

Object Oriented Analysis & Design

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Sequence Diagrams

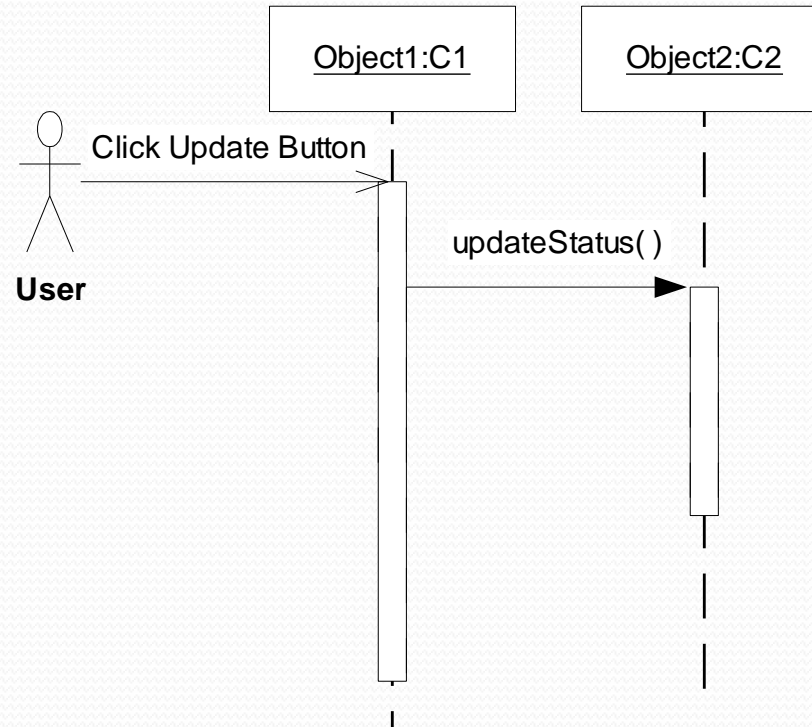
The Requirements Model, and
The Dynamic Analysis Model

Importance of Sequence Diagrams

- Depict object interactions in a given scenario identified for a given Use Case
- Specify the messages passed between objects using horizontal arrows including messages to/from external actors
- Time increases from Top to bottom

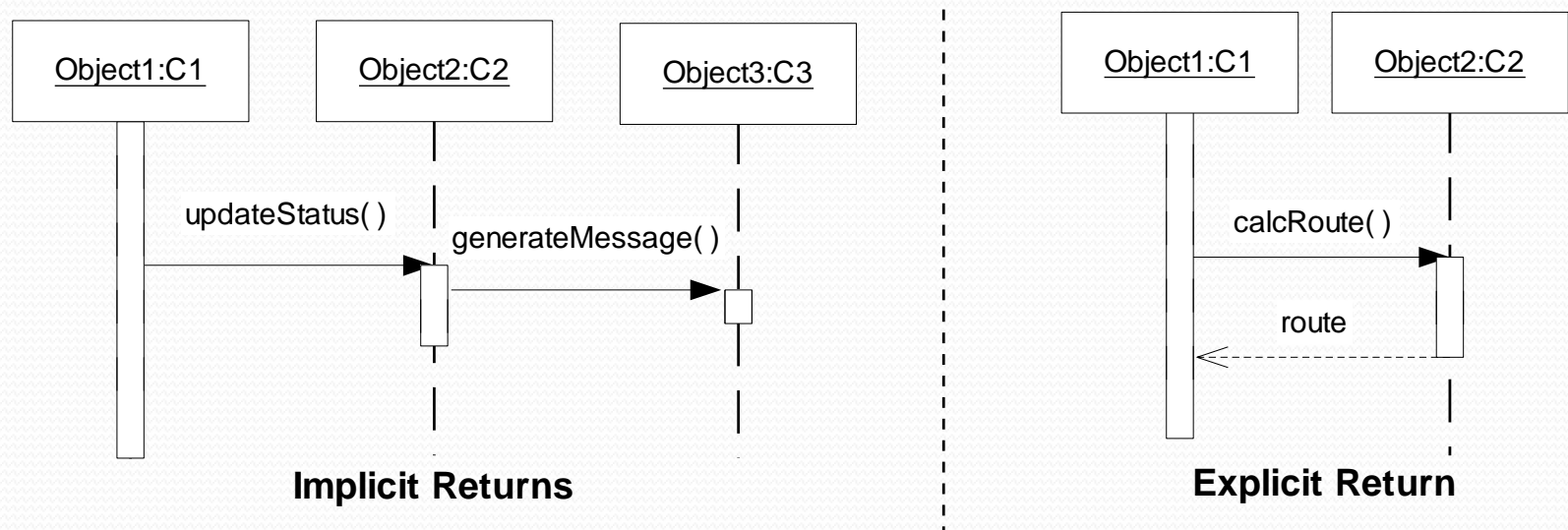
Rules of Sequence Diagrams

- Sequence Initiation



Rules of Sequence Diagrams

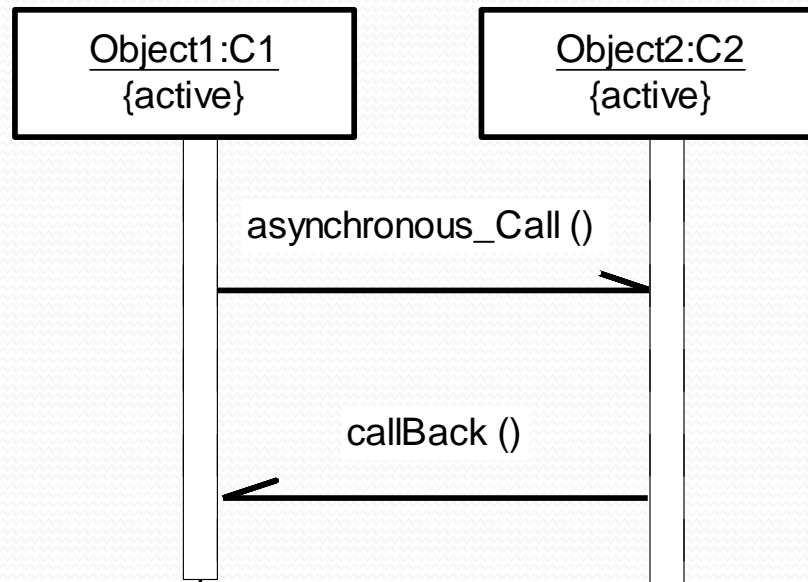
- Messages specified on interactions can be synchronous or asynchronous



