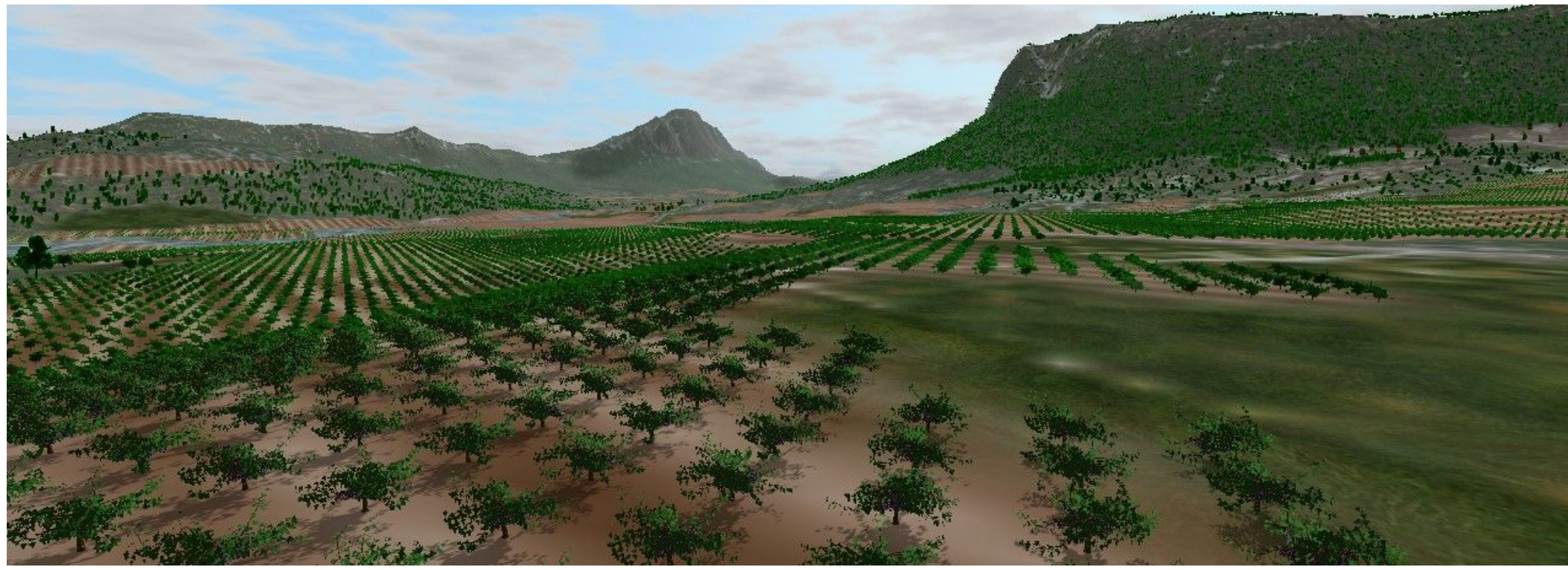


Applications

- Knowledge validation on plant growth and development
- Mesurable 3D mockups, shareable
- Visualisation



