Engenharia de Software

Modelos de Interacção

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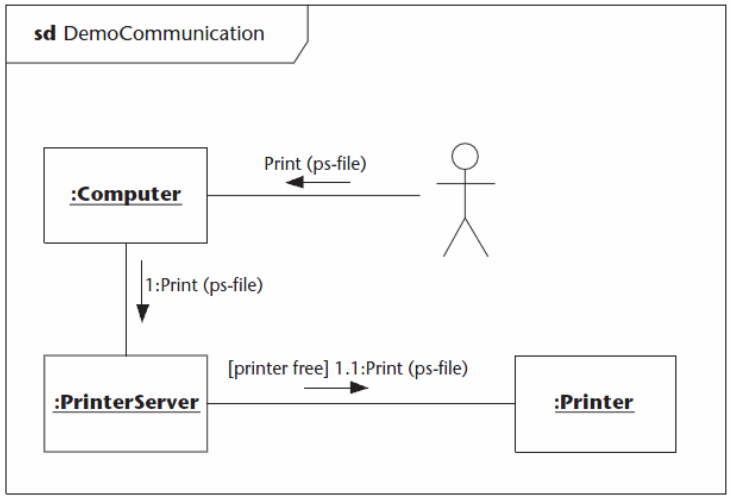
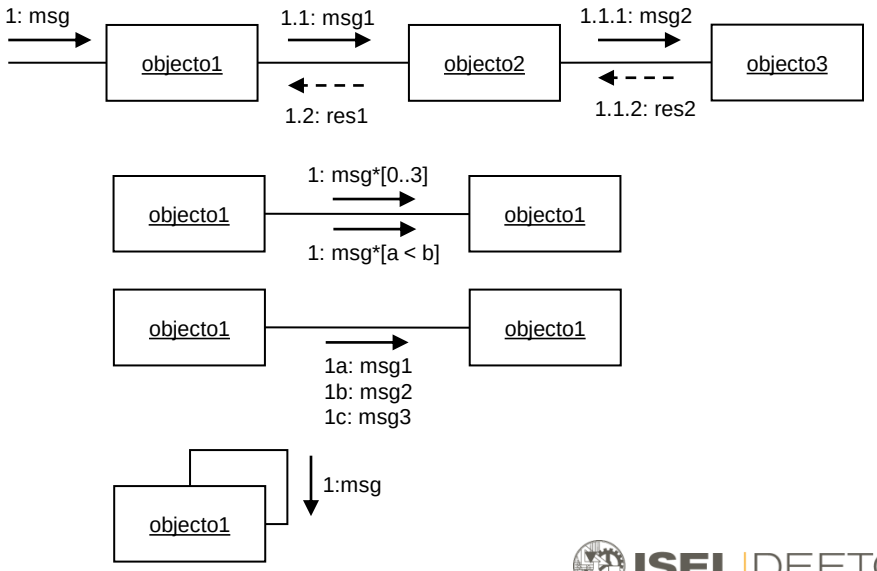
Diagramas de Comunicação

- Representação de interacção
  - Descrevem a comunicação entre partes do sistema e/ou com o exterior
  - Ênfase nas ligações entre partes (estrutura)
  - Semanticamente equivalentes aos diagramas de sequência
  - São uma extensão dos diagramas de objectos



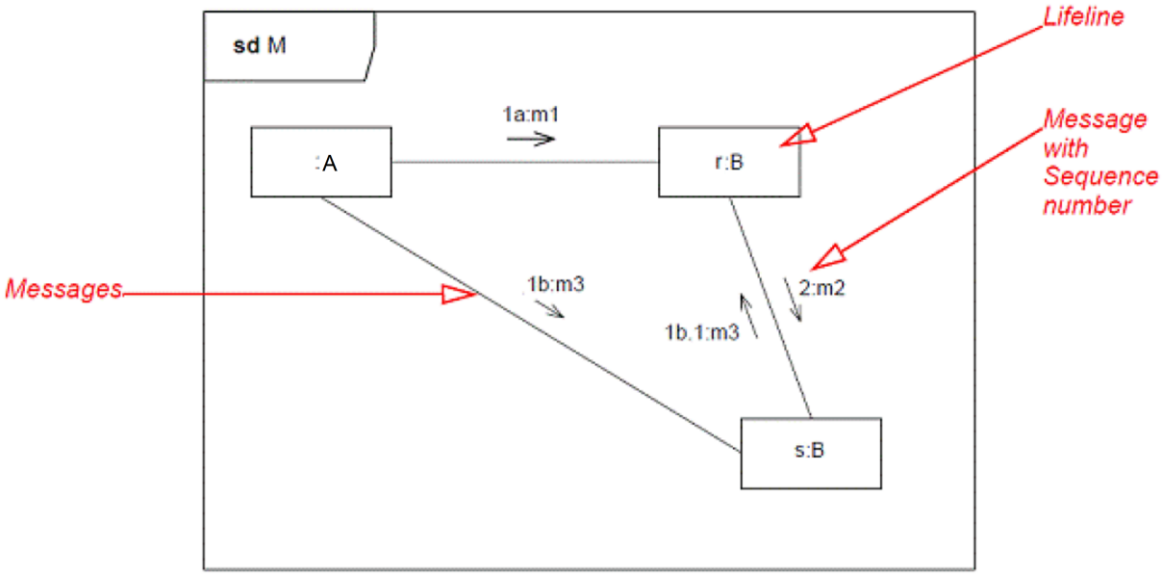
[Eriksson et al., 2004]