Synchronous call

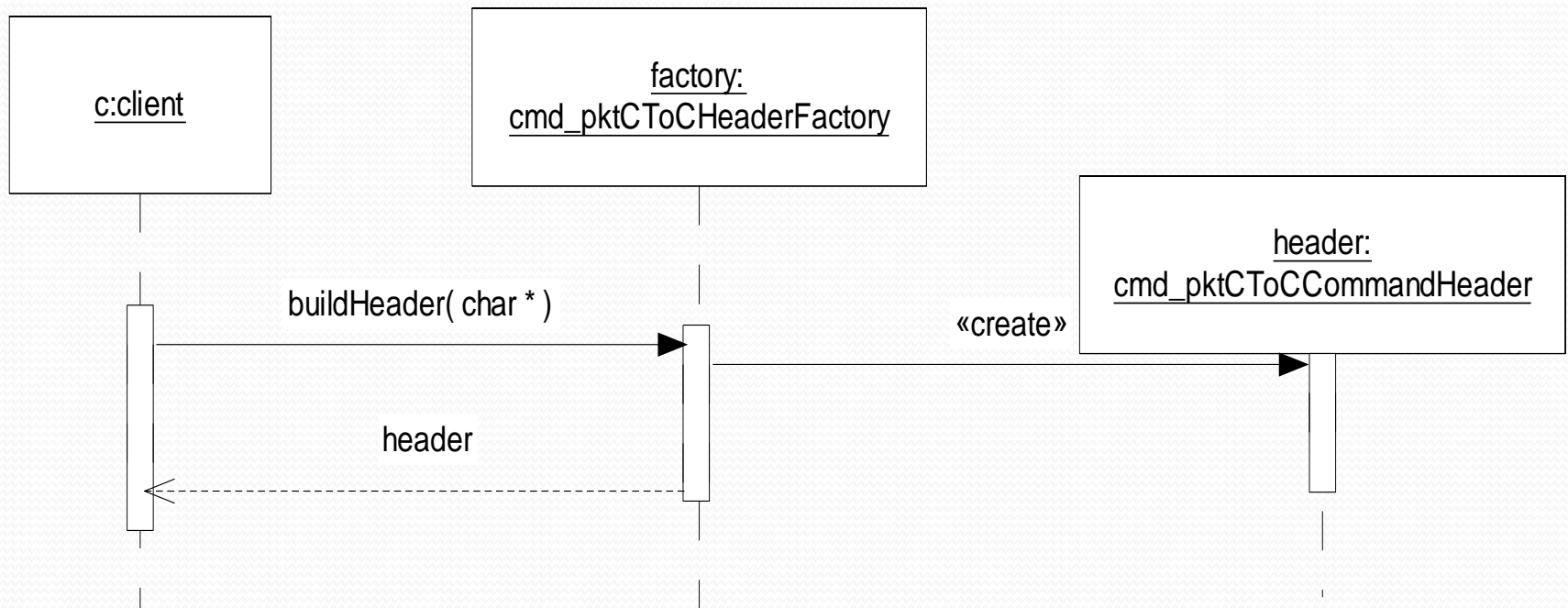
Rules of Sequence Diagrams

Asynchronous call



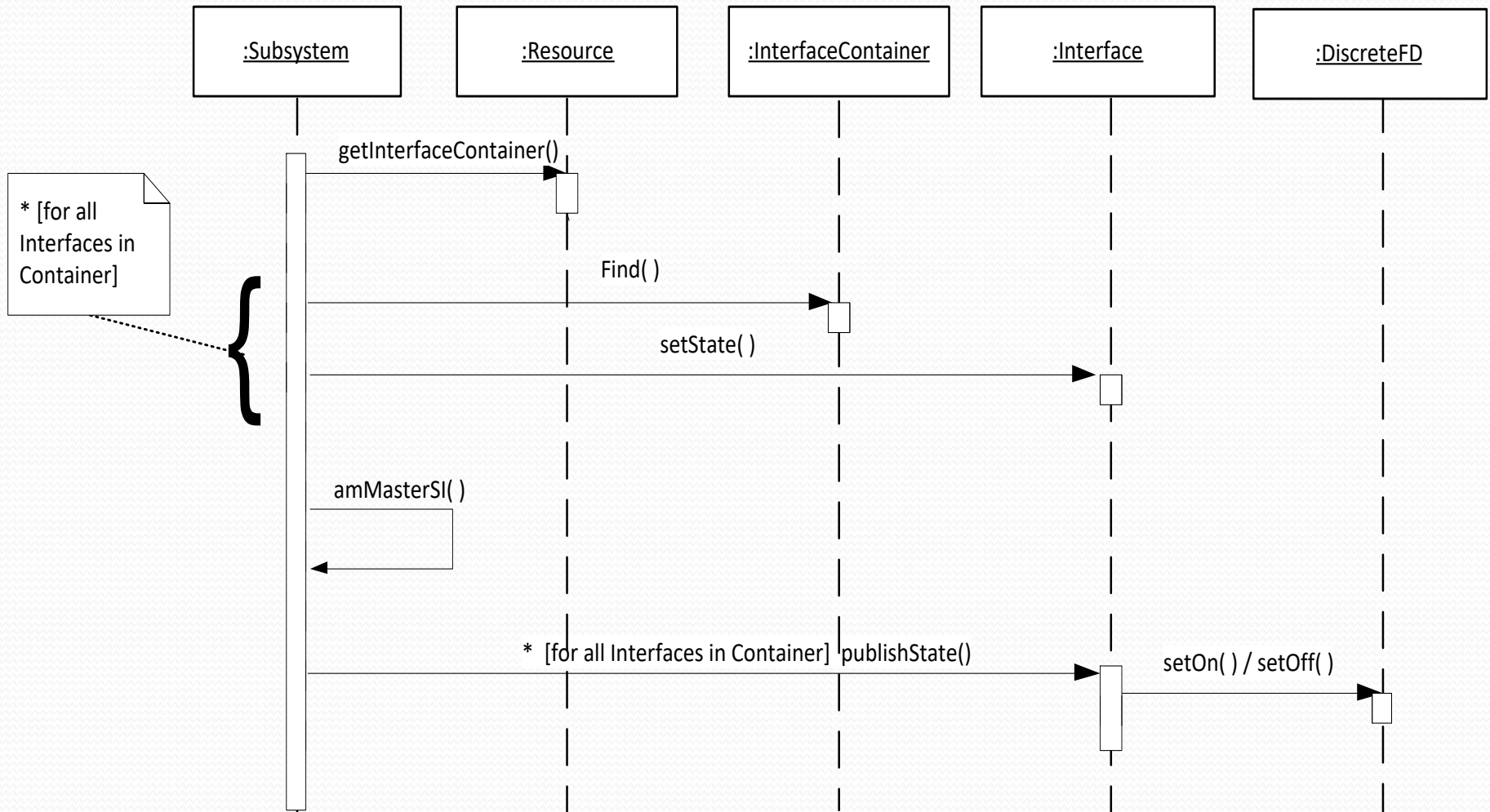
Rules of Sequence Diagrams

- Display operation names on call arrows

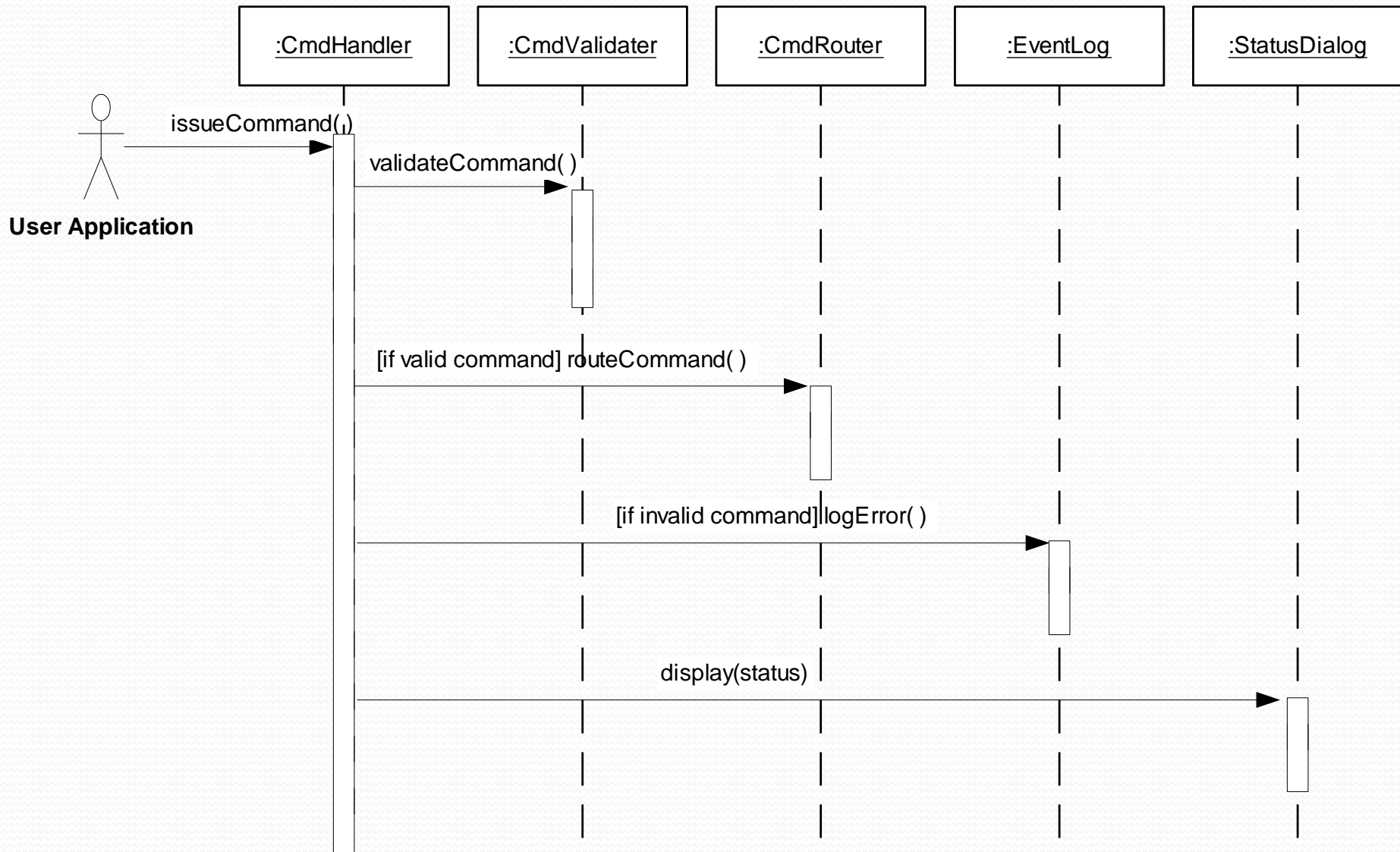


