

Software Design, Modeling, and Analysis in UML

<http://swt.informatik.uni-freiburg.de/teaching/WS2016-17/sdmauml>

Exercise Sheet 7.A

Early submission: Monday, 2017-01-30, 12:00 Regular submission: Tuesday, 2017-01-31, 8:00

Exercise 1 **(8/10 Points)**

Consider the LSC shown in Figure 1.

- (i) Provide the abstract syntax of the body of the pre-chart and the main-chart, i.e. two LSC body tuples. (3)
- (ii) Construct the TBA for pre- and main-chart (separately). (5)

Exercise 2 **(2/10 Points)**

Consider the local invariant and the condition LSC in Figure 2.

- (i) Describe in your own words the requirements expressed by the local invariant and the condition. (1)
Hint: In particular, when (and when not) the values of expressions $v = 0$ and $x > 3$ are considered and which effect they have if the expression is (or is not) satisfied.
- (ii) Describe in your own words how the meaning changes if the temperatures were exchanged, i.e., if the local invariant was hot and the condition cold. (1)

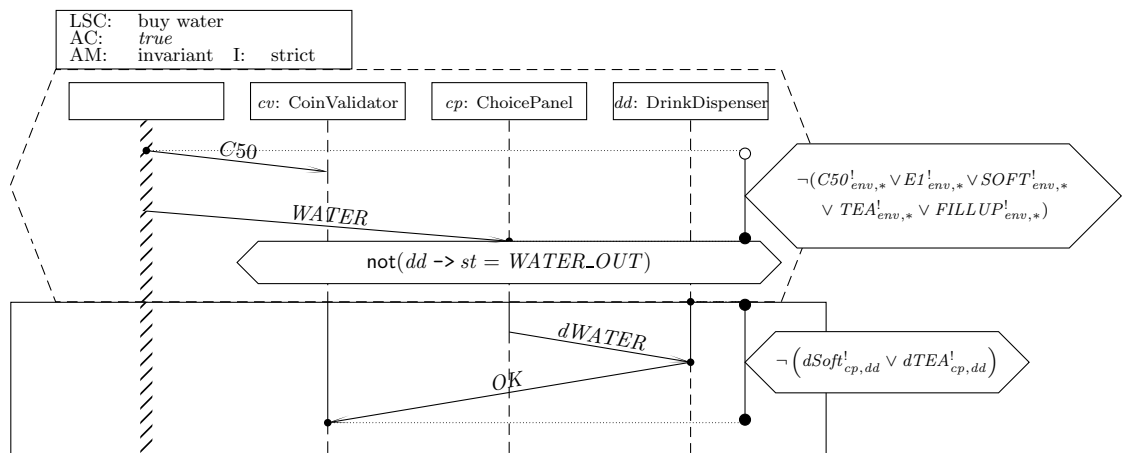


Figure 1: LSC Requirement on Vending Machine.

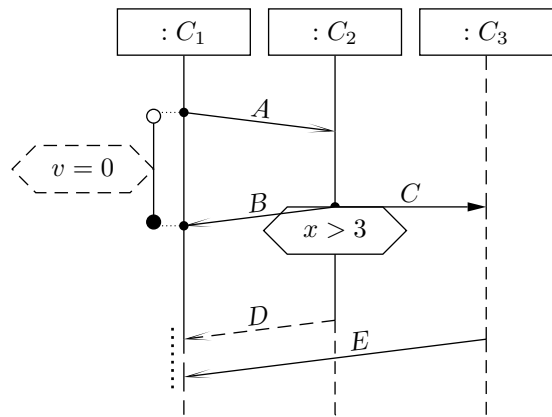


Figure 2: Example LSC with condition and local invariant.