- Notação das mensagens
  - Mensagens encadeadas
  - Mensagens iterativas
  - Mensagens paralelas
  - Mensagens próprias

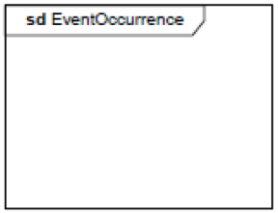


Diagramas de Comunicação

Representação de interacção com ênfase nas relações de comunicação entre as partes

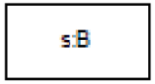


[OMG, 2020]

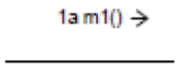


act (for activity frames)
cmp (for component frames)
dep (for deployment frames)
sd (for interaction frames)
pkg (for package frames)
stm (for state machine frames)
uc (for use case frames)

Moldura (*frame*)



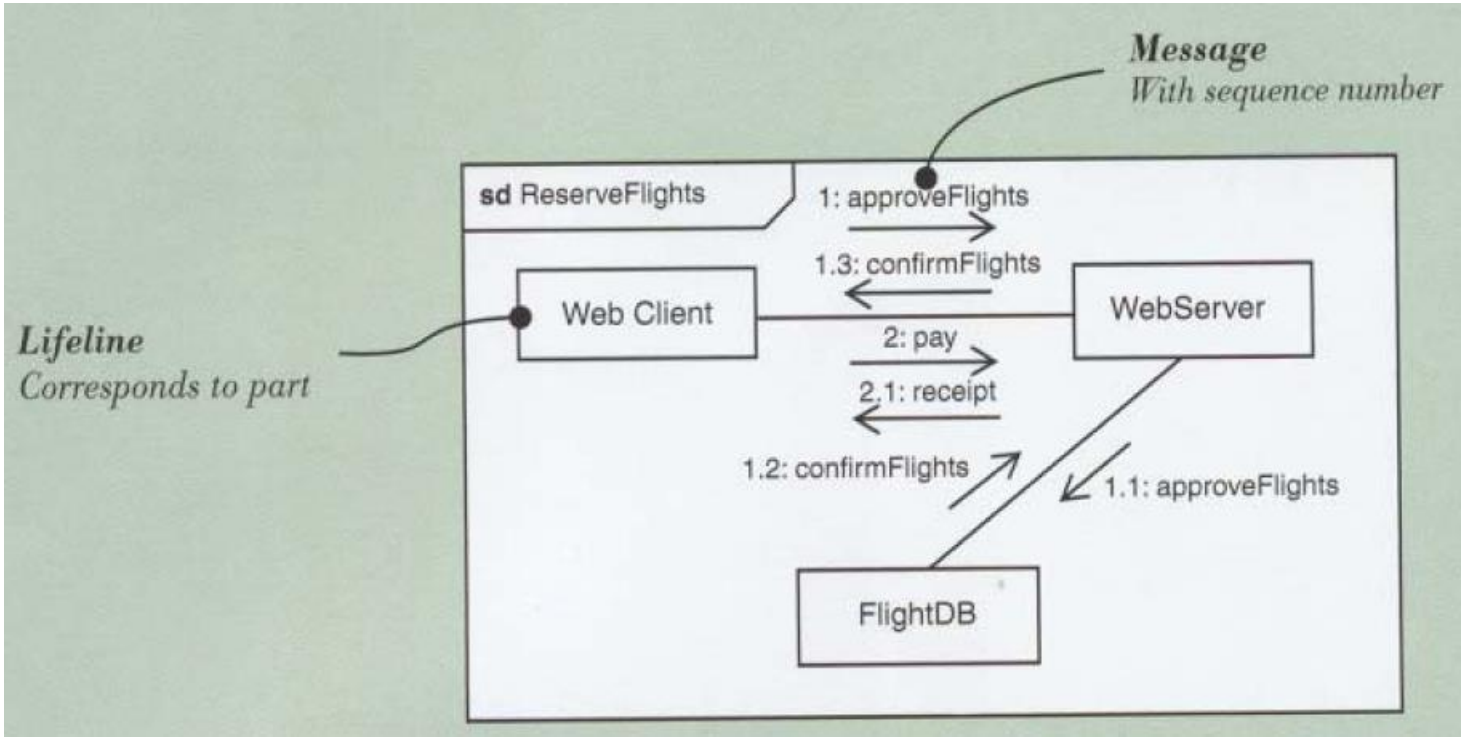
Parte (*lifeline*)