Rules of Sequence Diagrams

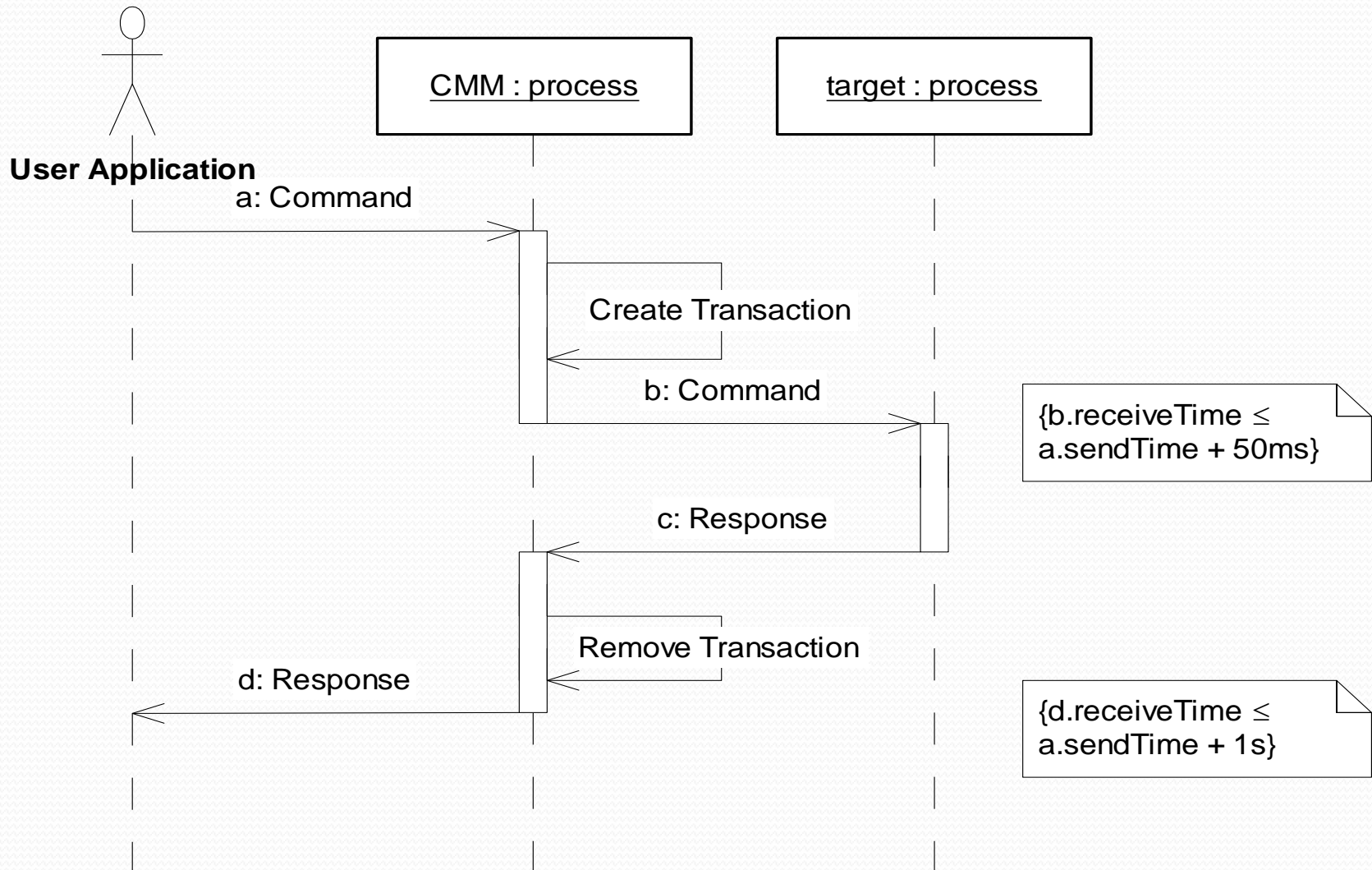
Compound and Simple Iteration



Showing alternate behavior in a sequence diagram



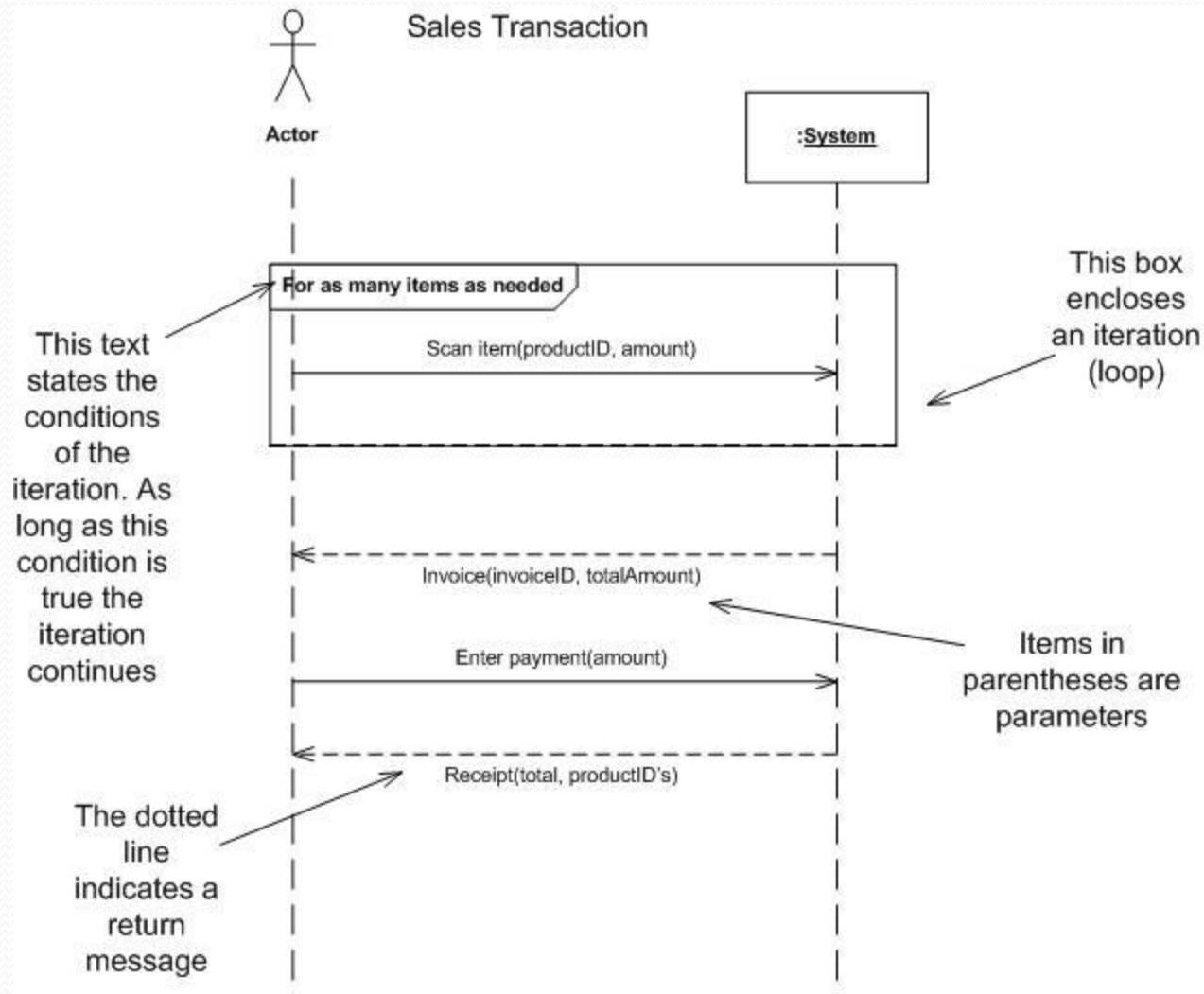
Specifying Timing Requirements



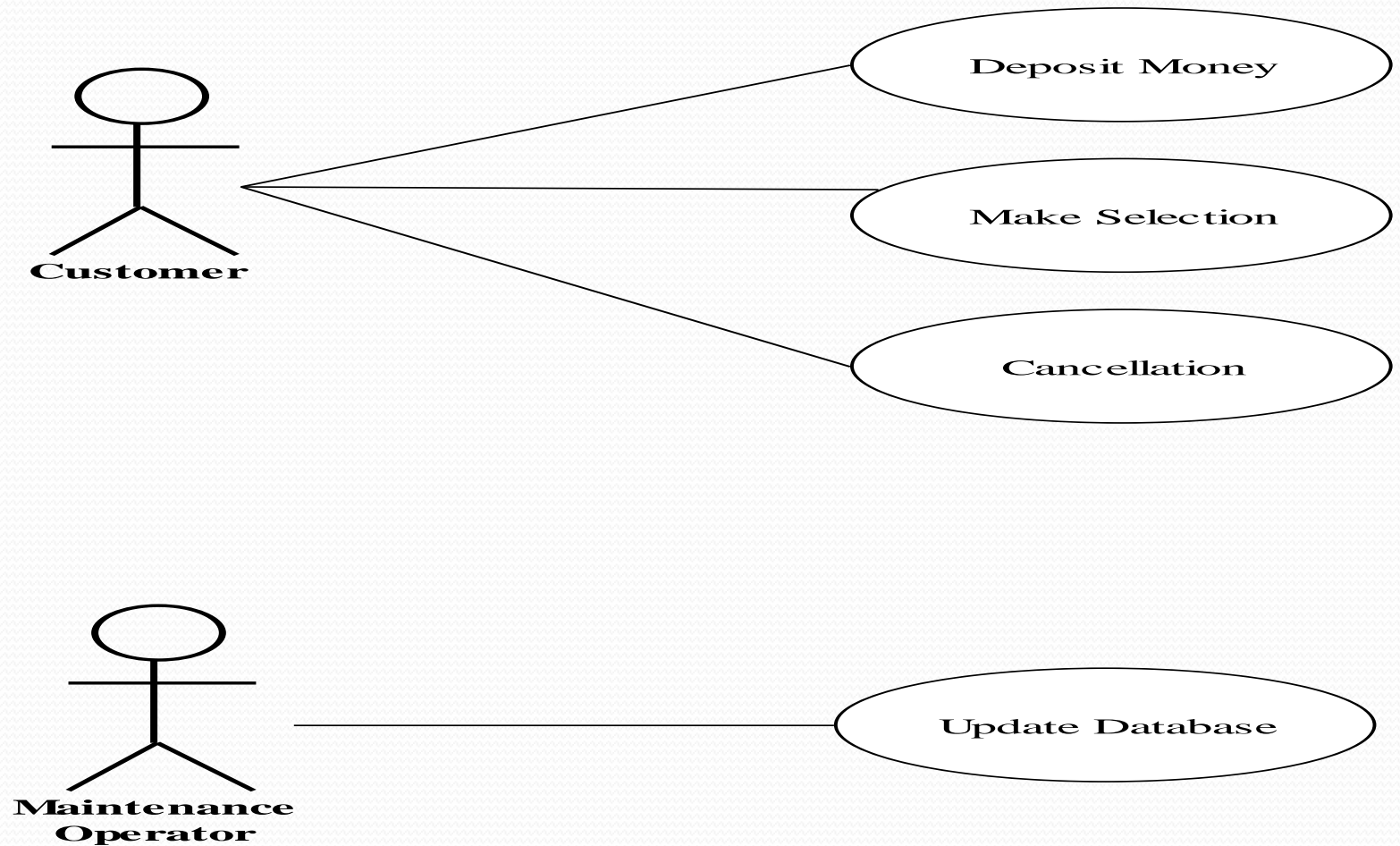
System Sequence Diagrams

- System sequence diagrams establish the dynamic behavior in terms of key scenarios of the system for each use case
- The system sequence diagram models a scenario of the system interactions with the environment for a given use case
- Input/output events are clearly identified in each sequence diagram,
- The State of the system before and after each event are also depicted
- Different diagrams model scenarios with the normal flow of events and the abnormal flow of events

