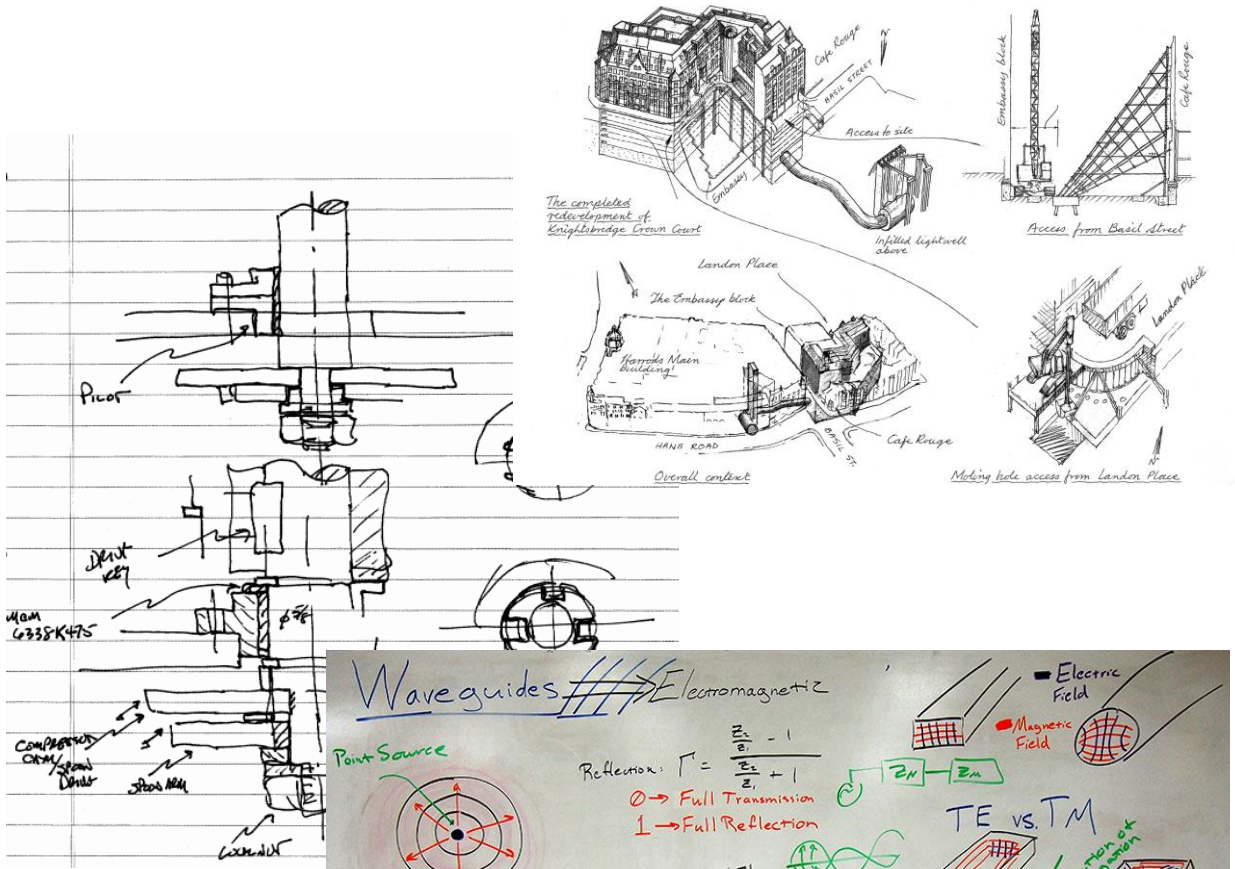
