1. Requirements Fragmentation and Categorization Phase

1.1 CATEGORIZATION
The user identifies and categorizes the informal requirement fragments

1.2 DEPENDENCIES
The user can create dependencies among the categorized requirement fragments

2. Formalization Phase

2.1 FORMALIZATION
The user formalizes each categorized requirement exploiting Unified Modelling Language (UML) constructs and a Controlled Natural Language based on Property Specification Language

2.2 TRACEABILITY LINKING
The user links the elements of the formalization to the textual requirements

3. Formal Validation Phase

3.1 REQUIREMENTS SELECTION
The user chooses a set of requirements to focus the validation on particular aspects of the specification

3.2 PROBLEM DEFINITION
The user defines a set of problems, each one consisting of a set of objects and a set of scenarios and of properties

3.3 CHECKING
The user checks the defined problems and analyzes the results

PROPERTIES OF THE APPROACH

• Rich specification language
• Availability of an automatic engine
• Focus on usability (validated by several domain experts)

REFERENCES


The activities described here have been funded by the European Railway Agency under the project EuRailCheck, service contract ERA/2007/ERTMS02. Stefano Tonetta is supported by the Provincia Autonoma di Trento (ANACONDA Project).

http://es.fbk.eu/projects/formal-etc