System Sequence Diagram

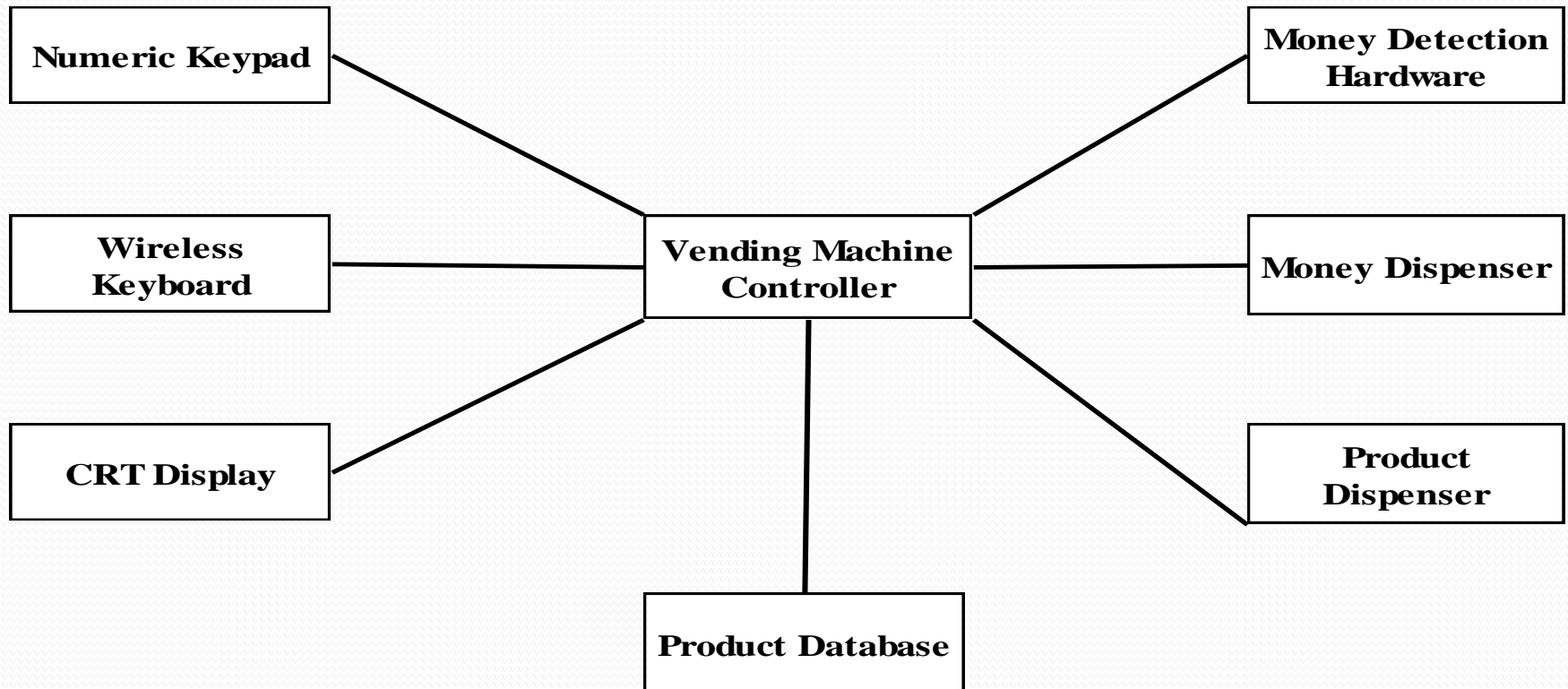


Example: Use Case Diagram of the Vending Machine

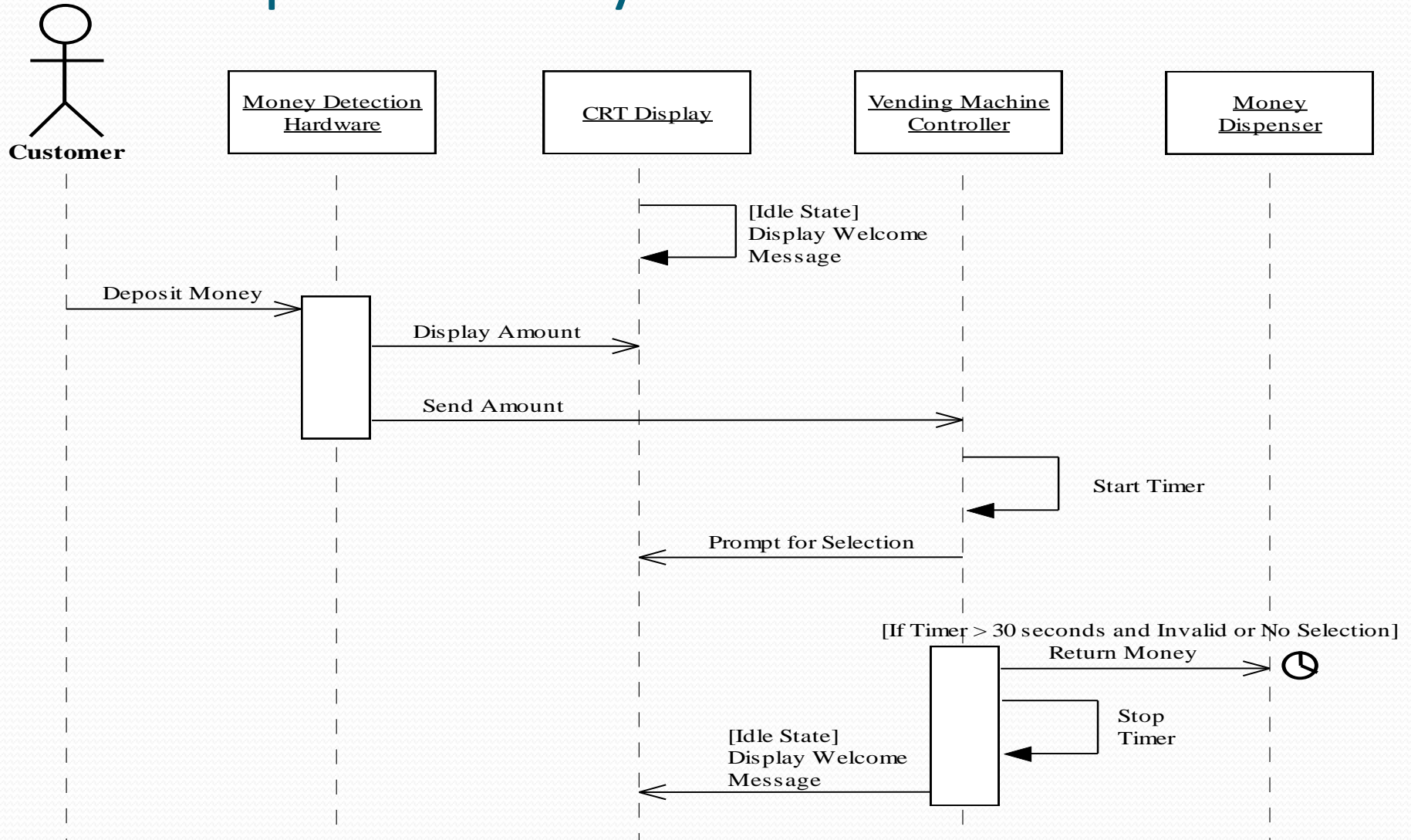