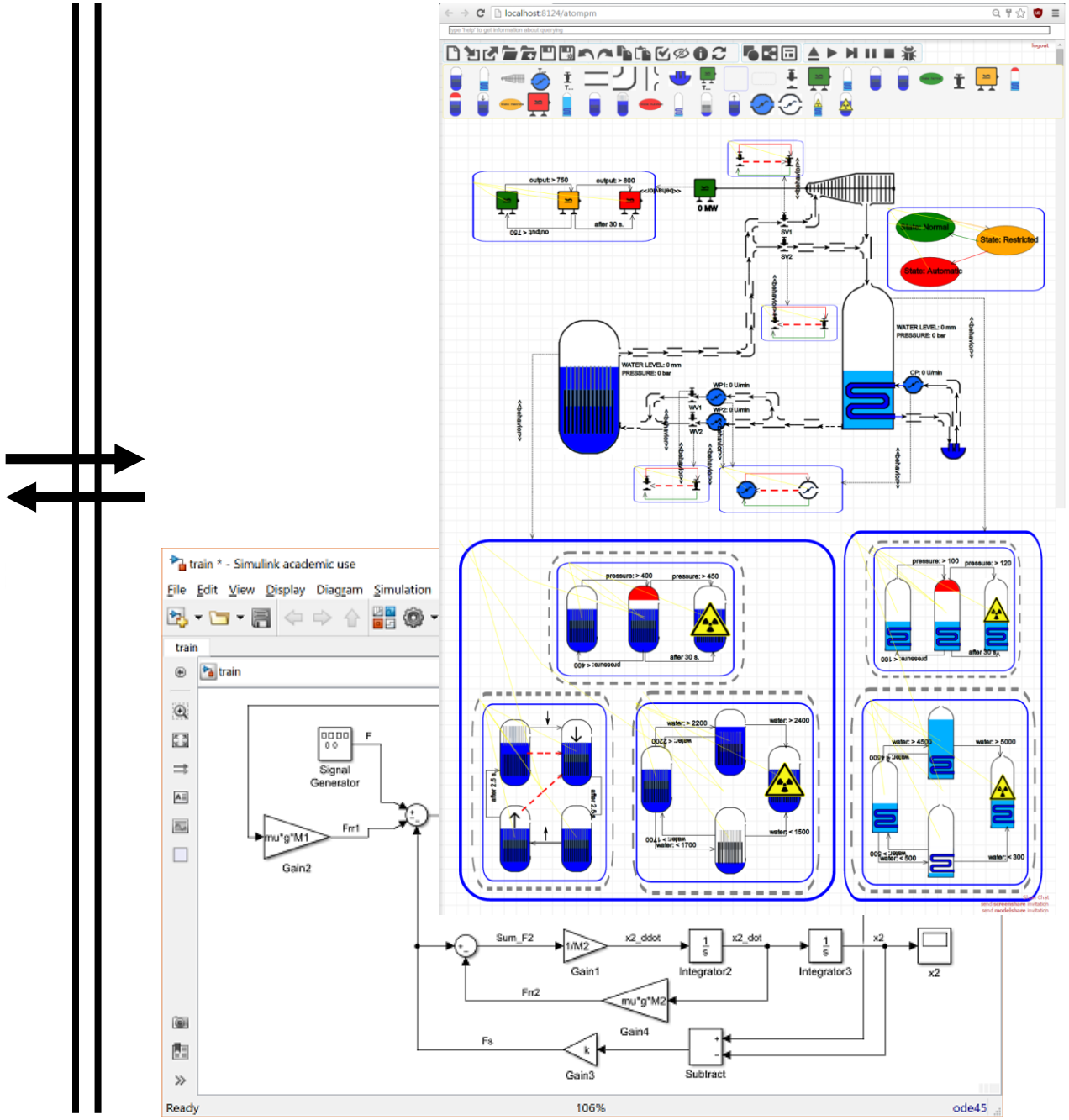
Next Gen Tooling

