The Steps of OOAD - Part 2

- define services
  - services per object
  - message passing between objects
  - coordination of message passing

--- Scenarios
--- complete Object Dictionary

Services in the Object Dictionary

- specification of a service is equivalent to the specification of a module, task, subroutine (with exception of message handling)
- use a type of process specification appropriate for your situation, e.g. PDL

OBJECT SPECIFICATION object-name
  STRUCTURES ...
  EXTERNAL INPUTS/OUTPUTS ...
  ATTRIBUTES ...
  STATE-DIAGRAM ...
  SERVICES ...
  END SPECIFICATION.

- Services use and/or manipulate structures, inputs/outputs attributes, and the state-transition-diagram.

Services are activated / triggered by

- an incoming message, addressed to object(object_id).service
- an external input
- a condition on
  - time & date
  - variable values
  - object states
Objects with States

- If an object, confronted with the same input (message, external input), behaves differently depending on what value a certain attribute has, it has state memory.
- Possible (= legal) transitions between states are modelled in a

  $\Rightarrow$ state transition diagram.
State Transition Diagrams in OOAD

- state: must relate to one or more attributes
- models a situation of the object expressed in terms of attribute values
- transition: models a state-change based on a change in attribute values

Execution of a State Transition Diagram in OOAD

- transitions are triggered by changing the value of involved attributes
  >>> transitions are executed by services
- the state transition diagram effectively models constraints on attribute values and possible sequences of execution

End of Section 11e

coming up: an example