Requirements Elicitation Process

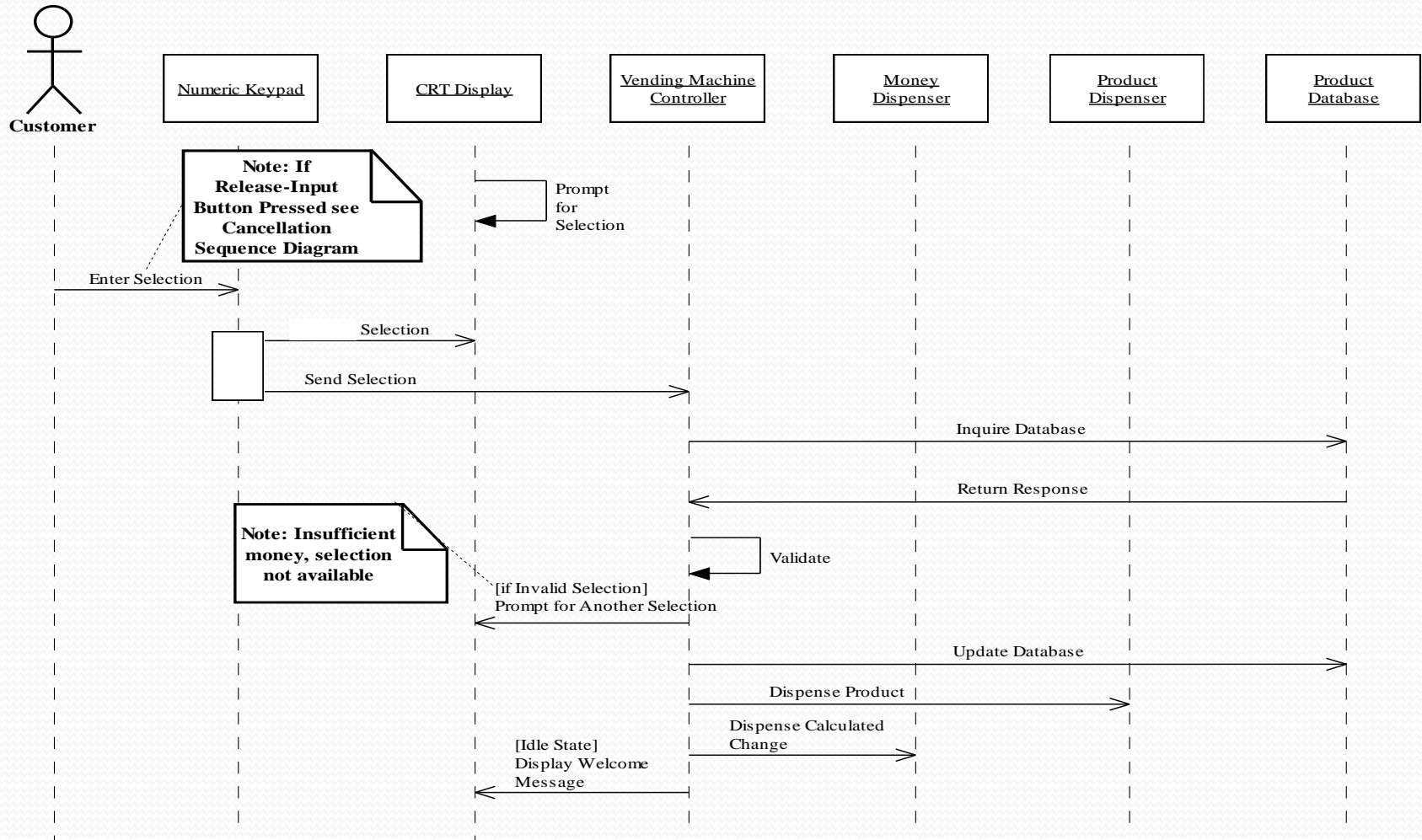
Identify Initial Analysis Objects- The Initial Object-Model



