

RE II

Assignment 5

Modeling Systems with ADORA

ADORA

- Main features:
 - Abstract objects instead of classes
 - Systematic hierarchical decomposition
 - Integration of all aspects of a system in one coherent model
 - Adaptable degree of formality
 - Visualisation of context
- But: Only works with appropriate tool support

Tool support for ADORA modeling

Key problem:

How to prevent visual overload when displaying different aspects of a model?

How to avoid context switches, i.e. how do we preserve the context view of a model?

Tool support for ADORA modeling

Solutions:

- Fisheye zoom
 - Preserves layout (avoids mental context switching)
 - Has multiple points of interests zoomed-in at the same time
 - Still permits model editing
- Layout adjustments
 - Navigation in the hierarchy
 - Smart editing
 - Filtering nodes

Fisheye Zoom

- Local detail and global context in the same view
 - Only show the parts of the model you are currently interested in, but never lose the global context
- Demo

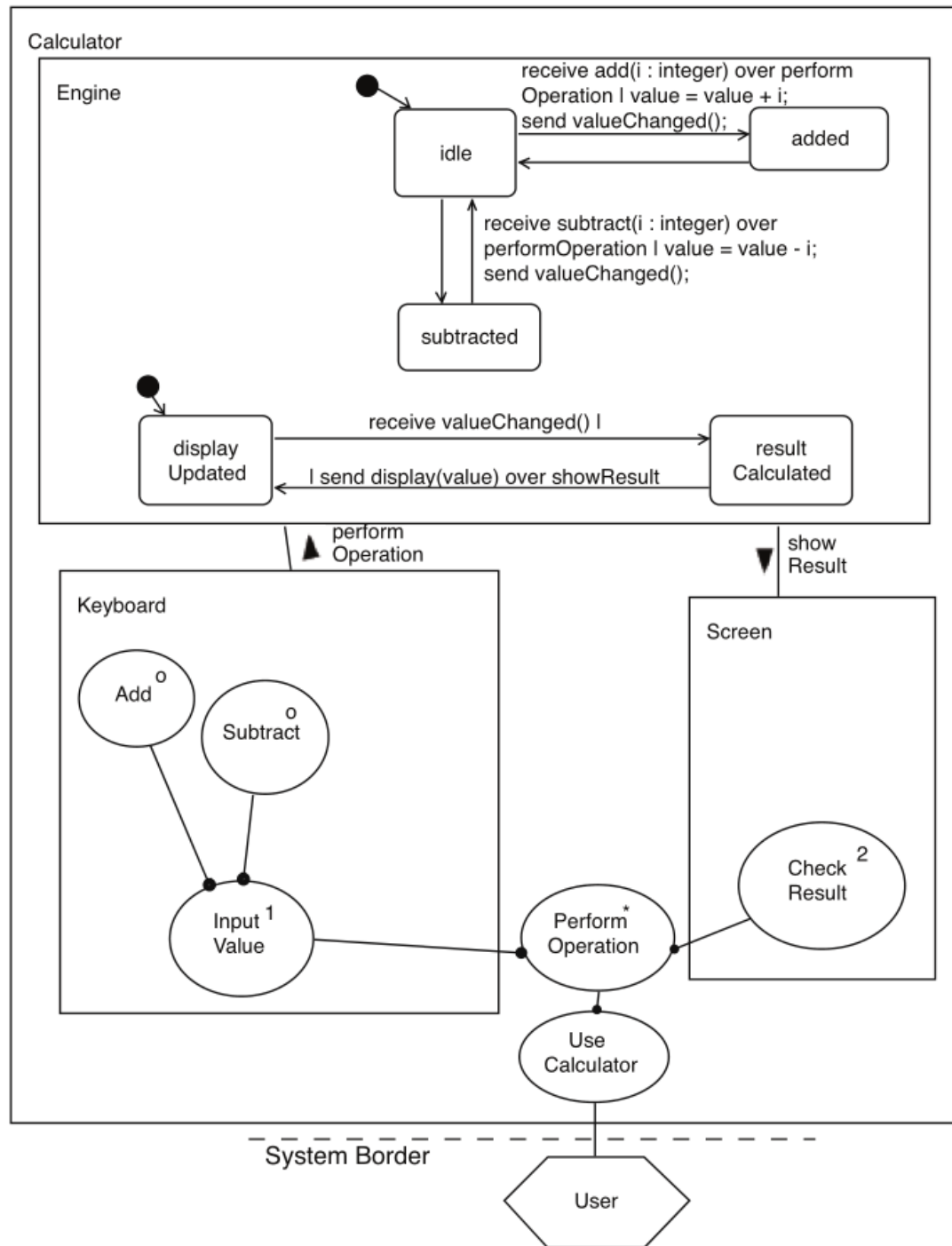
Layout adjustments

- Navigation in the hierarchy
 - Zoom-in and zoom-out
- Filtering nodes
 - Do not show all aspects of the model at the same time to prevent visual overload
- Smart editing
 - Auto-expand and -shrink