Applications

Black Pine : remote sensing

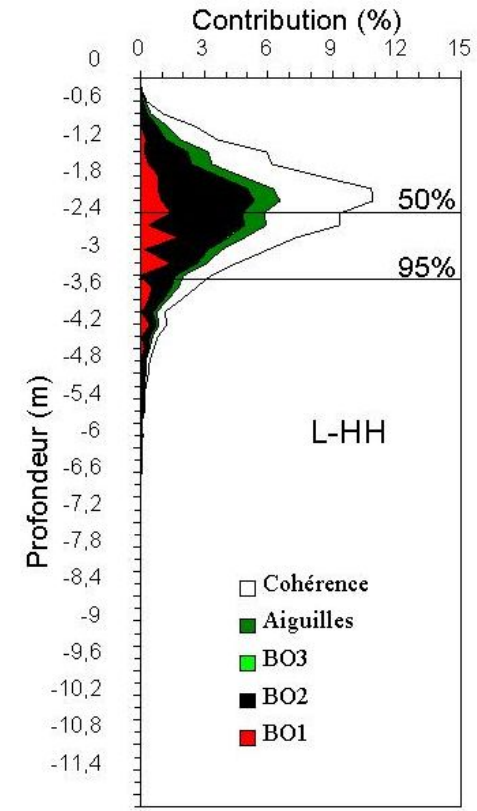
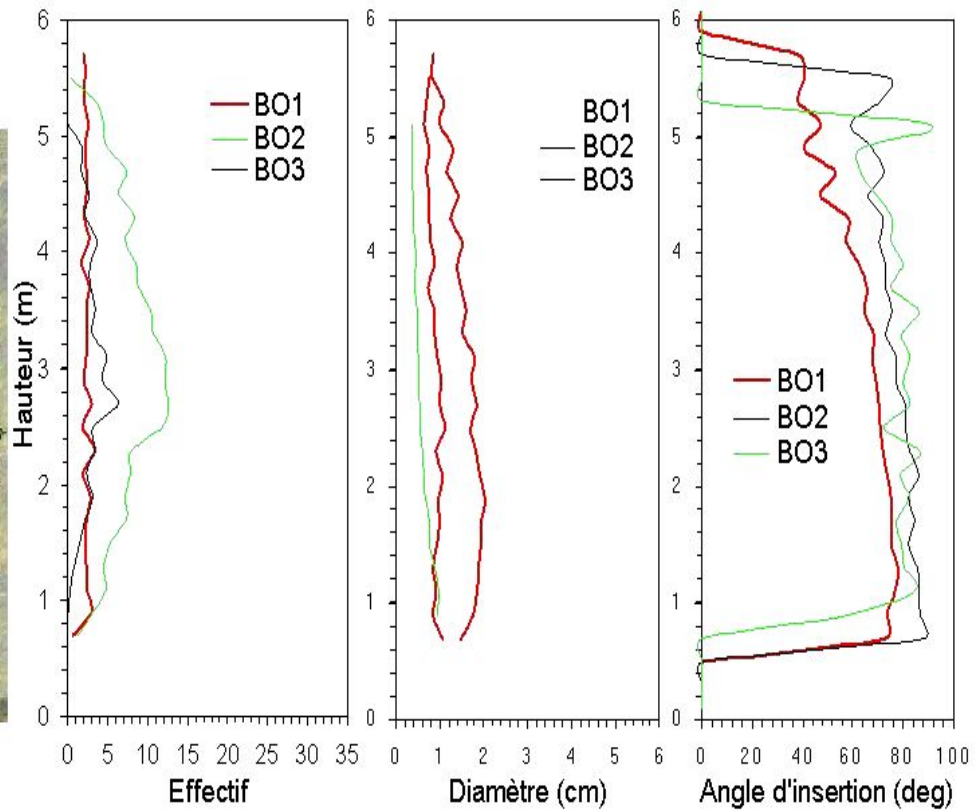


