

Object Interaction – Interaction Overview Diagrams Timing Diagrams

Based on Chapter 09
Bennett, McRobb and Farmer
*Object Oriented Systems Analysis
and Design Using UML*
4th Edition, McGraw Hill, 2010

In This Lecture You Will Learn:

- how to model interactions using interaction overview diagrams;
- how to model interaction using an interaction sequence diagram;
- how to use timing diagrams.

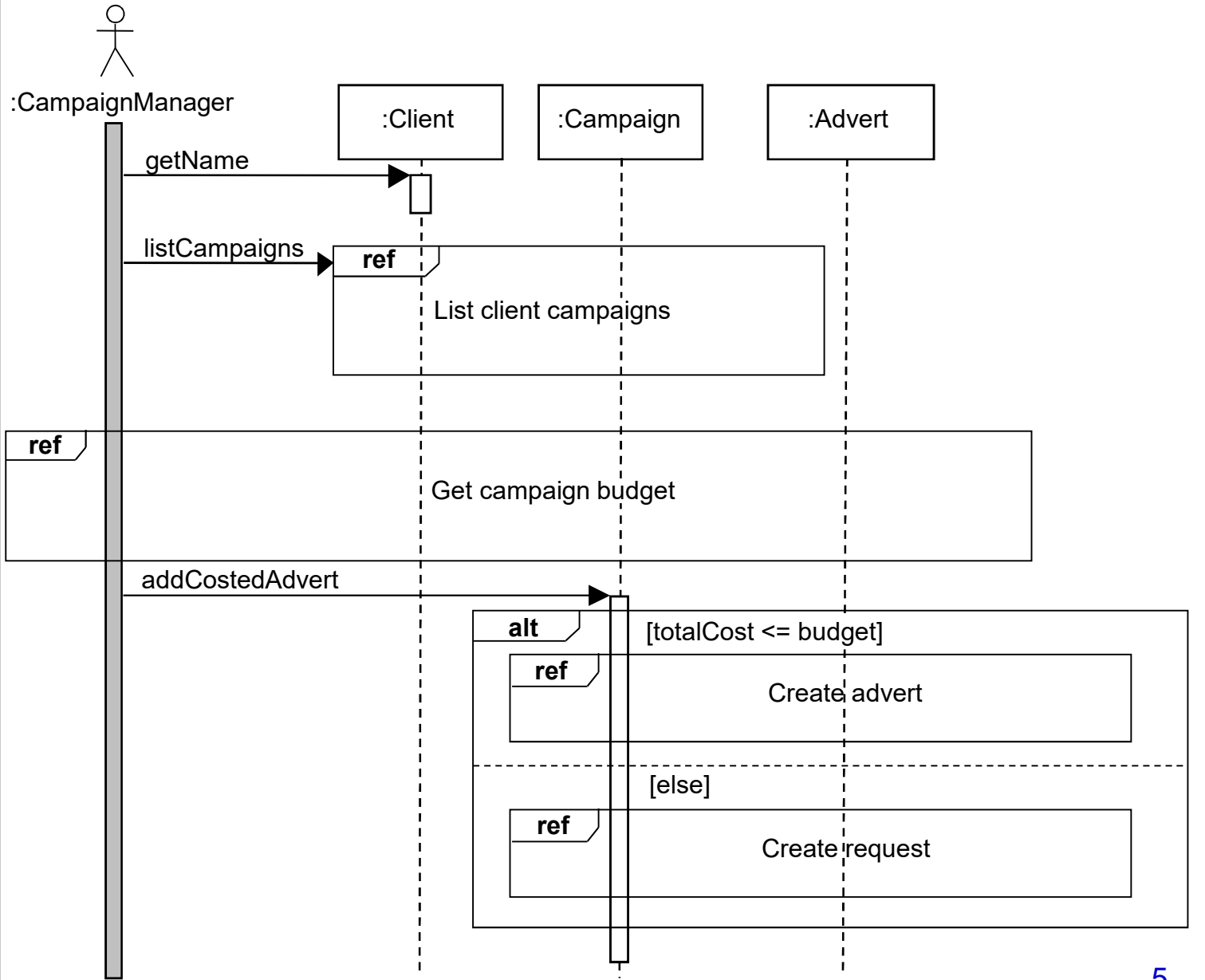
Interaction Overview Diagrams

- Variants of activity diagrams (see Ch 5)
- Focuses on the flow of control in an interaction
- Nodes in the diagram may be interactions or interaction occurrences
- Interaction needs to be broken down into its key elements.

