

Stateflow for Automotive Applications

OEM: MathWorks • Duration: 2 Days (16 hrs) • Code: MW-STATEFLOW-FOR-AUTOMOTIVE-APPLICATIONS

COURSE MODULES & TOPICS

Day 1 of 2

Modeling Flow Charts

- Junctions and transitions
- Flow chart behavior
- Stateflow interface
- Conditions and condition actions
- Chart data
- Common patterns

Modeling State Machines

- State machine behavior
- State and transition actions
- Chart initialization
- Action execution order
- Flow charts within states
- Mealy and Moore charts

Hierarchical State Diagrams

- Superstates and substates
- State data
- History junction
- Transition priority
- Action execution order

Parallel State Diagrams

- Benefits of parallel states
- Chart/state decomposition
- Parallel state behavior

Day 2 of 2

Using Events in State Diagrams

- Using events in state diagrams
- Broadcasting events
- Behavior of state diagrams that contain events
- Implicit events
- Temporal logic operators

Calling Functions from Stateflow

- Types of functions
- Simulink functions
- MATLAB functions
- Graphical functions

Truth Tables and State Transition Tables

- Truth tables
- Conditions, decisions, and actions
- State transition tables
- States, transitions, and actions

Component-Based Modeling in Stateflow

- Bus signals
- Data types
- Atomic subcharts
- Data mapping
- Chart reuse