Applications

Computing Radar echo according to depth and organ class

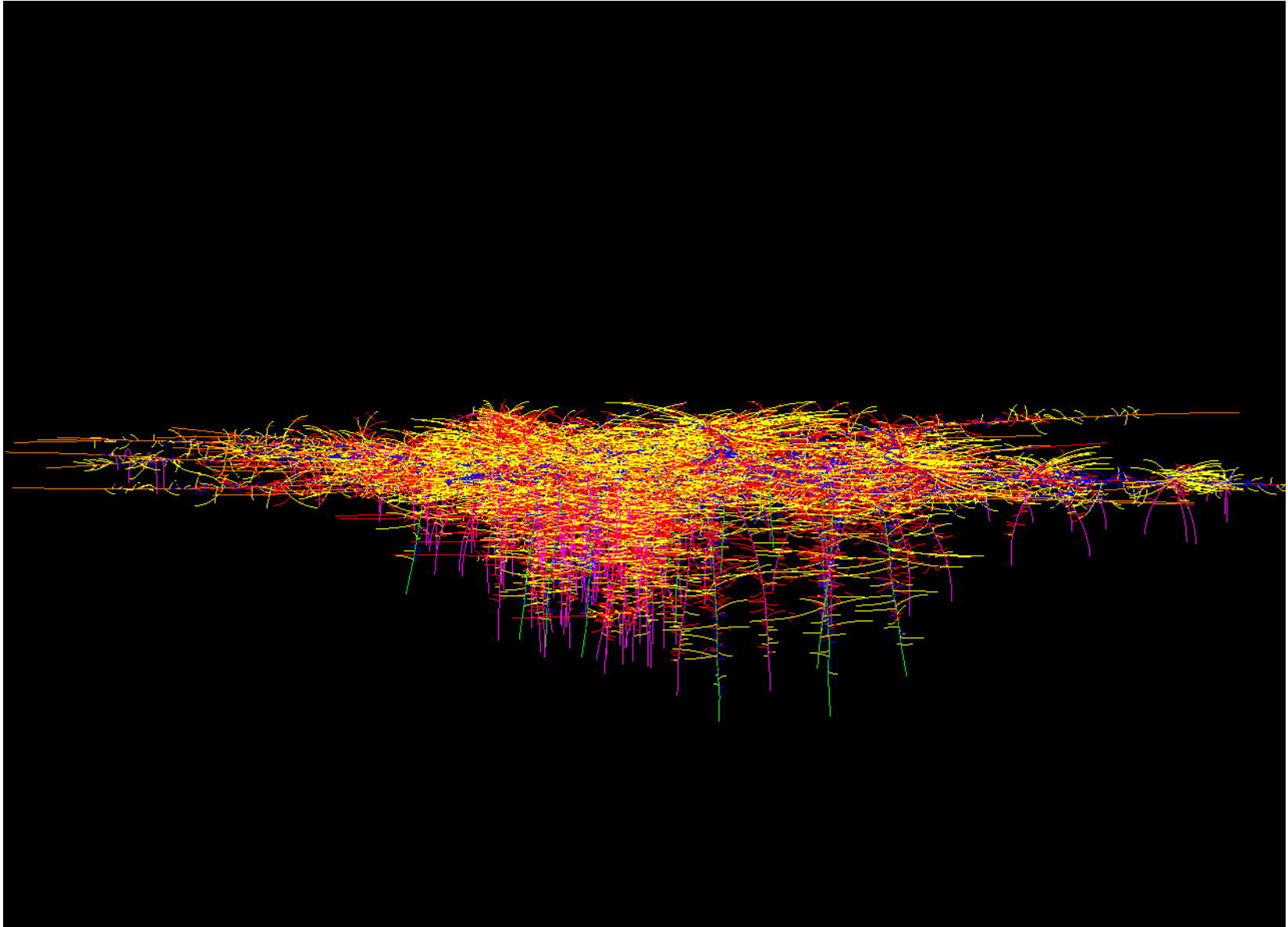


Pin de 20 ans



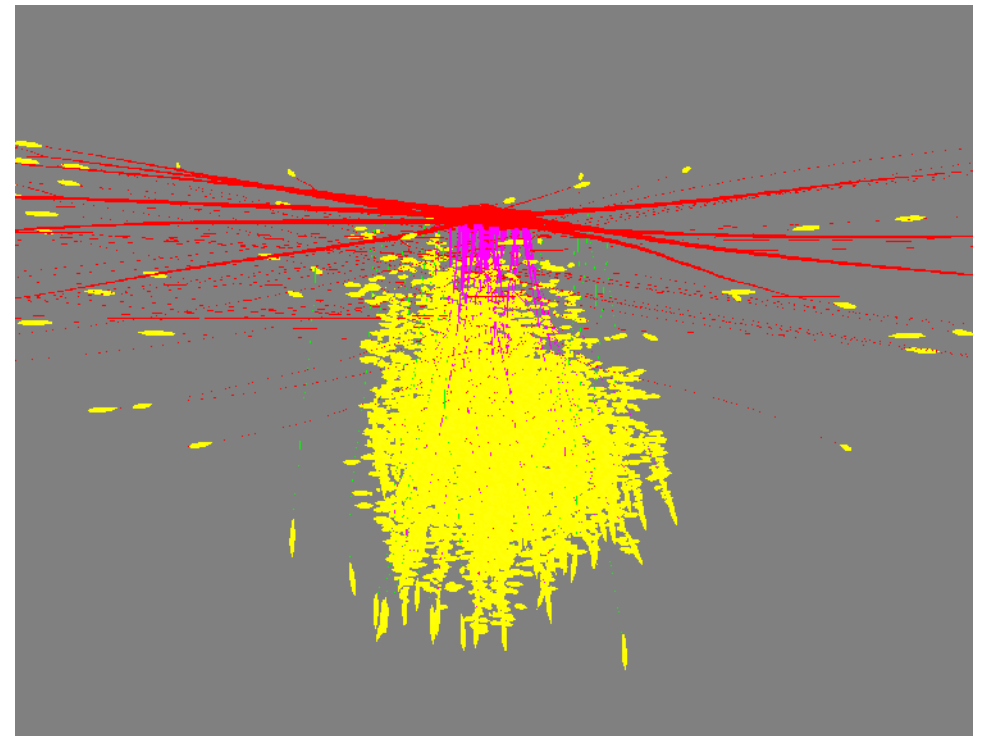
Applications

