

SAPERE Methodology

Status & Next Steps

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Modena, 20th February 2013



- 1 Current Status
 - SAPERE Meta-model
 - SAPERE Process
- 2 SAPERE Methodology: Next Steps
- 3 SAPERE Methodology: Main Point
- 4 SAPERE Methodology: Summary



Outline

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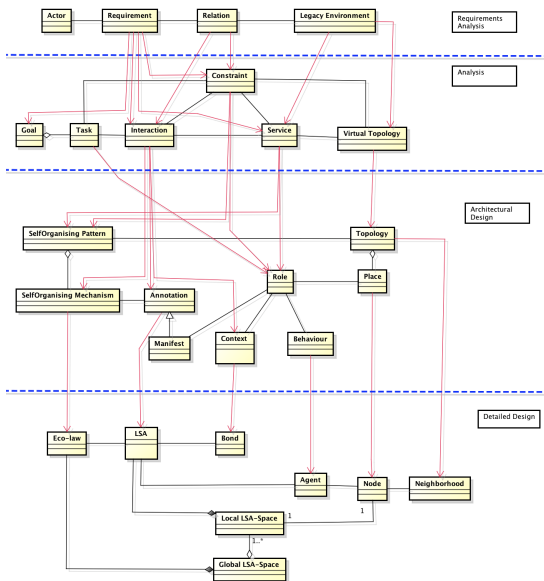


Abstractions Meta-model

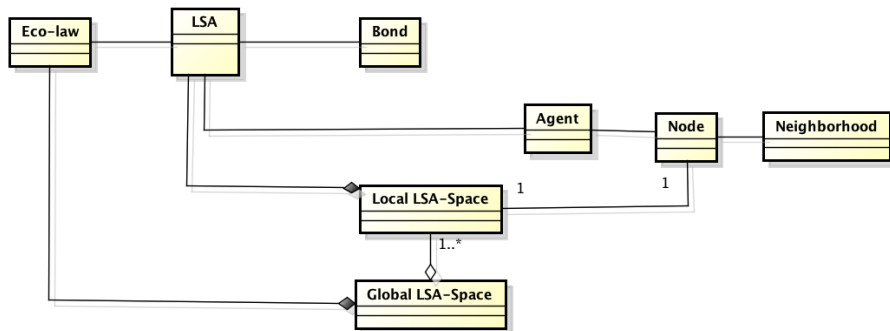
- Complete version available since September 2012
- The creation of the process led to a refinement of the Detailed Design meta-model
 - introduction of the concept of *Global LSA-Space*
 - the previous concept *LSA-Space* has been renamed in *Local LSA-Space*



The Abstractions Meta-model



The Detailed Design Meta-model



The Detailed Design Meta-model

Global LSA-Space — The global chemical environment in the chemical metaphor. It works as the global environment abstraction containing all the LSAs and Eco-laws of a SAPERE (eco)system.

Local LSA-Space — A subset of the Global LSA Space contained in a specific Node. It plays the role of the local chemical environment in the chemical metaphor.



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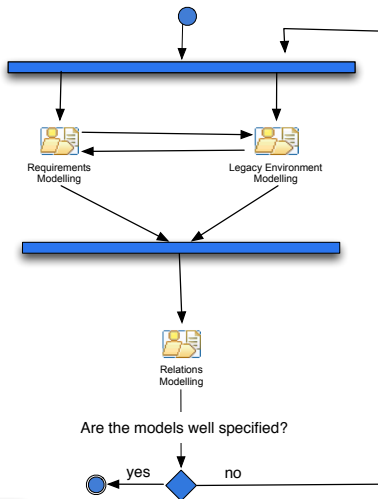


Process

- A preliminary version of the process has been available since September 2012
- The work of the last months has led to
 - refinement of the main processes of each phase
 - Requirements Analysis, Analysis and Implementation processes are not changed
 - Architectural Design and Detailed Design processes are changed: the names of different activities has been changed for improving the process quality
 - for each activity:
 - identification of the tasks
 - identification of the input and output
 - identification of the work products

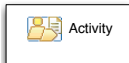
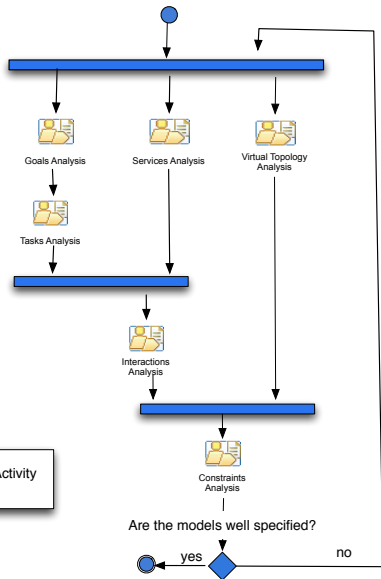