Mensagem

Canal

Diagramas de Comunicação

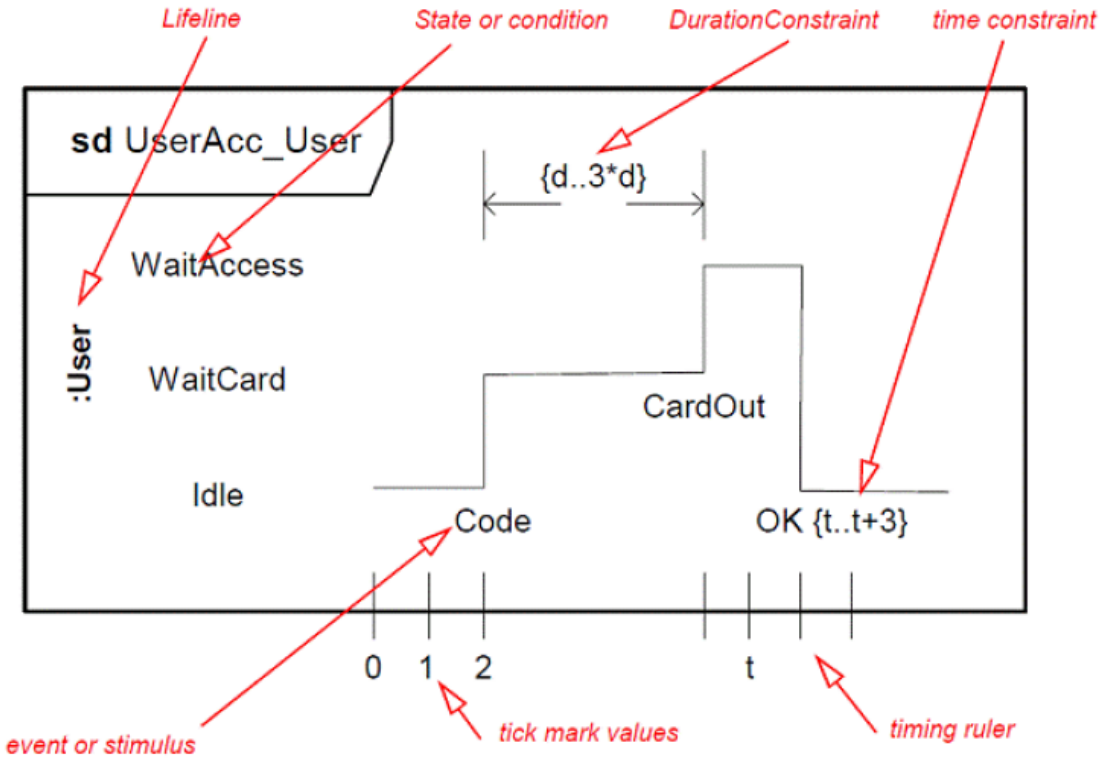


Communication Diagrams show communications in a system, emphasizing the structure and communication paths. [**UML 2.0**]

Diagramas Temporais

Representação de restrições temporais de interacções

- Restrições associadas a objectos

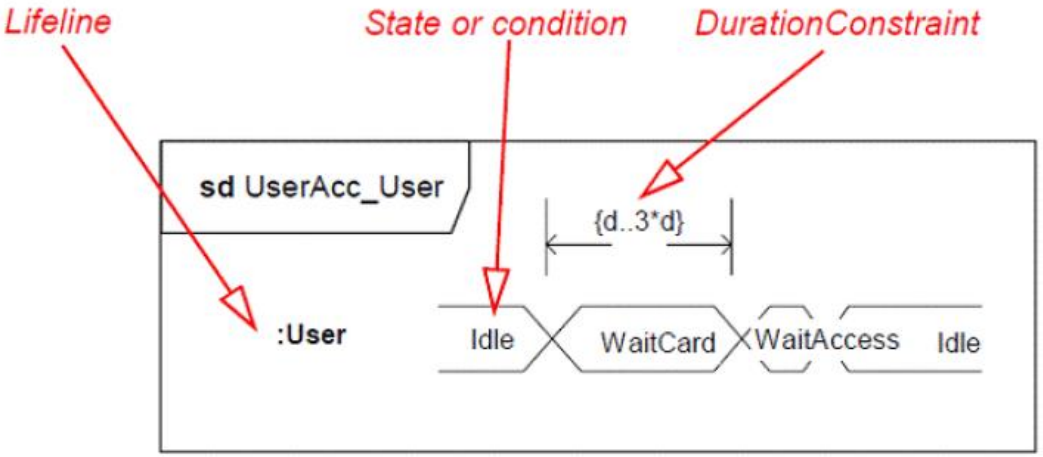


[OMG, 2020]