Eucalyptus : root system



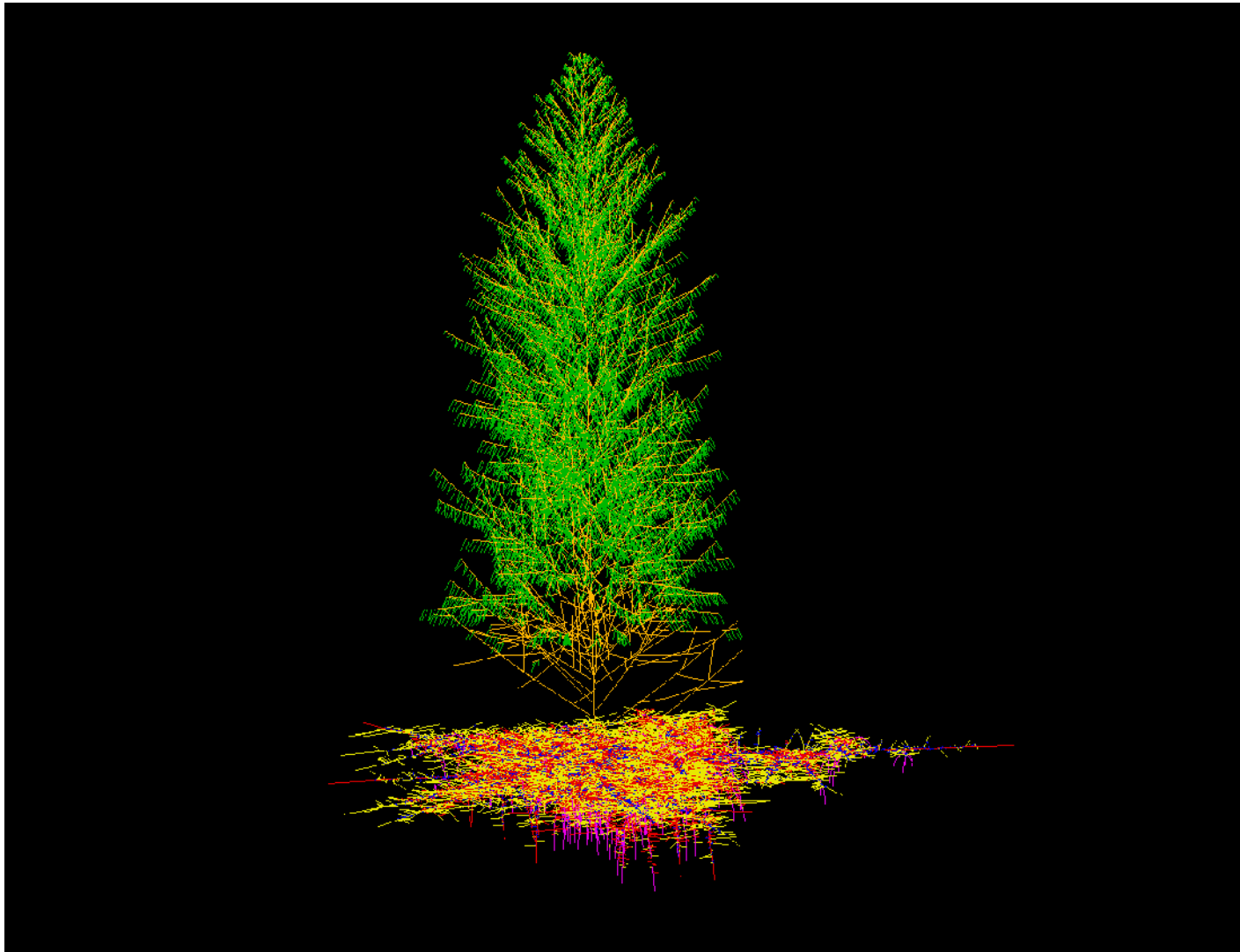
Applications

- From sampling, get a complete object
- Computing biomass, absorption
- Testing soil interaction hypothesis