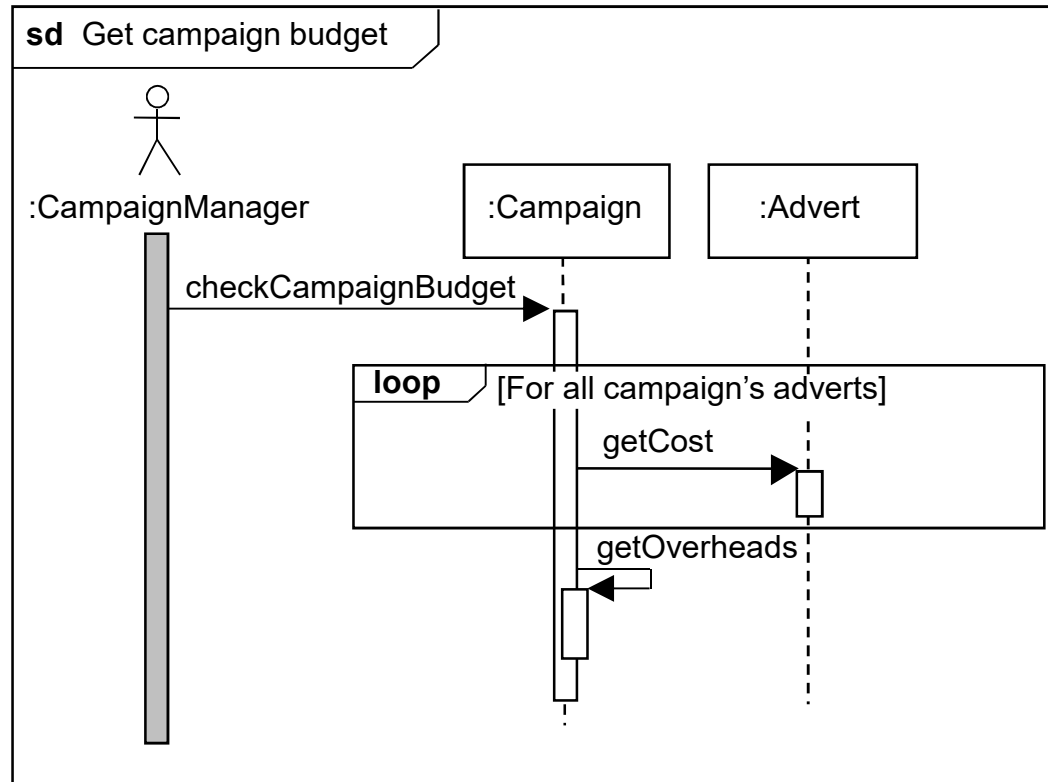
Interaction Overview Diagrams

- An alternative version of the sequence diagram Add a new advert to a campaign if within budget is shown on the next slide and is used to develop an interaction overview diagram