Diagramas Temporais

Representação de restrições temporais de interacções

- Restrições associadas a evolução de estado

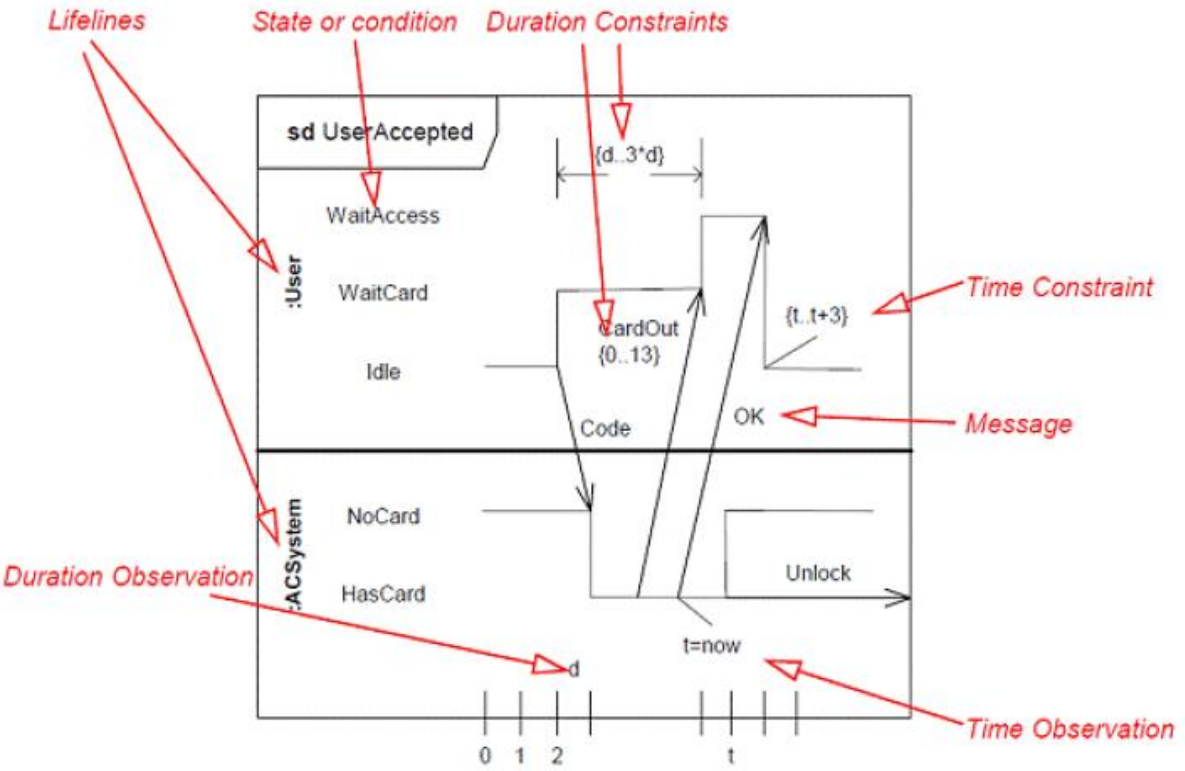


[OMG, 2020]

Diagramas Temporais

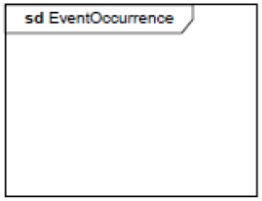
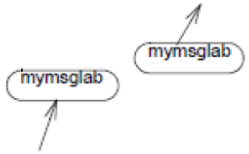
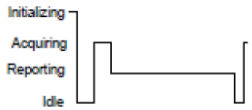
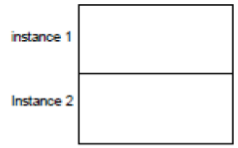
Representação de restrições temporais de interacções

- Restrições associadas a múltiplos objectos



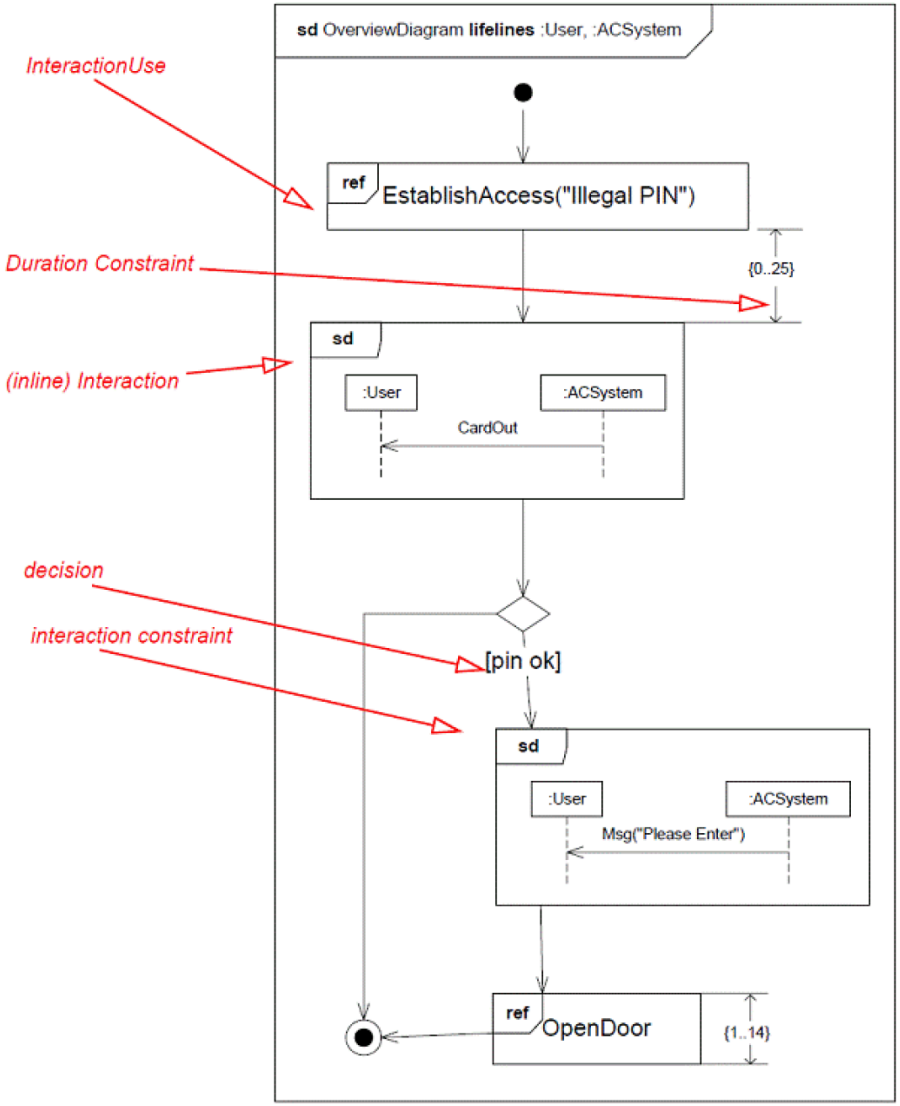
[OMG, 2020]