Applications

Eucalyptus : combining aerial + root system



I. Introduction

II. Plant model

III. Software architecture

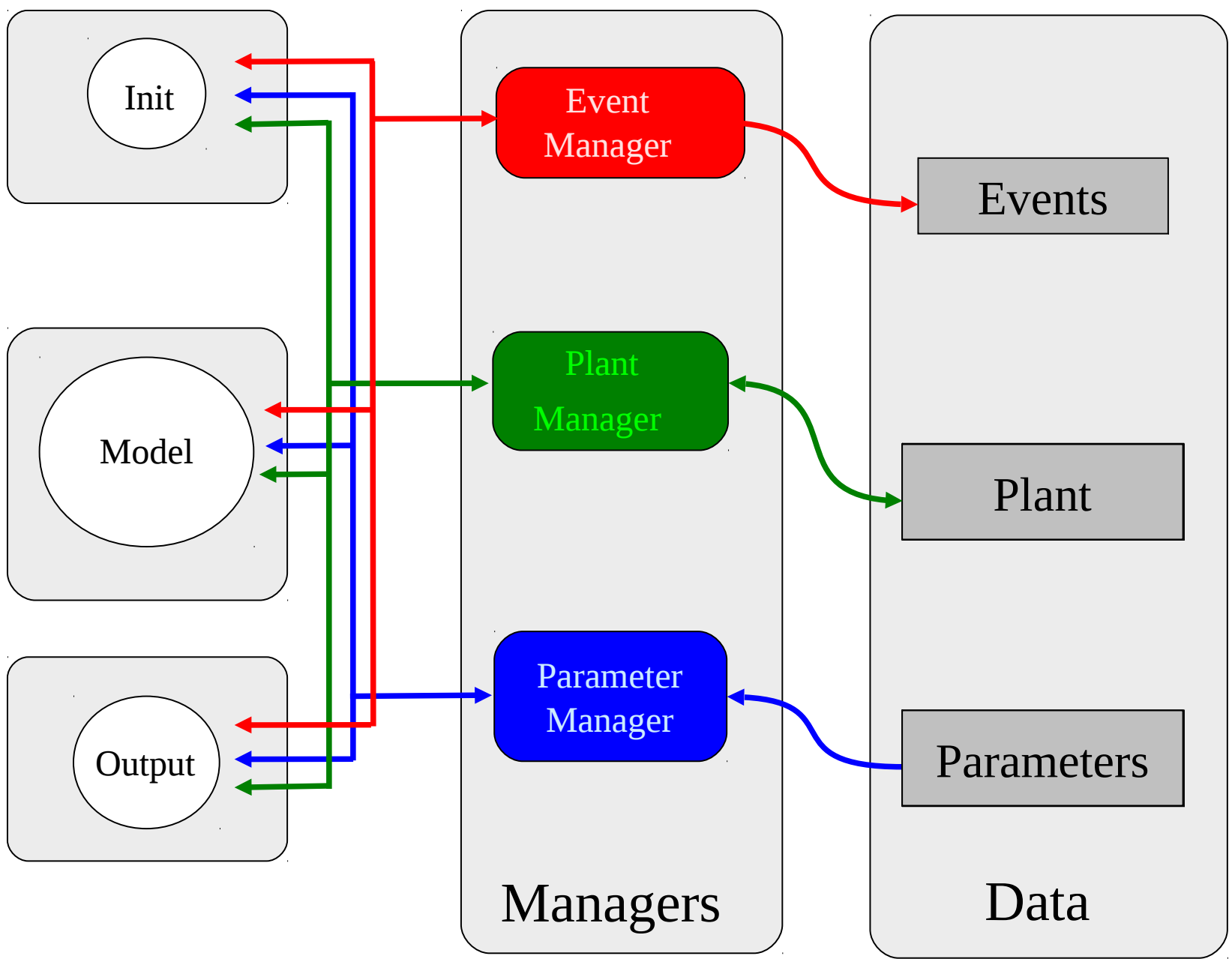
IV. Interactive software interface

V. Conclusion and future works

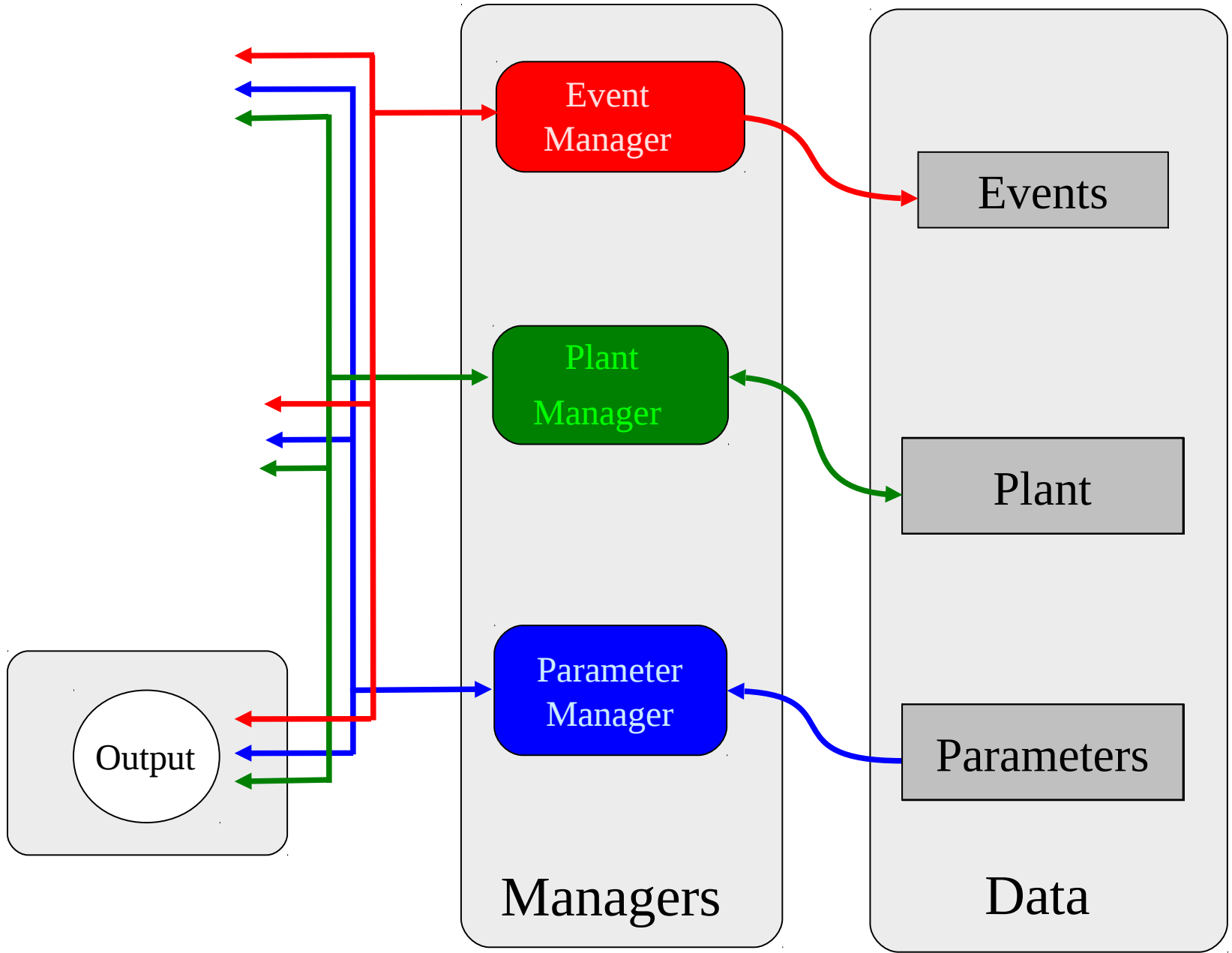
Simulation tools

- Meristem simulation (shared step by step algorithm)
 - birth of internodes (organized into Zones and GU)
 - branching
 - death, stop, pruning
 - differentiation
- Event stack
 - Ordered
 - Scheduling
- Topological structure
 - Hierarchy
 - Crossreference