sd Add a new advert to a campaign if within budget



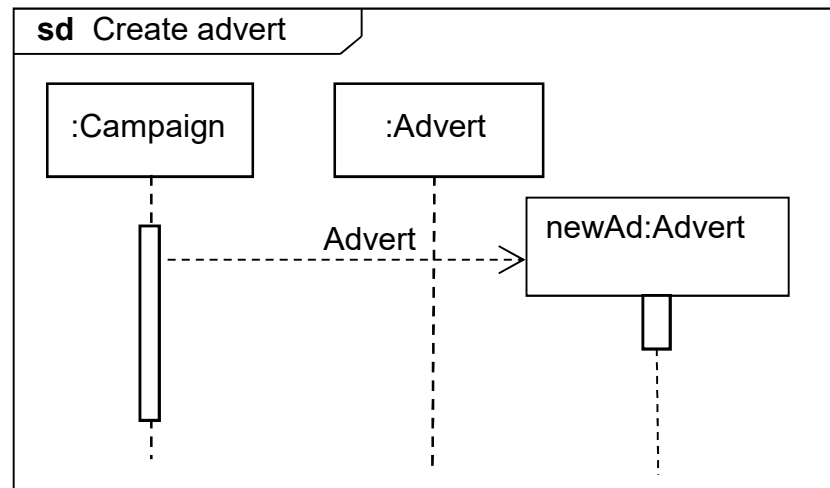
Interaction Fragment Used



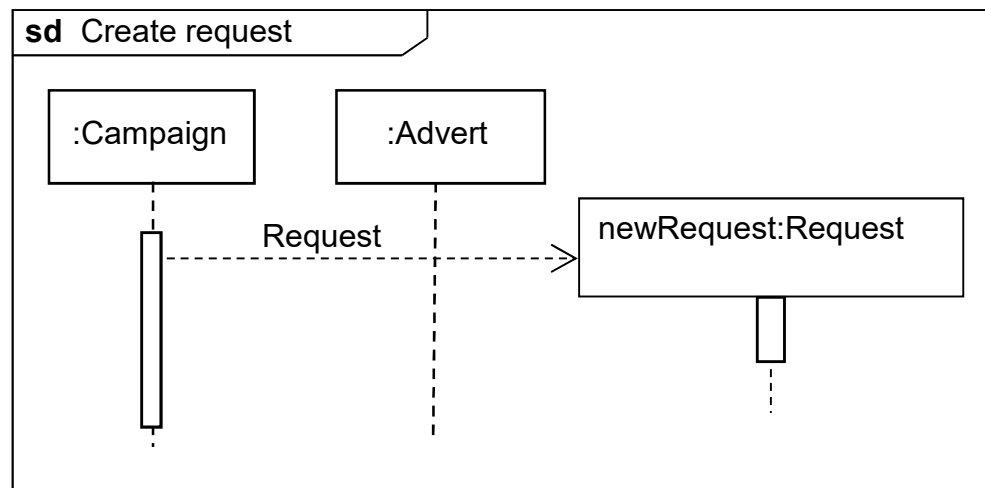
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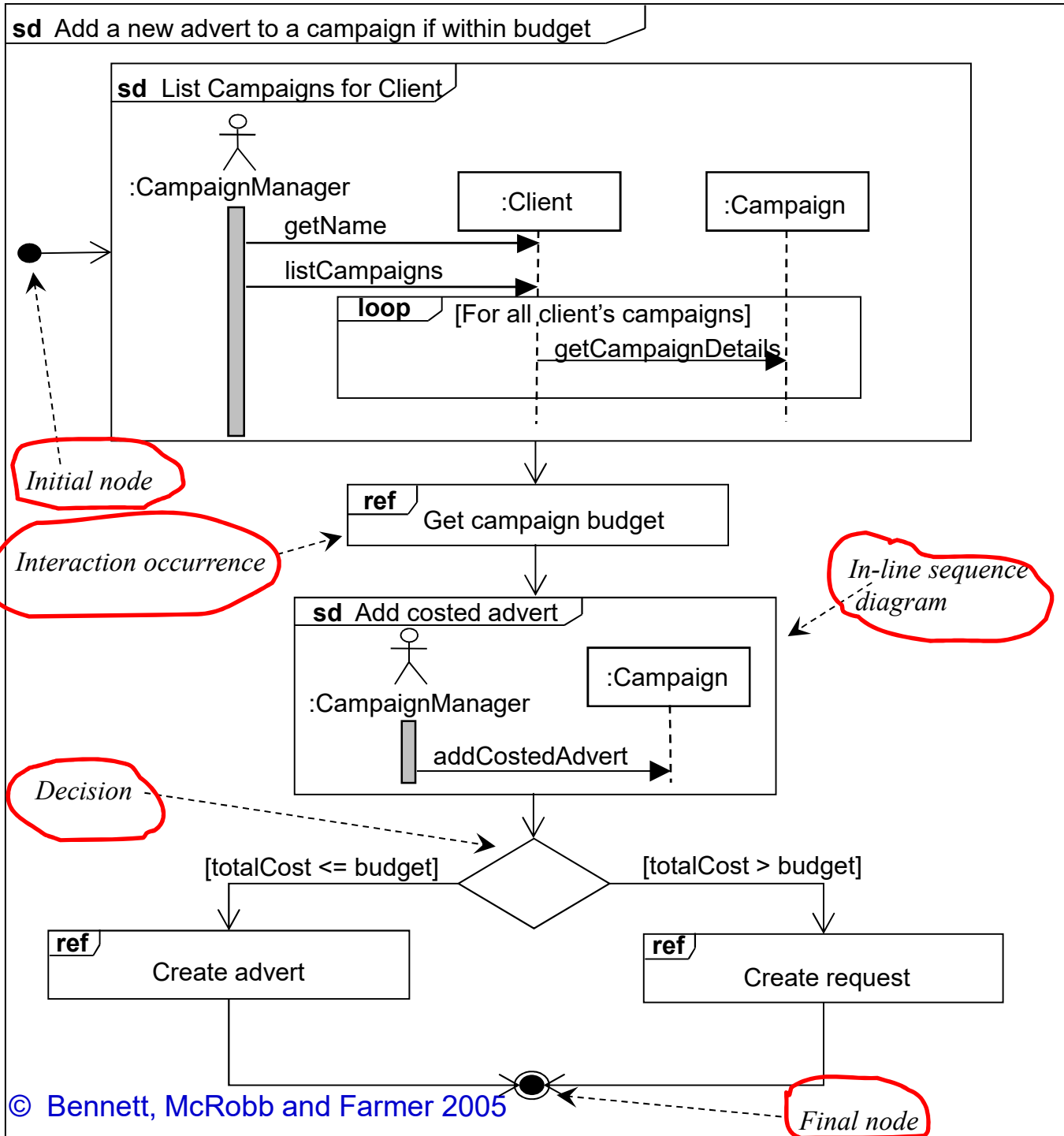
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Interaction Fragment Used