Diagramas Temporais

Node Type	Notation	Reference
Frame (for Interaction)		The notation shows a rectangular frame around the diagram with a name in a compartment in the upper left corner. See 17.2.4 (Interaction)
Message		Messages come in different variants depending on what kind of Message they convey. Here we show an asynchronous message, a call and a reply. See 17.4.4 (Message)
MessageLabel		Labels are only notational shorthands used to prevent cluttering of the diagrams with a number of messages crisscrossing the diagram between Lifelines that are far apart. The labels denote that a Message may be disrupted by introducing labels with the same name.
State or condition timeline		This is the state of the classifier or attribute, or some testable condition, such as a discrete enumerable value. See also 17.2.4 (StateInvariant). It is also permissible to let the state-dimension be continuous as well as discrete. This is illustrative for scenarios where certain entities undergo continuous state changes, such as temperature or density.
General value lifeline		Shows the value of the connectable element as a function of time. Value is explicitly denoted as text. Crossing reflects the event where the value changed.
Lifeline		See 17.3.4 (Lifeline)

[OMG, 2020]

Diagramas de Enquadramento de Interacção

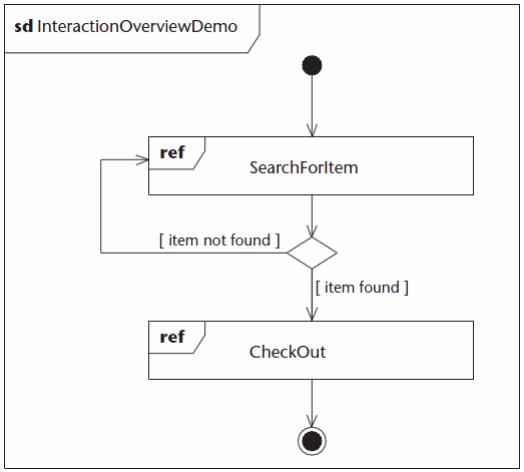


Perspectiva geral de interacções

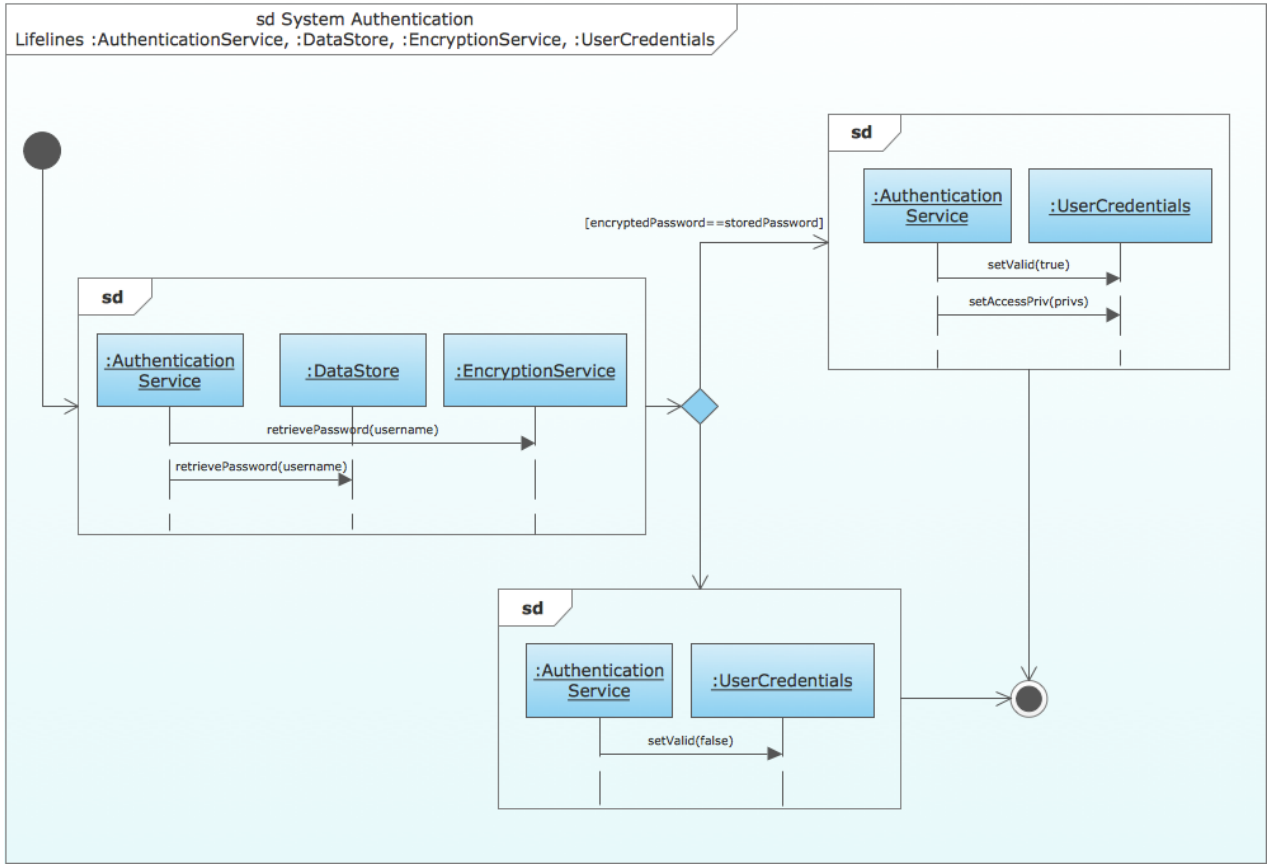
[OMG, 2020]

Diagramas de Enquadramento de Interacção

- Representação do contexto de conjuntos de interacções
  - Descrevem encadeamentos de interacção num nível macro
  - Notação idêntica a diagramas de actividade