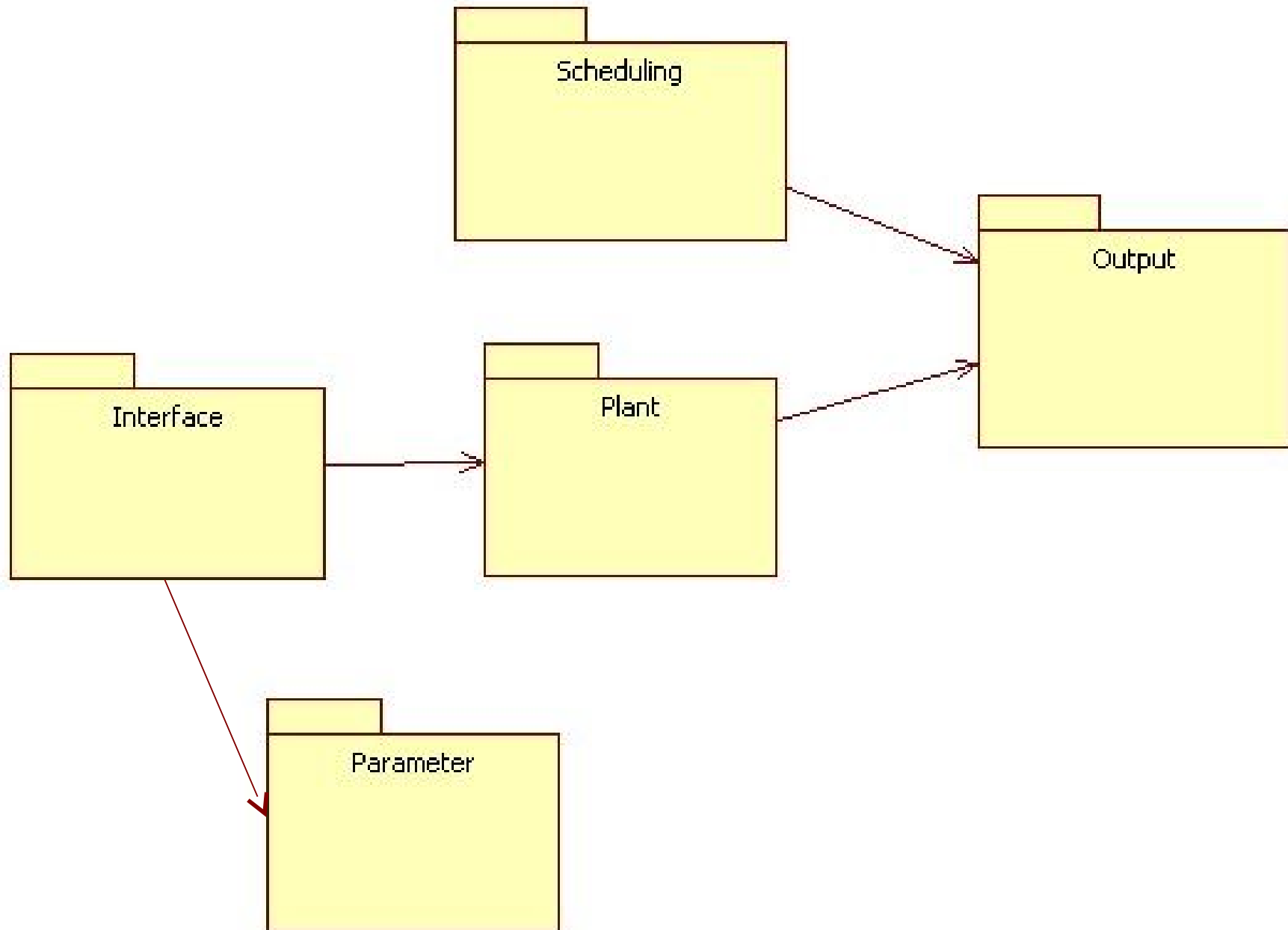
Splitting data/treatments



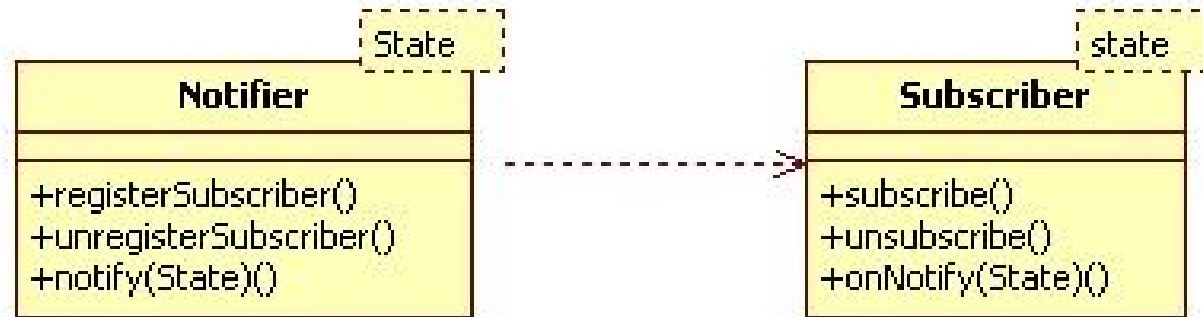
Vitis Framework



Vitis 5 main packages



Interface Package



Vitis provides a default interface

- On plant component creation
- On geometry computing
- On parameter value computing

Plant Package : Factorisation tool

- Same feature can appear many times
