform for software and data analysis

# Moose?

## crafting analyses made easy

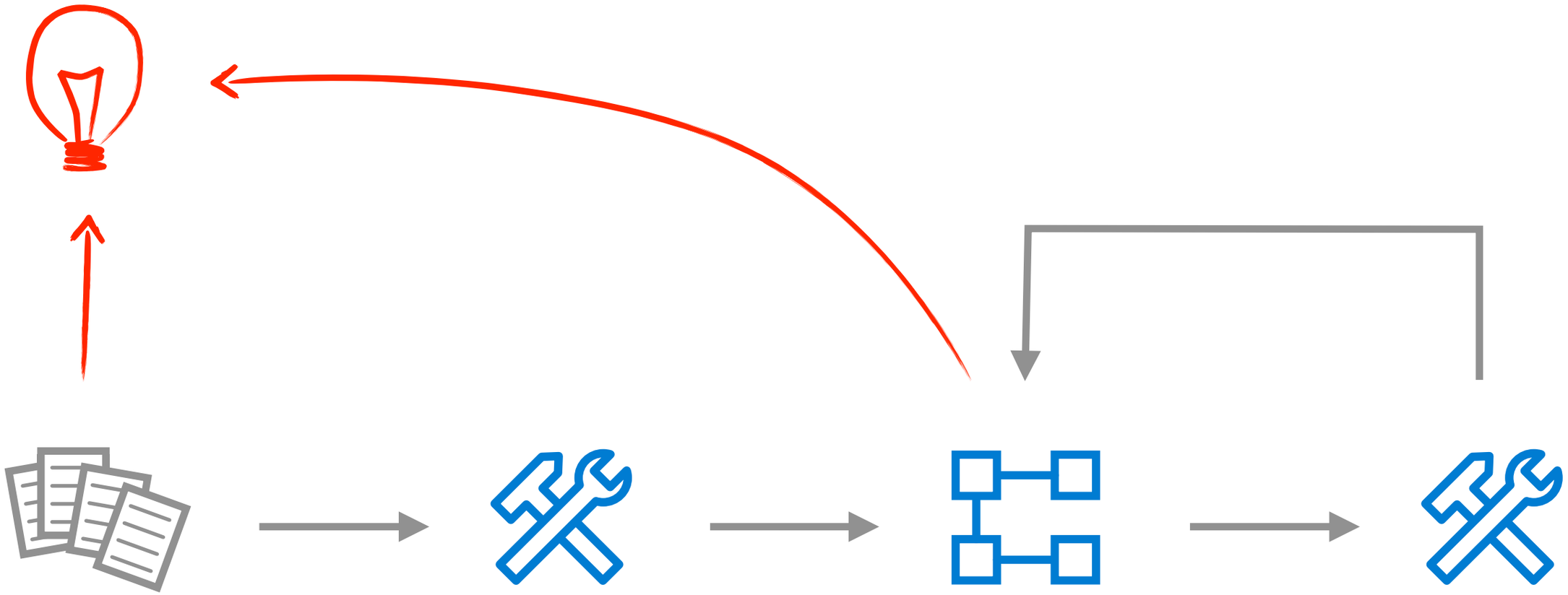


data

importers

models

moosetechnology.org



data importers models analyses