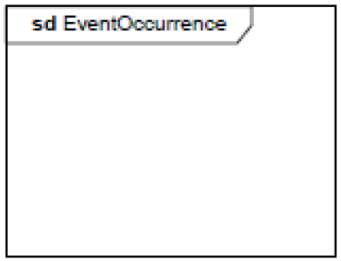
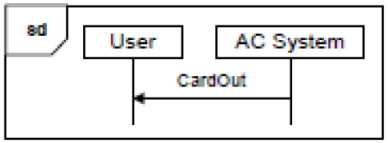
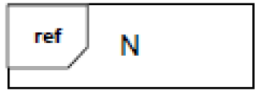


[Eriksson et al., 2004]



[conceptdraw.com]

Diagramas de Enquadramento de Interacção

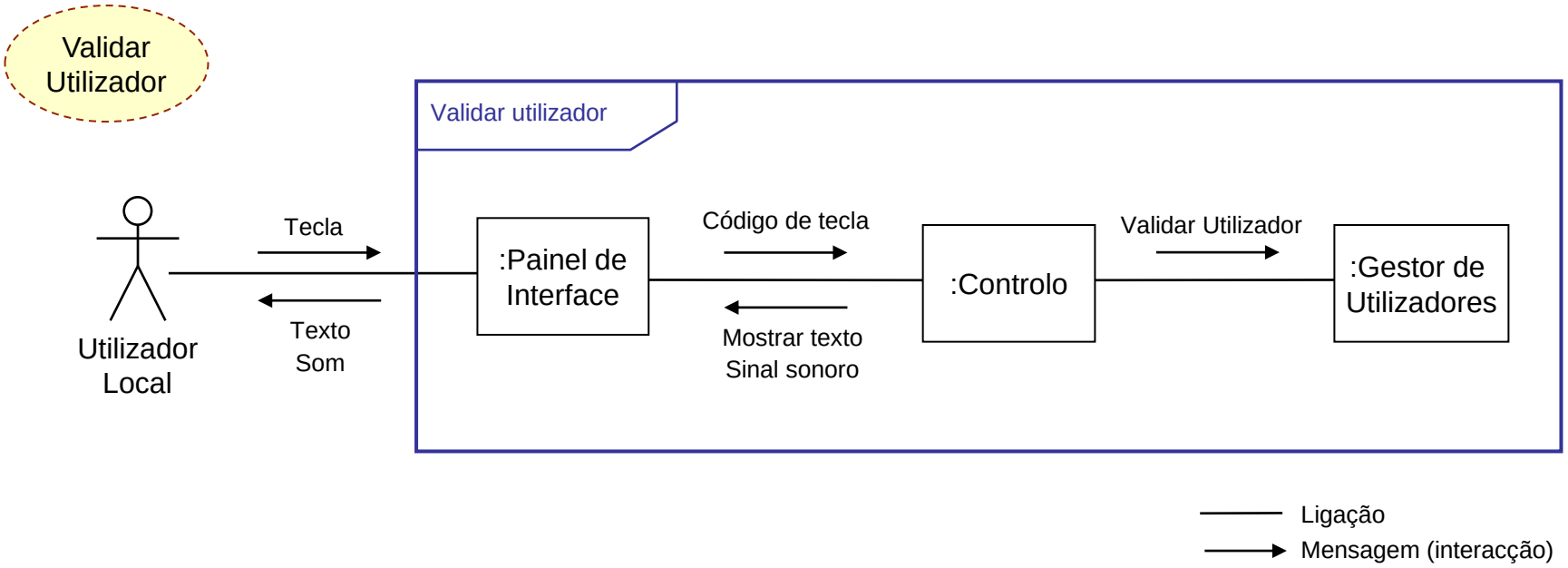
Node Type	Notation	Reference
Frame (for Interaction)		The notation shows a rectangular frame around the diagram with a name in a compartment in the upper left corner. See 17.2.4 (Interaction)
Interaction		An Interaction diagram of any kind may appear inline as an ActivityInvocation. See 17.2.4 (Interaction). The inline Interaction diagrams may be either anonymous (as here) or named.
InteractionUse		ActivityInvocation in the form of InteractionUse. See 17.7.4 (InteractionUse). The tools may choose to “explode” the view of an InteractionUse into an inline Interaction with the name of the Interaction referred by the occurrence. The inline Interaction will then replace the occurrence by a replica of the definition Interaction where arguments have replaced parameters.

[OMG, 2020]

