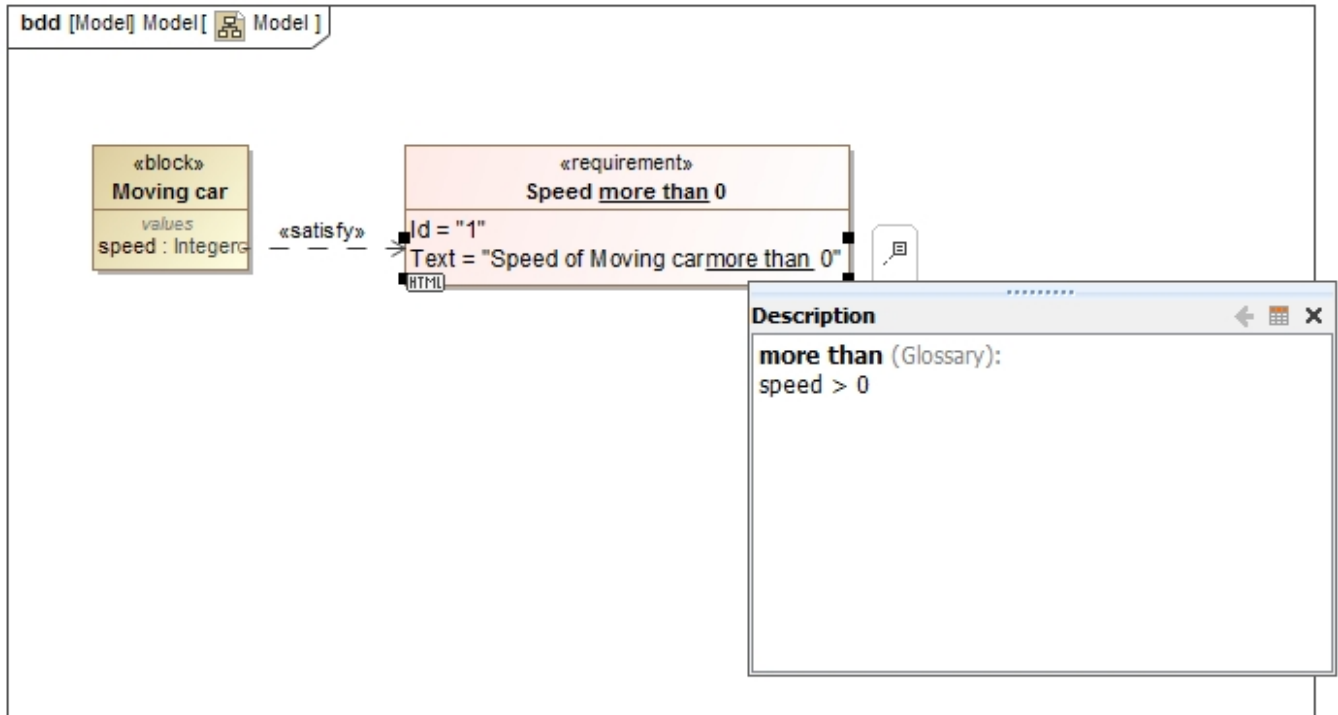


Extraction of Constraints from Text Based Requirements

As of version 18.4, another new addition to Cameo Simulation Toolkit's already impressive repertoire, is the ability to automatically extract constraint equations from the text of a requirement.

For example, if a requirement text states that a moving car must have speed more than 0, then the constraint equation "speed > 0" is automatically extracted from the requirement text and will be evaluated upon running of a simulation.

While typing the requirement text, a shortcut menu appears as soon as you type some keywords which are available in the Glossary, see the example as follows



Constraints within text-based requirements.

For the constraint to execute properly, the requirement should be linked to a property, such as in the above example, a satisfy relation is used to link between the property and the requirement.

When the simulation is run, the constraint is evaluated and color-coded according to the result of the simulation, red if the constraint fails and green if it passes, as shown in figure below. Additionally, a mouse over the variable will display a tooltip.

The screenshot displays a software interface with two main sections: a model editor at the top and a simulation console at the bottom.

Model Editor: The top section shows a diagram with two elements connected by a relationship arrow labeled «satisfy».

- «block» Moving car:** A yellow box containing the text «block» and Moving car, with a sub-section labeled values containing speed : Integer.
- «requirement» Speed more than 0:** A pink box containing the text «requirement» and Speed more than 0, with a sub-section labeled Text containing Id = "1" and Text = "Speed of Moving car more than 0".

Simulation Console: The bottom section is divided into several panes.

- Sessions:** Shows a single session named Moving car [Moving car@f641e0b] (Ready).
- Console:** Displays a log of simulation events:
 - 2016-06-01 12:19:44,770 : **** Block Moving car is initiated
 - 2016-06-01 12:19:45,090 : The constraint(s) {speed > 0} is/are not satisfied
 - 2016-06-01 12:19:45,090 : The requirement Speed more than 0 is not satisfied
- Variables:** A table showing the current state of variables:

Name	Value
Moving car {speed > 0}	Moving car@f641e0b
speed : Integer	0
- Breakpoints:** An empty pane.

A yellow tooltip message is visible over the Variables pane, stating: Requirement 1 - "Speed of Moving car more than 0" is not satisfied.

Running a simulation evaluates the constraint within the requirement and color-codes it.