Simon Van Mierlo

Why?


Waveguides
Electromagnetic
Electric Field
Magnetic Field
Point Source
Reflection: Γ = (z2/z1 - 1) / (z2/z1 + 1)
0 → Full Transmission
1 → Full Reflection
VSWR = (1 + |Γ|) / (1 - |Γ|)
Lower = Better Match
TE vs. TM
Direction of Propagation
Spherical Propagation in Space
Intensity ∝ 1 / distance²


train * - Simulink academic use
File Edit View Display Diagram Simulation
train
Signal Generator
Gain2
Gain1
Integrator2
Integrator3
Gain4
Gain3
Subtract
Ready
106%
ode45

What?

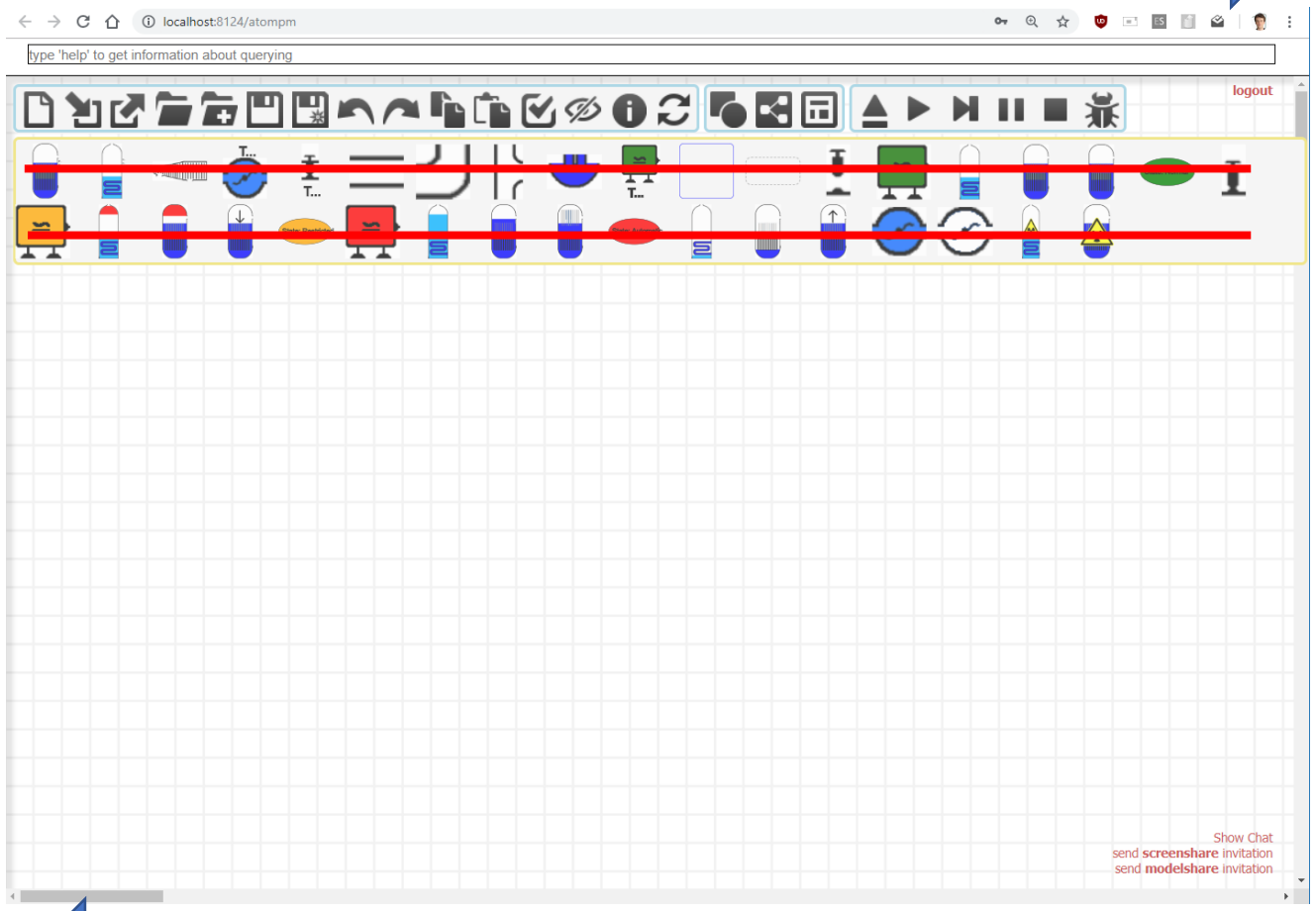
Multi-Disciplinary Team

SKETCHING

FORMALIZE STEP BY STEP