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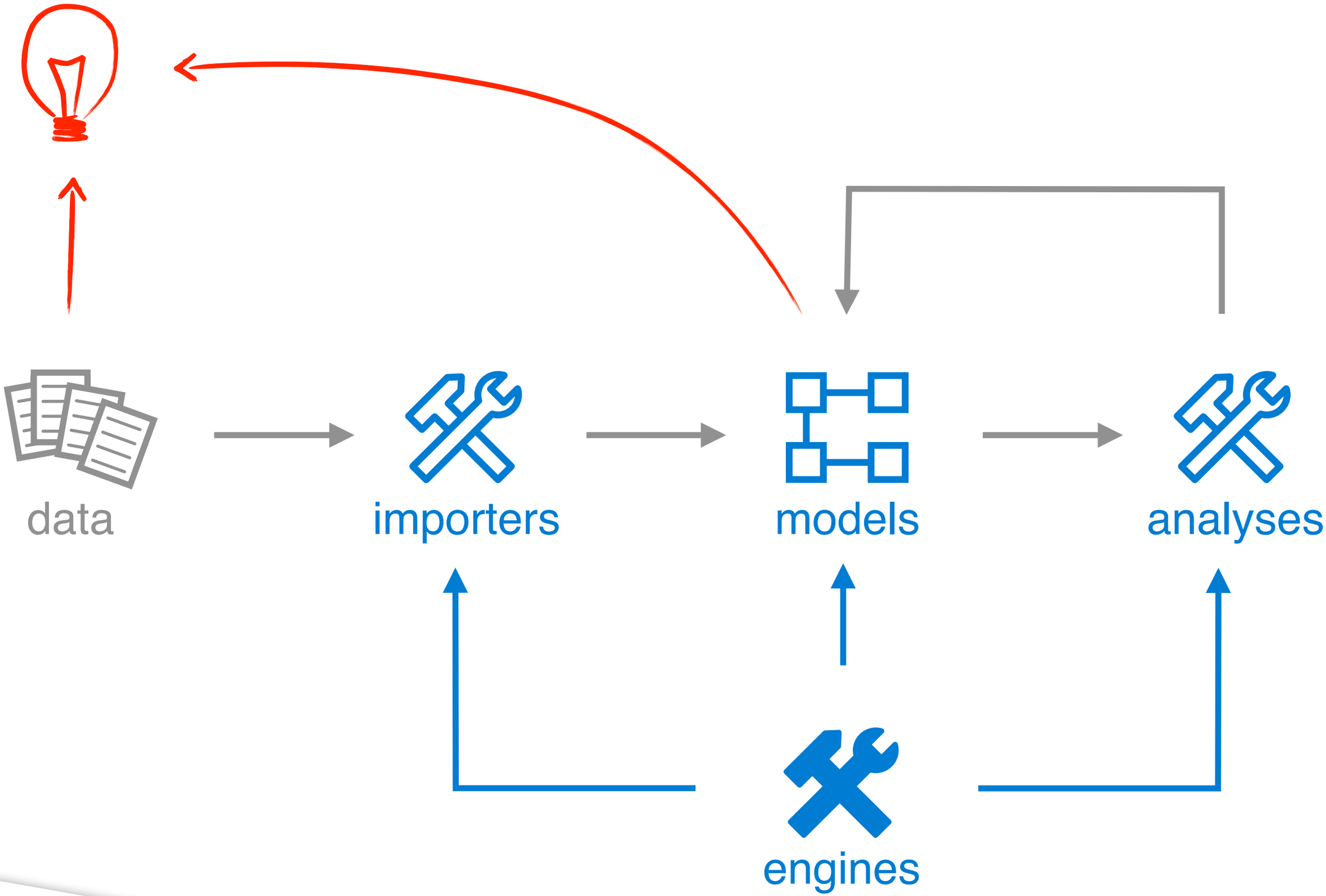


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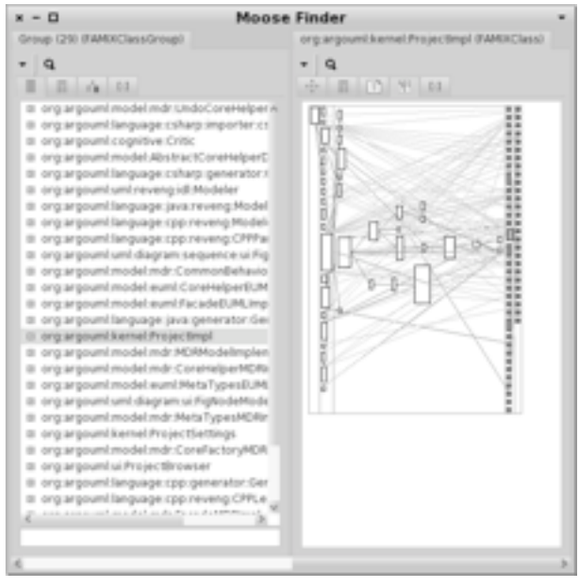
classes select: #isGod

