Starter State Machine

The *Starter State Machine* Pattern describes an entity (e.g. Class, Actor, Use Case or Test Case) from the point of view of the important states that it exhibits. The State Machine diagram indicates that the entity can be in one of two states and it transitions between the two states.

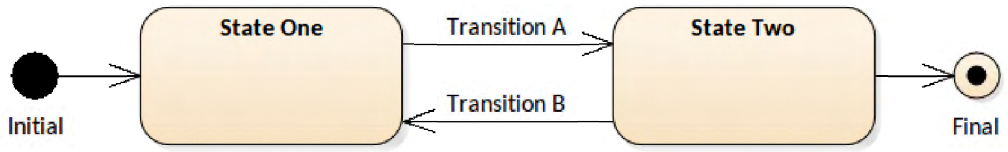

Figure 1. A state machine diagram showing two states and two transitions and an initial Psuedostate and a Final State.

Discussion

To provide a mechanism to represent the conditions (States) a System Engineer or other Stakeholder thinks are important in the lifetime of a Class or other element. It describes the state dependent behavior showing how the element transitions from state to state.

The pattern is used when a Software Engineer want to define or describe a set of discrete states a Class or other Element may exhibit. They are typically created to analyze the behavior of some part of the system often because it is difficult to understand or because its behavior is complex.

The following is a list of some things you may want to do when working with this pattern.

- Rename the Package, State Machine and the Diagram to suit the initiative.
- Rename the States and Transitions in the diagram to suit the initiative.
- Create new States, other elements and Transitions by dragging onto the diagram from the Toolbox or the Project Browser.

The following is a list of some of the next steps available when applying the pattern.

- Create Entry, Do and Exit Actions for the States to model what happens under these conditions.
- Add Triggers, Guards and Effects to the Transitions to express the constraints and behavior of the Transitions
- Create traces from other models as they are developed to express how the States relate to other elements in the model, e.g. Use Cases, Components, Artifacts and Database Objects.
- Create documentation that will help disseminate the information contained in the diagram to other team members.

Useful Workspace Layouts Core | Core Modeling

Reference

The following help topics will assist you learn about how to work with this pattern.

State Machines

Working with Diagrams

Changing Element Appearance

Changing Diagram Layout

The following tools are useful when working with this pattern.

Specification View

The Specification View can be used as a way of working with the Components and Interfaces particularly when there are a large number of elements as is typically the case when describing a system of any appreciable size. For more details see the Specification View help topic.

Document Generator

The Document Generator is a powerful facility in Enterprise Architect that allows a Database Engineer or other stakeholder to create high quality corporate or technical

documentation directly from the model, suitable for internal or external audiences. For more details see the Documentation help topic or the more general topic on Model Publishing.

Hand Drawn and Whiteboard Diagrams

The Hand Drawn and Whiteboard Mode are display options available for any diagram that changes a system-drawn diagram to appear as though it was drawn by hand and, optionally, hand drawn on a whiteboard. It is a powerful device to engage an audience by presenting the diagram in a rough and more immediate style giving the impression that it is just a sketch that can be changed. For more details see the Hand Drawn and Whiteboard Mode help topic.

Alternate and Images for Diagram Elements

Most standard elements allow an alternate image to be defined for an element that will be used in place of the graphical notation for the element either on a selected diagram or as a default on all diagrams. For more details see the Using the Image Manager help topic.

Compiled Simulator

The Compiled Simulator provides a number of facilities for working with Executable State Machines. This includes generating the state models to a variety of programming language code, building and running a simulation. Analyzer Scripts can be configured that determine how code is generated, compiled and executed for the Executable State Machine. The generated code can be viewed and edited using the built-in code editor and the execution analyzer can be used to debug running code. For more details see the Using the Compiled Simulation Panel help topic.

Element Discussions

The Element Discussion facility is a fully featured collaboration tool allowing modelers and model viewers and reviewers to communicate with each other directly inside the repository. Modelers using the full client or occasional viewers using WebEA can both post and reply to discussions and communicate and engage in chat. For more details see the Element Discussions help topic.

Pan and Zoom

The Pan and Zoom facility is one of the tools that can be used to navigate around a large diagram. Often the resolution of a diagram must be reduced to ensure it is wholly visible but by using the Pan and Zoom window you can leave the diagram at a readable

resolution and pan around to areas of interest zooming in when necessary. For more details see the Pan and Zoom help topic.

Diagram Legends

The Diagram Legend facility is useful for manually or automatically changing the appearance of elements and connectors on a diagram. A legend can be added from the Common Toolbox and configured to codify the fill and line color and line thickness. This is a powerful way to add meaning and expression to a diagram and is particularly expressive when applied automatically based on element or connector properties. It can be used with a number of specialized diagrams such as roadmaps to create a powerful visualization. For more details see the Diagram Legends help topic.