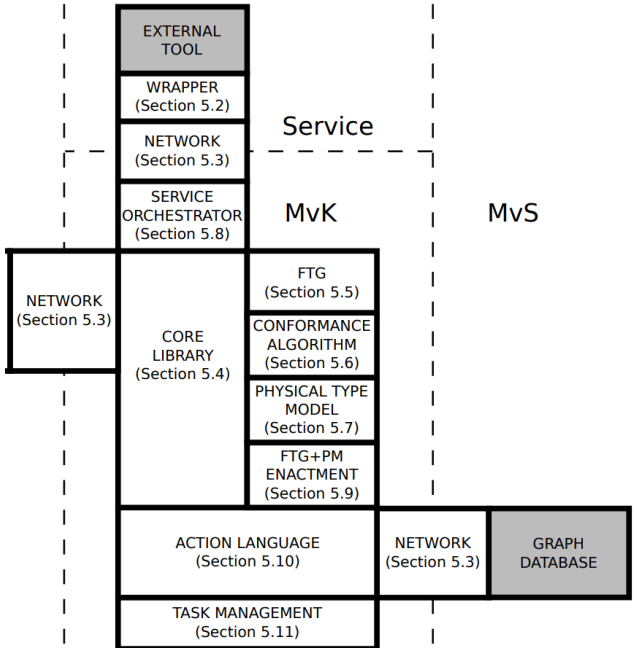
BUILDING LANGUAGES FROM INSTANCES

SUGGEST TYPING FOR SKETCHES



How?

Modelverse



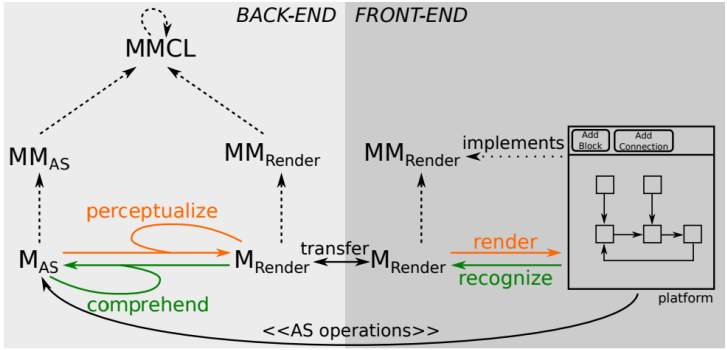
Co-Evolution

A-Posteriori Typing

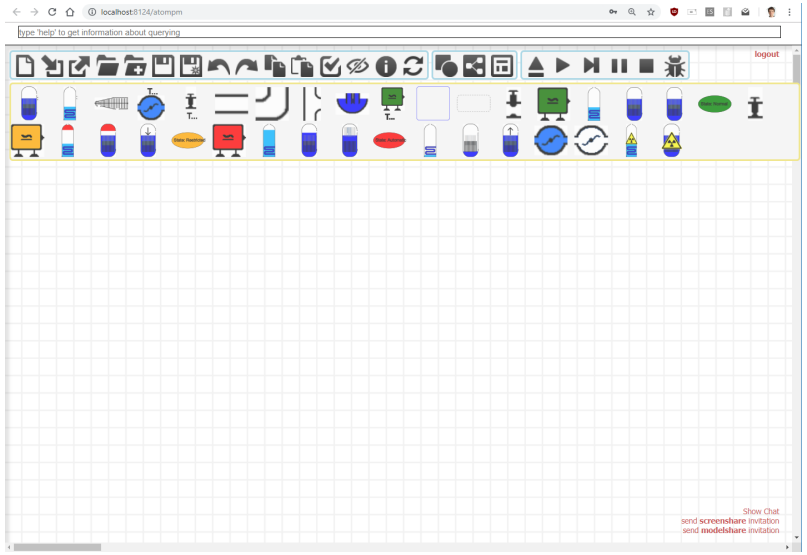
Query Existing Languages

Typing Suggestions

Concrete Syntax



Sketching Environment



Generic Sketching Language

Roadmap

- Low-Hanging Fruit:
  - First Prototype
- Next:
  - Couple to full-fledged drawing tool (Inkscape, SVGEdit, ...)
    - -> model explicitly the behaviour!
  - Bayesian reasoner for suggesting typings
  - Implement language querying in Modelverse
  - Co-Evolution