The Requirements Analysis process

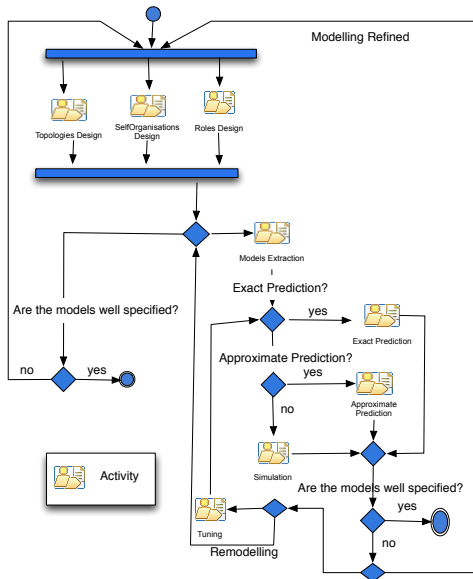


Activity

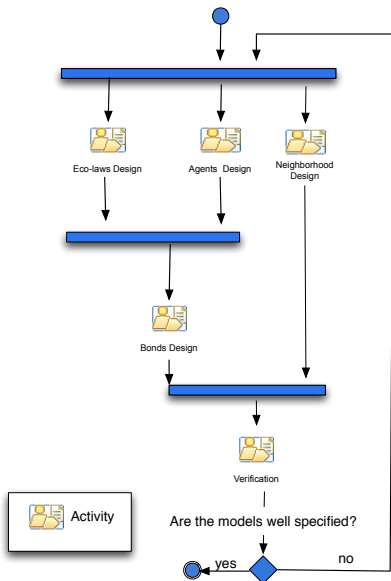
The Analysis process



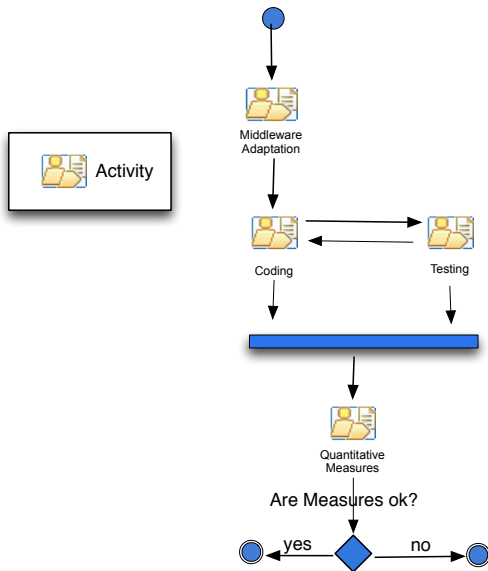
The Architectural Design process



The Detailed Design process



The Implementation process



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Next steps

- Abstractions meta-model
 - final evaluation of the completeness of the meta-model (March)
 - identification of the relationships among meta-model elements and methodology work products (March - April)



Next steps

- Process
 - evaluation of the completeness of the activities (March - May)
 - evaluation of the completeness of the tasks and their detailed description (March -May)
 - for each work product (March - May)
 - identification of the structure
 - identification of the notational language
 - creation of an example based on the crowd steering case study



Next steps

- Documentation

- creation of the complete version (March - June)
- creation of the final version (July - September)

- Refinement

- tests onto different case studies (April - September)
- refinements of the SAPERE methodology process (August - September)



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Remarks from reviewers

Across a number of work packages, several tools and techniques are proposed, without any concrete guidelines as to their adoption. The promise of a complete methodology, to be delivered in the middle of the next review period, seems over-ambitious.



Main things

- Case study/studies
 - the only validation of a formally-correct methodology is a fully developed case study
 - all the units working on technological issues should cooperate
- Tools
 - manuals on use of tools should generate detailed guidelines
 - well-integrated in the methodology framework



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Completeness & Validation

Completeness of methodology has a number of acceptations

- complete specification of the process
- application of the methodology to a complete case study (JKU)
- all the tools fall into place in the meta-model
- all the tools have their guidelines fully expressed



Effectiveness & Usability

Assessing the usability of the methodology

- middleware-driven methodology
- down to the code (SAPERE in a Box)
- a complete “incremental development” example, based on a well-chosen scenario
- more generally, the “SAPERE thinking” should work as a conceptual premise (and as a facilitator) to the general methodology—slide “Comprehensive Application Scenario” by Alois

José suggests to use Android’s manual structure to express guidelines – this, too, should make SAPERE methodology



Comparison

Our approach can be easily compared to other ones:

- standard process specification ensure technically well-founded comparability with any other methodology documented in the standard way
- the two examples (and maybe the “complete” application) should be come with some remarks on the (baaad) ways to face the same problems with traditional / state-of-the-art approaches



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