State Machine simulation

Magic Model Analyst allows you to perform a State Machine Simulation (State Chart Simulation) on existing State Machine diagrams, based on the W3C SCXML standard. This kind of simulation is frequently used in the early stage of software development by designers or analysts to test the flow of the software to be developed.

The W3C SCXML standard provides a generic State machine-based simulation environment based on the Harel Statechart. SCXML is capable of describing complex State machines, including Substates, concurrency, history, time events, and many more. Most of the things that can be represented as UML statecharts, e.g., business process flows, views on navigation bits, interaction or dialog management, and many more, can leverage the SCXML engine. When executing a State Machine, the SCXML engine is capable of finding an initial state automatically even if the initial node is not defined. This feature is also applicable to composite States and orthogonal States.

With the State Machine simulation build, you can simulate an executable model as a demonstration tool to validate and verify the system Behavior at key milestone reviews. In addition, Magic Model Analyst supports exporting the UML State Machine to standard SCXML files for further analysis or transformations (through the State Machine context menu).

Related pages

- Supported elements
- Adapting models for State Machine simulation
- Running a State Machine simulation
- State Machine duration simulation
- Sample projects