 - Leaves
 - Bough
 - Branches

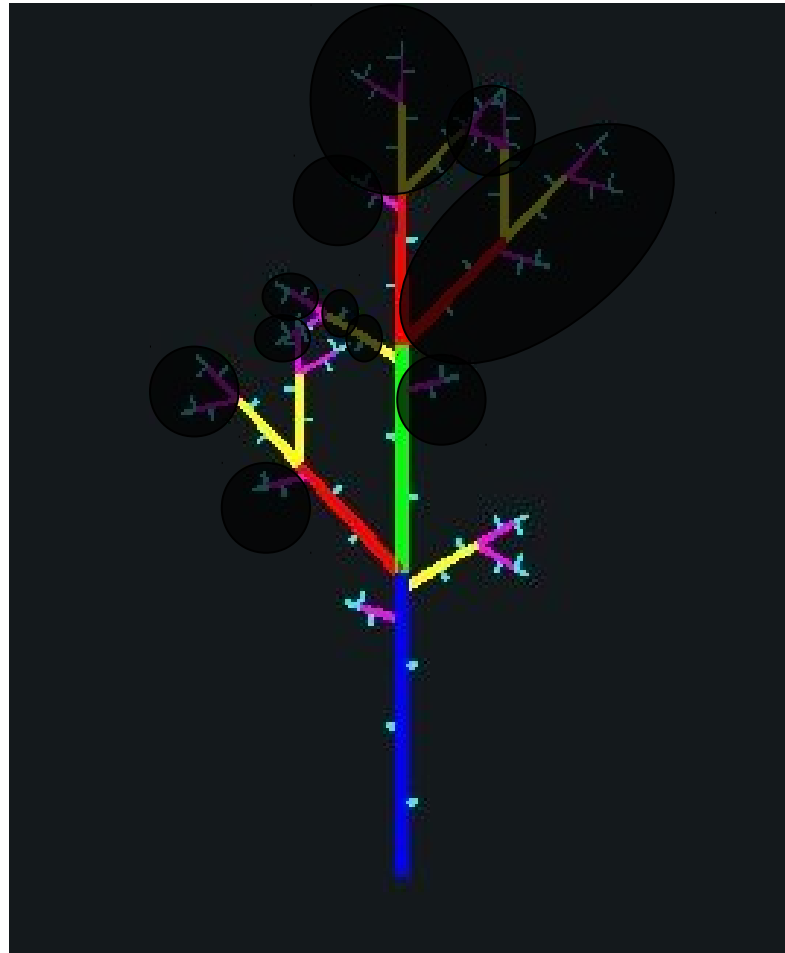


Factorisation example

- According to reference axis model, what is a branch signature ?
 - Physiological age
 - Chronological age
- *Two branches that were borne at the same time with same phy age belong to the same class.*

Factorisation example

One instance per branch class



Factorisation Example