McCabe = 21

LOC = 753,000

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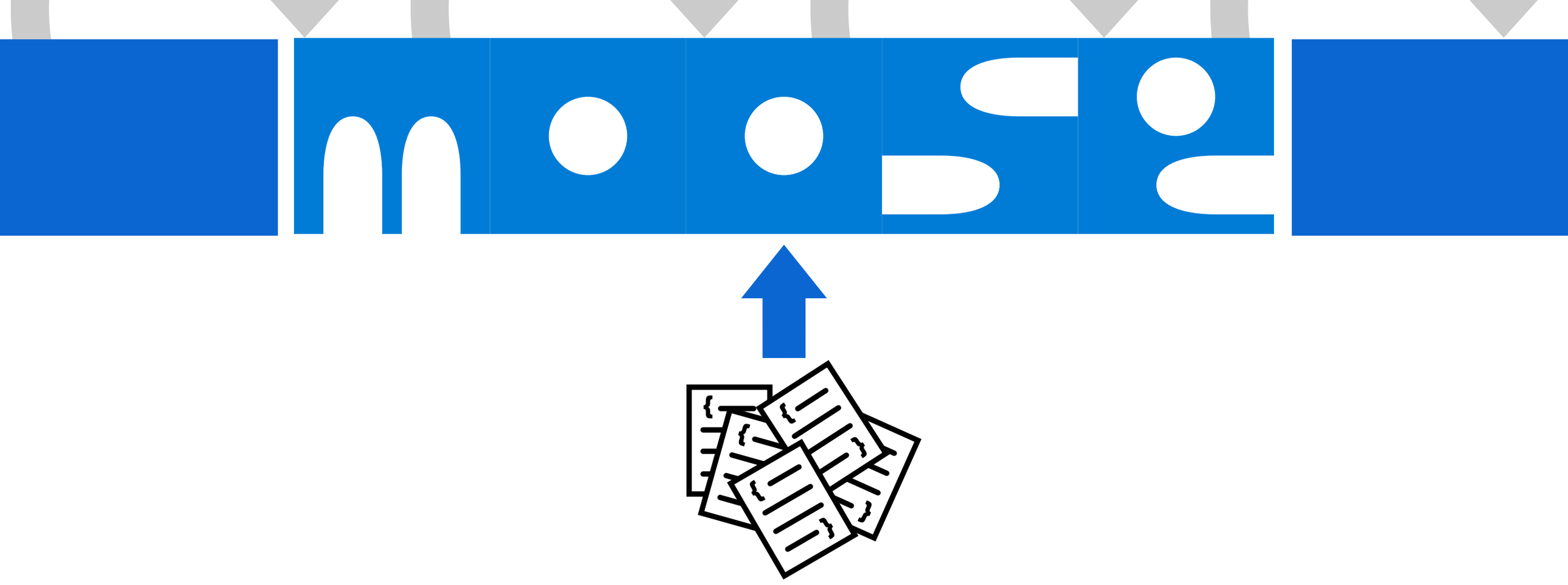

# Moose key engines

- Roassal (scripting visualisation engine)
- Eyesee (charts)
- Glamour (tool and flow builder)
- PetitParser
- Magritte (MetaModelling frameworks)

# Language design ...

- Towards first class references for security J-B Arnaud - RMoD
- Application-level memory pager M. Martinez-Peck Ecole des Mines de Douai.
- Isolating spaces (proxy, mirrors...) C. Teruel - RMoD
- Contextual changes E Wernli. - University of Bern
- Gradual typing - O. Callau - University of Santiago

# DSL with Helvetia

- Lukas Renggli - Software composition group - Bern
- Debugger
- Composition/Nesting

# On Tools

- Object-centric Debugger - J. Ressia - Software composition group - Bern
- Orion - Offering multiple future to analyses - J. Laval RMoD.
- Smart IDEs - R. Minelli - University of Lugano

# Software Engineering

- Supporting merge in stream of changes - V. Uquillas-Gomez - VUB Belgium
- Automatic rule generation based on commit history - A. Hora - RMOD
- Test Coverage and Profiler. JP Sandoval - University of Santiago

# On our artefacts

- “How (and Why) Developers Use the Dynamic Features of Programming Languages: The Case of Smalltalk”
  O. Calláu, R. Robbes, É. Tanter, D. Röthlisberger — EMSE, in press Empirical Software Engineering (Springer)

- Extensions during Software Evolution: Do Objects Meet Their Promise?
  R. Robbes, D. Röthlisberger, É. Tanter — ECOOP 2012, 26th European Conference on Object-Oriented Programming

# We value research

- Can assess qualitatively results, participate to experiences, surveys
- Integrate artefacts when they are mature
- The community is really supportive

# Our Motto

- Some parts are not as nice as they should be, but
- we are improving the system systematically

- Remember: Our goal is to invent the future :)

vmware

esug
EUROPEAN SMALLTALK USER GROUP

Inria
INVENTEURS DU MONDE NUMÉRIQUE

Yesplan
Let's make it happen

2denker

NetStyle

MAD
ENVIRONNEMENT

BetaNine
software engineering

Sensus

HighOctane

Pleiad

Mines de Douai
LILLE EURORÉGION

b
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RMod

# Join Us

Creating good energy,
software quality,
learning and having fun

**http://pharo.org**