

RMOD
Language and
infrastructure for Evolution

Vision

- Modular
- Truly Malleable/Evolvable System
- Reflective

Building the next generation

Smalltalk is cool but...we can do better

Real dynamic software update

- I have a raspberry serving my house and I want to update it while the server is running
- I want to load any working code and the system should continue to work
 - No order
 - Atomic operations

Modular

Small core + dependencies

Module system

Class defined in a module

Scoped extensions

Module expresses important

Bootstrapped

Explicit dependencies

No dead code

Build from a seed

Isolation

To be able to remove certain reflective operations
for a space of objects

Controlled reflective operation

Contexts?

“Mirror”

Layered representation

Should be able to control what is introspectable

Runtime view is not the world view

Multiple images

Generation: Multiple different cores

Management: API/brain surgery/remote control

Language for Evolution

PhD view

- Marea (Mariano) - memory management
- Handles (JB) - propagating meta-objects
- (Nick) - layered system representation

Should revisit

- Ghost (now we understand proxy as a surrogate and proxy as a metaobject)
- Nick layered representation

Language for Evolution

PhD view

- Bootstrap/Oz/Tornado (Guille 2012-15): Supporting core evolution (statique)
- Sista (Clement - 2014-17): dynamic code (evolution) optimization
- “Modules” (Camille 2012-15): what is a good scope (static), isolation, representation
- Instance/Code Update (Max 2014-17)

Open questions

- Are multiple versions a way to support DSU
- What is the interplay between sealing contracts and optimization
- Strong images (memory) separation?

Open Engineeing questions

- Better tools
- Better FFI
- ...

- 15 mn RMOD language and infrastructure for Evolution vision — Stéphane

- 15 mn CAR — Noury

10h30

- 15mn + 10 mn for questions: Guille

- 15mn + 10 mn for questions: Camille

- 15mn + 10 mn for questions: Clément

- 15mn + 10 mn for questions: Le Xuan Suang

- 10 min + 10 min for questions: Martin

- 5 min + 10 min for questions: Max (first steps, planned XP,...)

12h30 Lunch

13h30 -15 min: Marcus

-15 min: Jean-Baptiste

-15 min: Luc

- 5 min: Guillaume

Break