Interaction Fragment Used

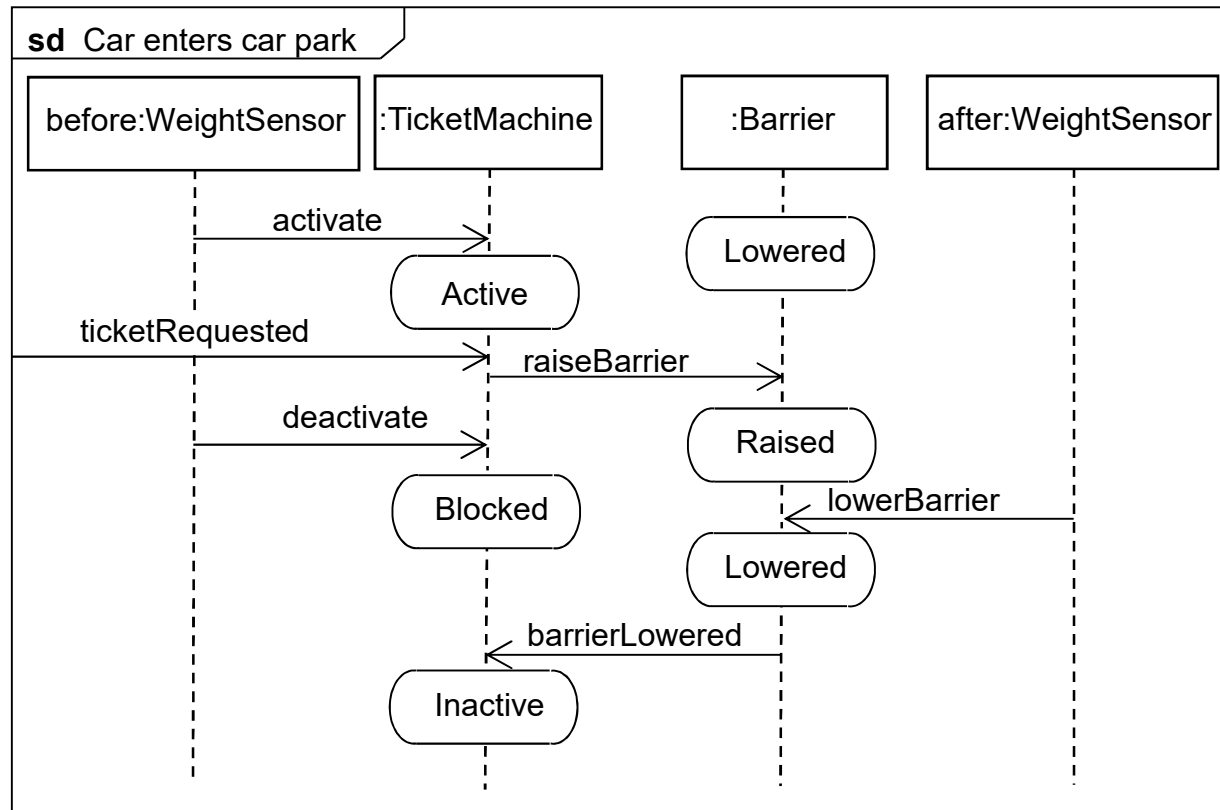




Timing Diagrams

- A new feature in UML 2.0
- Show how time constraints affect interactions between lifelines
- The sequence diagram `Car enters car park` is the basis for the subsequent timing diagram