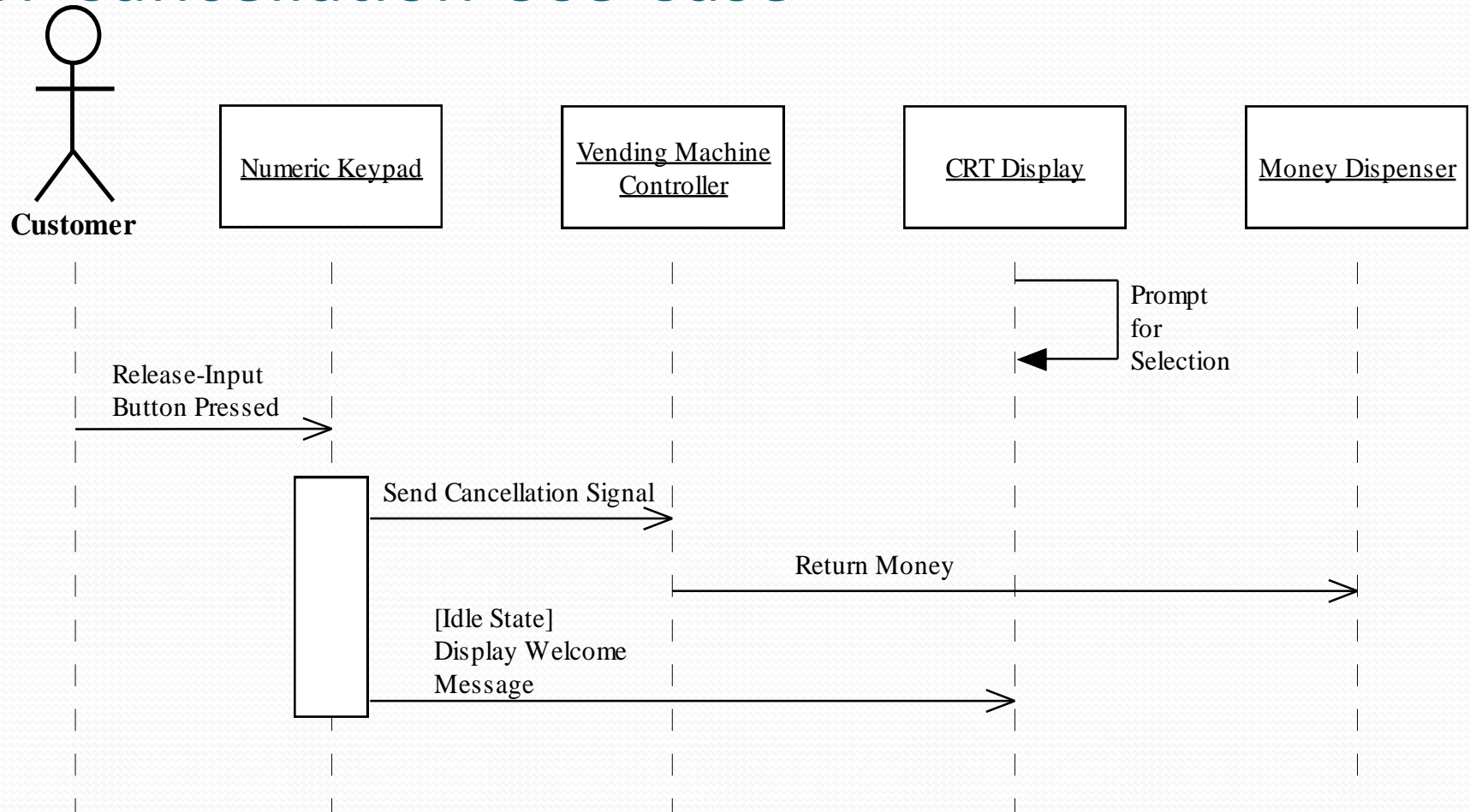
Sequence Diagram for Deposit Money Use Case



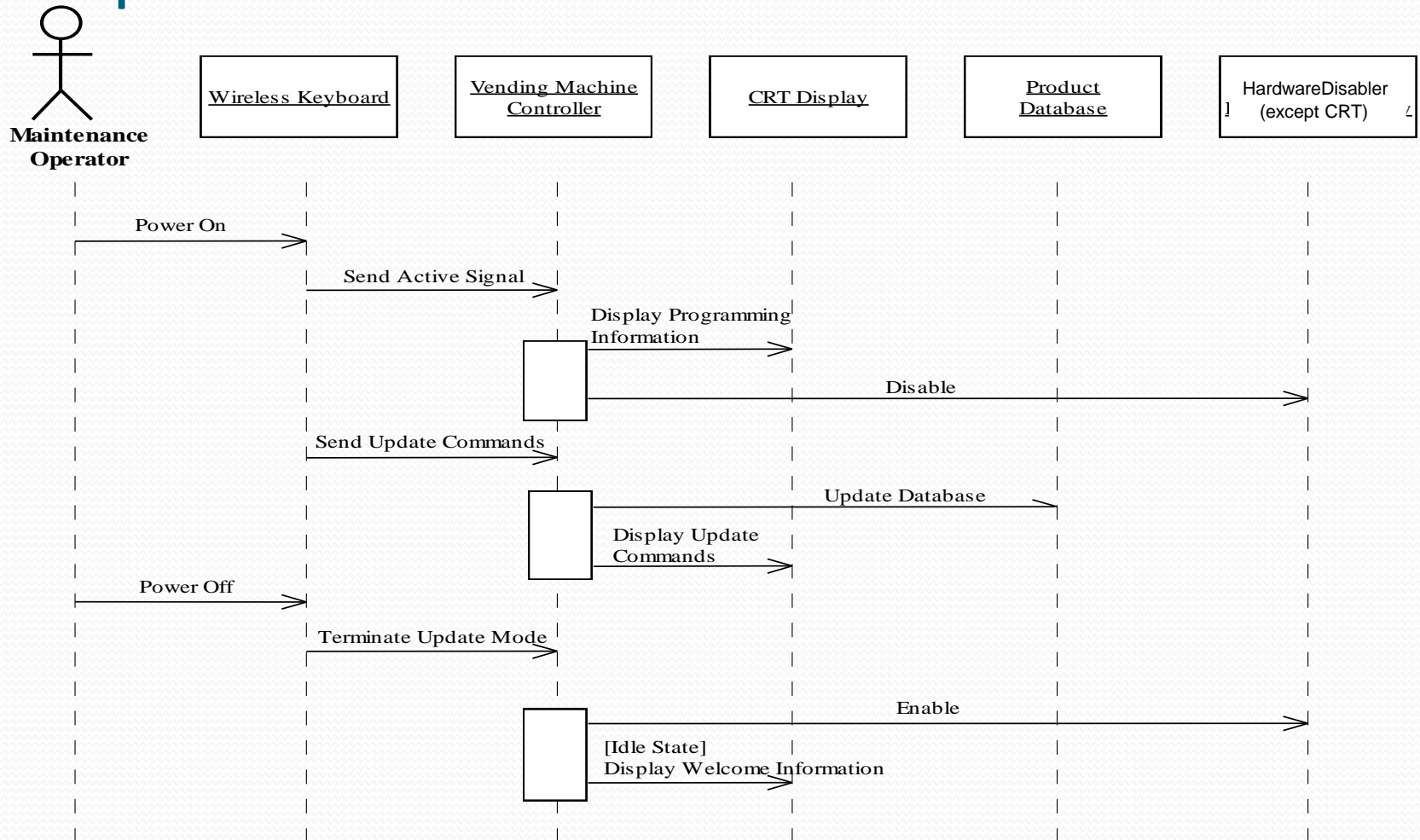
Sequence Diagram for Make Selection Use Case



Sequence Diagram for Cancellation Use Case



Sequence Diagram for Update Database Use Case



Other Examples of Sequence Diagrams

