Behavior Pattern: SysML Example v1.1

SysML Examples

The complete SysML example for the flashlight behavior model is available on a teamwork server. Please contact JF Castet or Matt Rozek for access. In the following, the essential diagrams of the SysML model are given for a complete understanding of the SysML implementation.

As a reminder, the flashlight example consists of a simple model of the electrical circuit shown in the image on Figure 1. Three mission:Component are identified:

- a battery;
- a switch;
- and a lamp.

The conceptual equivalent of this model is given here, and provides details about the definition of the behavior model of the flashlight.

The details about the embedding in SysML is explained here, and the reader is referred to that documentation to understand the SysML aspects of the behavior pattern. Only the final result is displayed in this page for high-level reference.

Figure 1. Flashlight electrical model

Figure 2 shows the battery ElementBehavior model (derivation and conceptual equivalent in Figure 6 of this page).

Figure 3 shows the switch ElementBehavior model (derivation and conceptual equivalent in Figure 7 of this page).

Figure 4 shows the lamp ElementBehavior model (derivation and conceptual equivalent in Figure 5 of this page).

Figure 5 shows the model of the Interaction between the three components based on a mesh-analysis perspective (the interaction is fully described here).
Figure 2. Battery ElementBehavior
Figure 3. Switch Element Behavior
Figure 4. Lamp ElementBehavior
Figure 5. Flashlight circuit interaction

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