Timing Diagrams

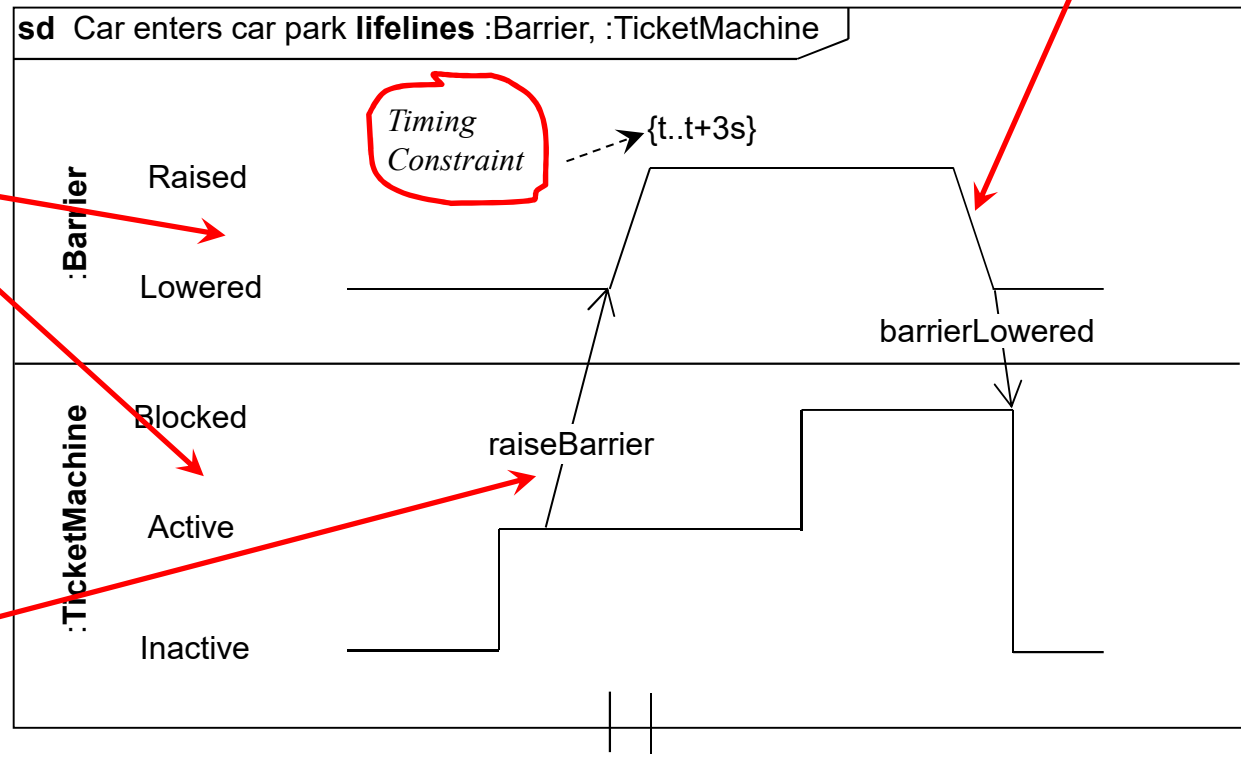


Timing Diagrams

Sloped line represents duration of state change

Diagram has two instances, one for each lifeline

Message from one lifeline to another



Model Consistency

- Timing diagrams must be consistent with the relevant sequence diagrams and state machines.

Summary

In this lecture you have learned about:

- how to model interactions using interaction overview diagrams;
- how to model interaction using an interaction sequence diagram;
- how to use timing diagrams.

References

- UML Reference Manual (OMG, 2009)
- Bennett, Skelton and Lunn (2005)

(For full bibliographic details, see Bennett, McRobb and Farmer)