Representação complementada com notação de diagramas de actividade

Transição Interacção - Estrutura

Exemplo: Sistema *VigiSegur*



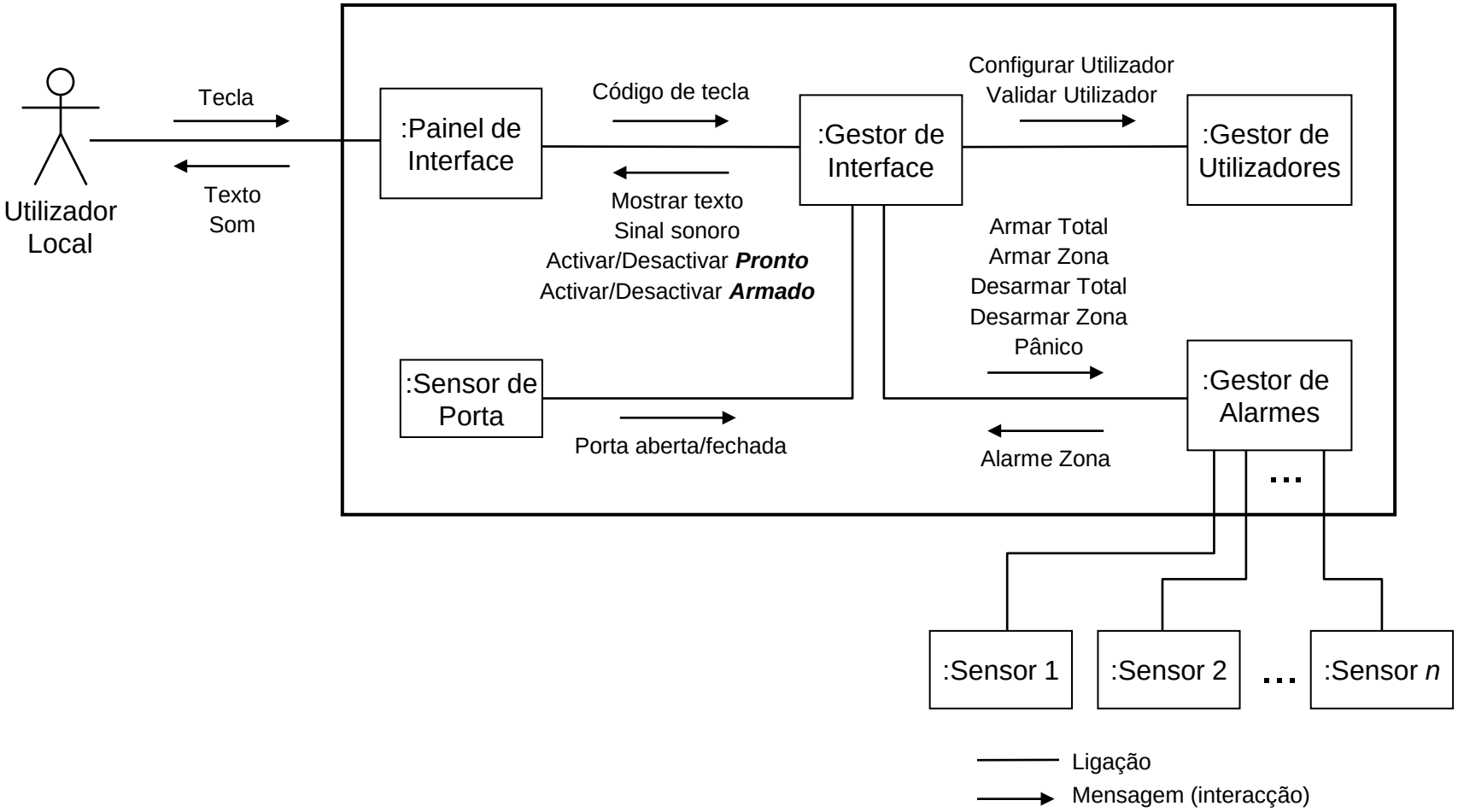
Organização do sistema:

- ***Que partes constituem o sistema***
- ***Como interagem as partes***

→ Diagramas de Comunicação

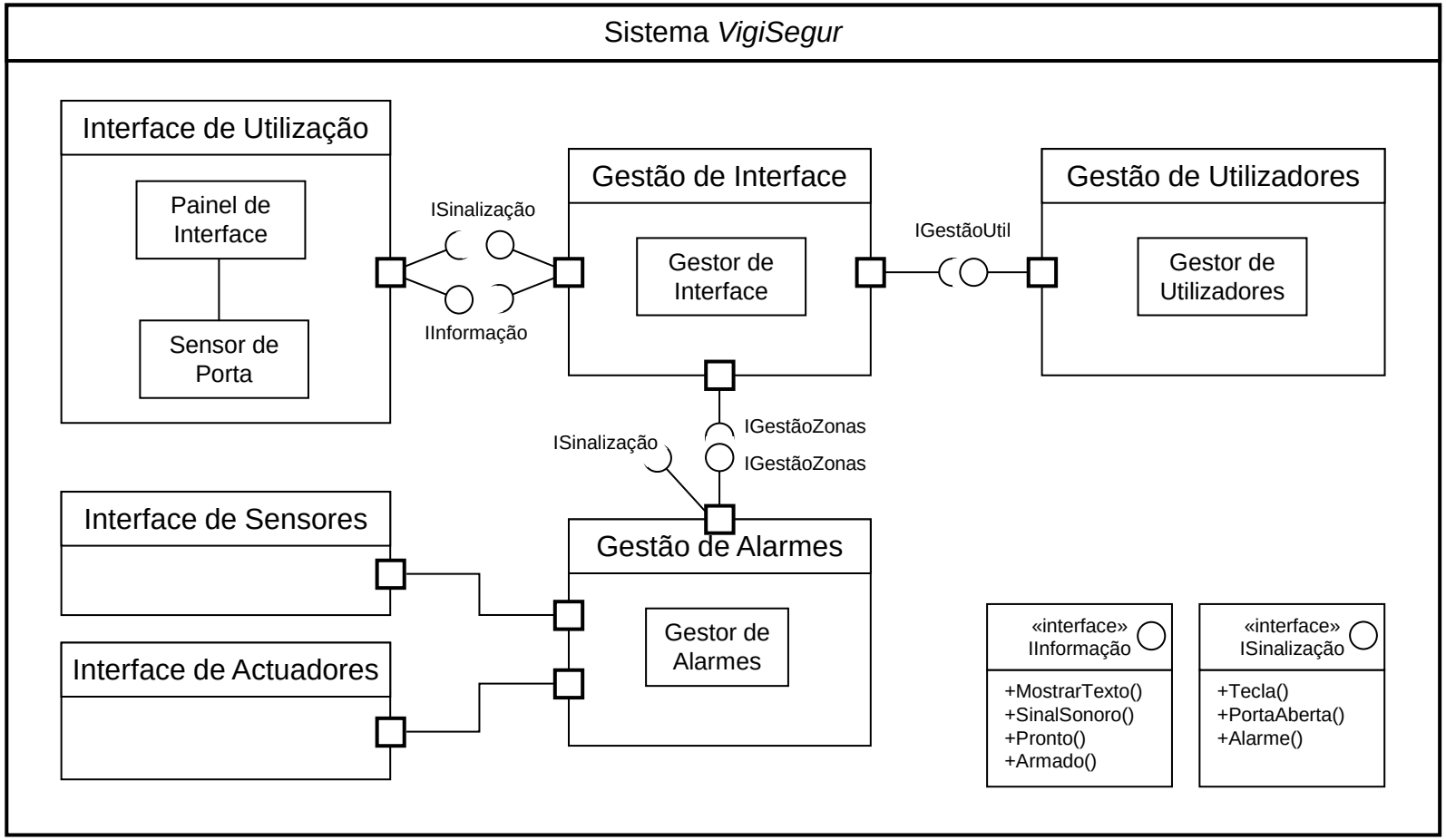
Transição Interacção - Estrutura

Exemplo: Sistema *VigiSegur*

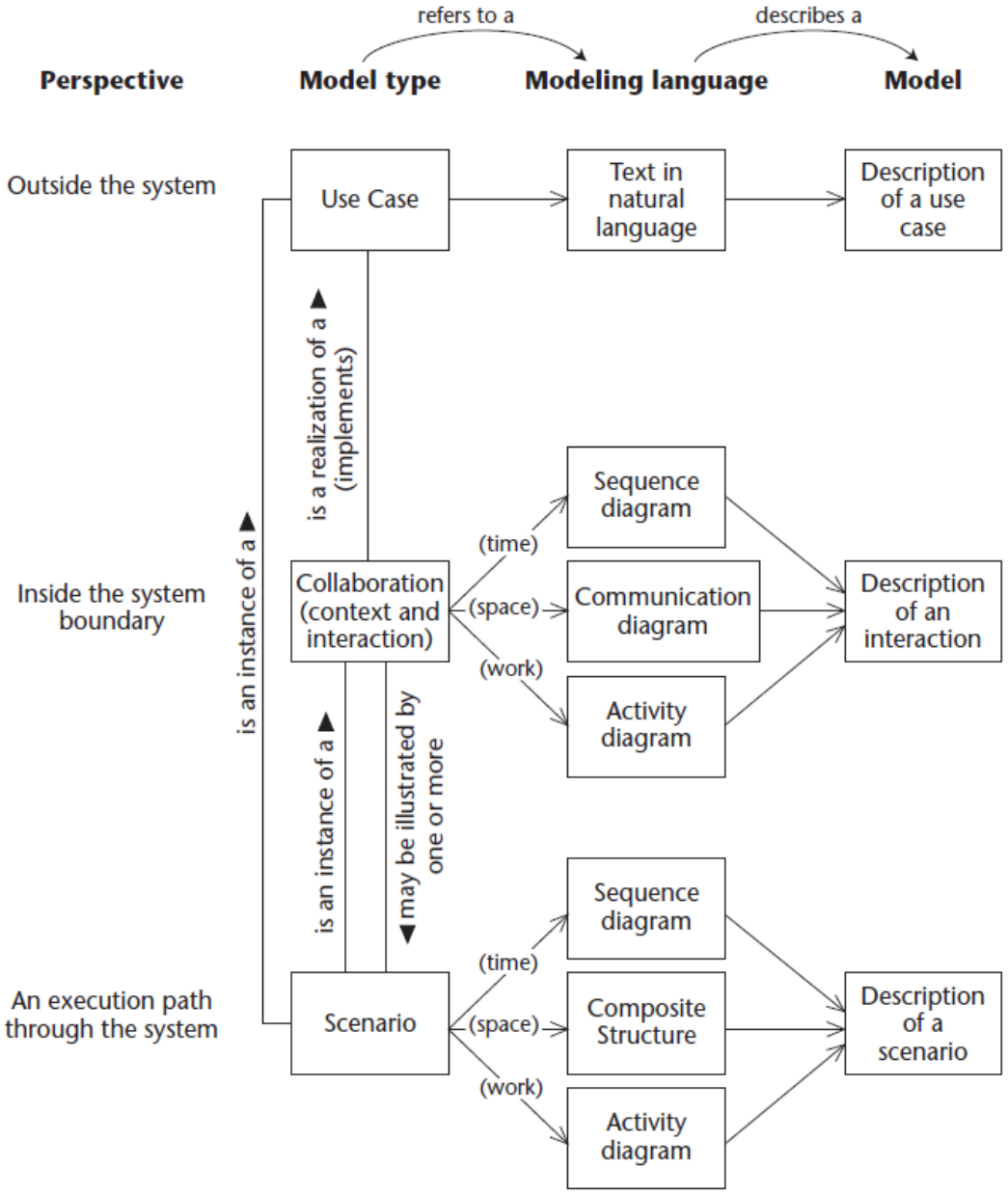


Transição Interacção - Estrutura

Exemplo: Sistema *VigiSegur*



Suporte à Transição Análise - Projecto



[Eriksson et al., 2004]

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