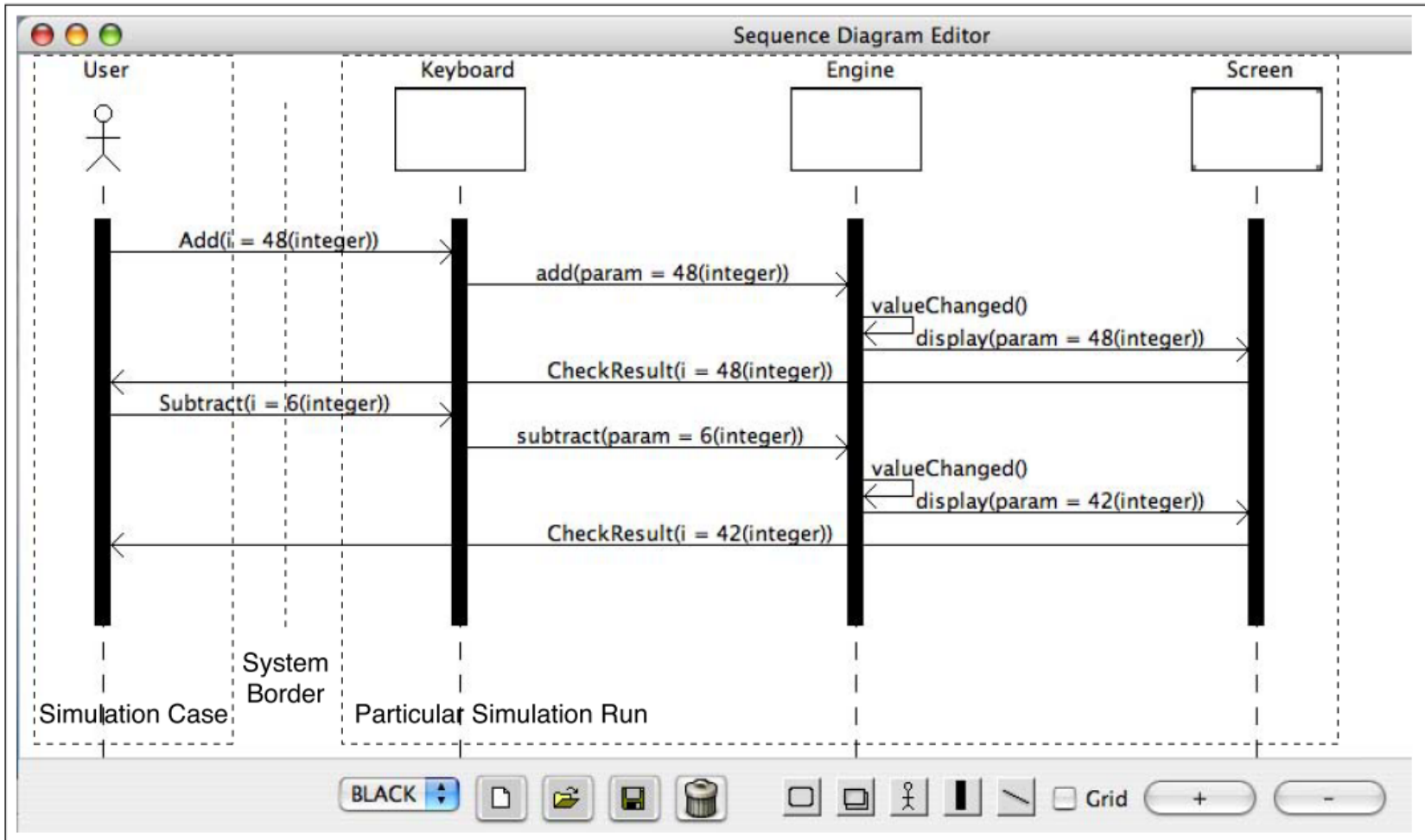
Validation of Requirements Models

- Errors in requirements specifications should be fixed as early as possible
- Manual validation is costly and error-prone
- Problem: Models are incomplete and semi-formal, so traditional formal verification techniques do not work!

