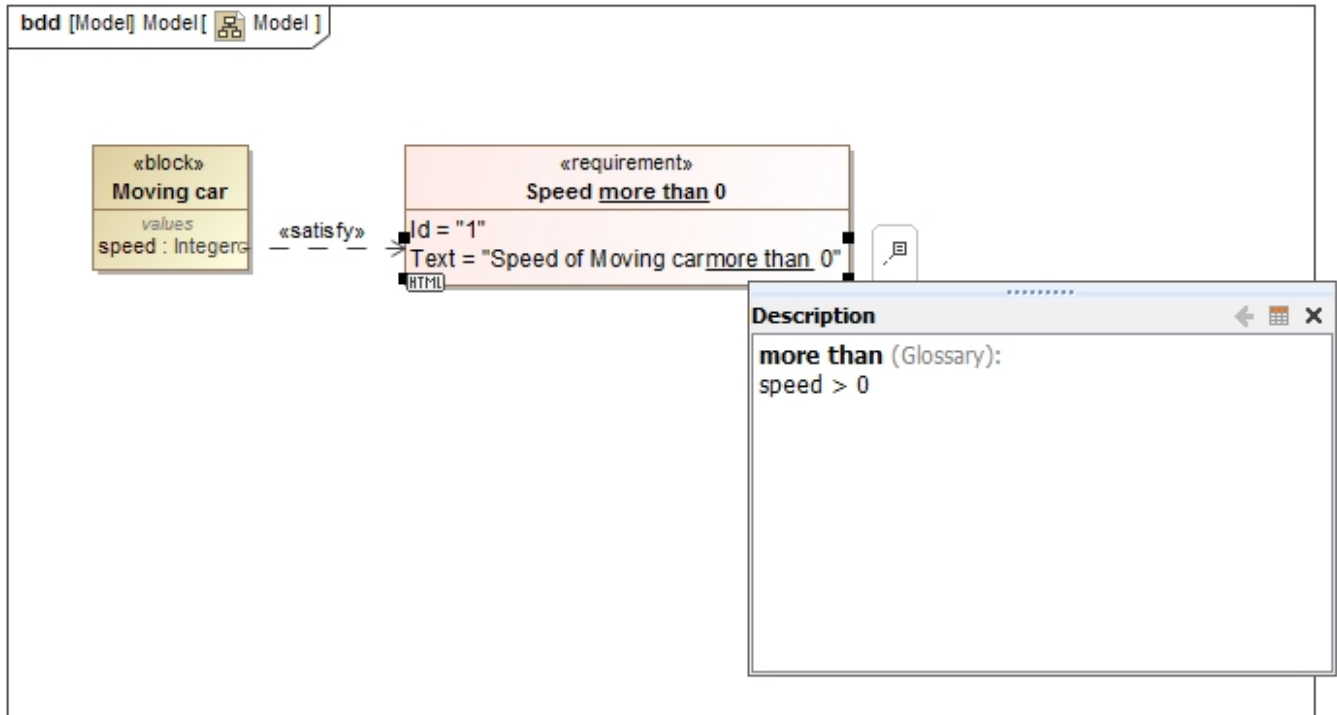


Extraction of Constraints from Text Based Requirements

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 a block named «block» Moving car and a requirement named «requirement» Speed more than 0. The block has a value speed : Integer. A «satisfy» relationship arrow points from the block to the requirement. The requirement has Id = "1" and Text = "Speed of Moving car more than 0".

Simulation Console: The bottom section shows the simulation results. The Sessions tab is active, showing a session named Moving car [Moving car@f641e0b] (Ready). The Console tab shows the following log entries:

- 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

The Variables tab is also active, showing the following table:

| Name | Value |
|------------------------|--------------------|
| Moving car {speed > 0} | Moving car@f641e0b |
| speed : Integer | 0 |

A tooltip message is displayed over the Variables tab: 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.