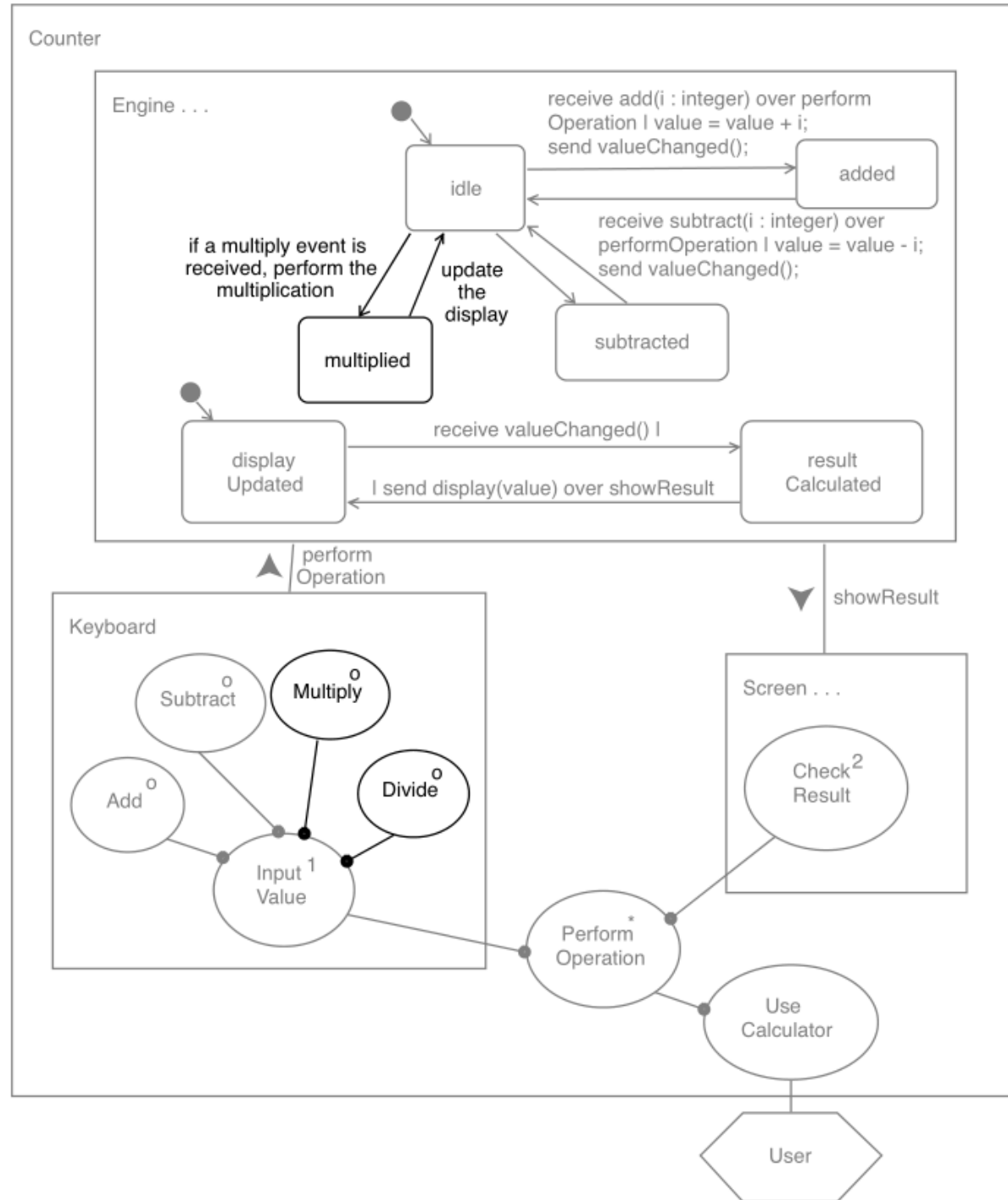
Validation by simulation



Validation by simulation



Validation by simulation



Locating model defects

- Simulation traces are recorded
- Model differences are recorded
- Intersection between those two sets can be used to locate defects

Validation by simulation

