

Collaboration Pattern Language Specification

ID	Name	Intent
Collaborative Session		
CSL	Collaborative Session Location	To represent the site where the collaborative session happens.
LT	Location Type	To represent the type of site where the collaborative session happens.
Collaborative Agreement and Collaborative Agreement Description		
CA	Collaborative Agreement	To represent the collaborative agreement that rules the collaborative session.
CAD	Collaborative Agreement Description	To represent the collaborative agreement description that describes the collaborative agreement.
CSAD	Collaborative Session Agreement Description	To represent the collaborative agreement description used in the collaborative session.
CAC	Collaborative Agreement Composition	To represent a collaborative agreement mereological decomposition.
Action Contributions		
CSA	Collaborative Session Actions	To represent the actions that compose the collaborative session.
ACPPS	Action Contribution Pre and Post Situations	To represent the pre and post situation (state) related to an action contribution.
ACD	Action Contribution Dependence	To represent the dependence between two action contributions.
AC	Action Composition	To represent an action's mereological decomposition.
ACPD	Action Contribution Plan Description	To represent the plan description used to describe the action contribution.

Commitments and Goals		
CCAC	Collaborative Commitment for Action Contribution	To represent the collaborative commitment that causes the action contribution.
CCIC	Collaborative Commitments Inhere in a Collaborator	To represent the collaborative commitments that inhere in a collaborator.
GPCCC	Goal as the Propositional Content of Collaborative Commitment	To represent the goal that is the propositional content of a collaborative commitment.
GC	Goal Conflict	To represent the conflict between two goals.
GD	Goal Dependence	To represent the dependence between two goals.
Collaborators and Roles		
CSCo	Collaborative Session Collaborator	To represent the collaborators that participate in the collaborative session.
CoC	Collaborator Composition	To represent the collaborators mereological composition (as a group, subgroup and their members)
HRO	Human Resource in Organizations	To represent the membership of human resources to organizations
CRD	Collaborative Role Definition	To represent the collaborative roles that participate in a collaborative session, which are defined by a collaborative agreement kind.
CRDS	Collaborative Role Definition Simple	To represent the collaborative roles that participate in a collaborative session.
CoPCR	Colaborator Plays Collaborative Role	To represent the collaborative roles instantiated by the collaborators that participate in the collaborative session.
Resources		
CSR	Collaborative Session Resources	To represent the resources that participate in the collaborative session (with the resource

		participation event).
CSRS	Collaborative Session Resources Simple	To represent the resources that participate in the collaborative session.
RC	Resource Composition	To represent the resource's mereological parts.
RN	Resource Nature	To represent resource types in terms of shareability.
Communication		
CIP	Communication Interaction	To represent in detail an interaction pattern connecting a sender and a receiver.
CIPS	Communication Interaction Simple	To represent an interaction pattern connecting a sender and a receiver.
IL	Idiomatic Language	To represent the idiomatic language codifying the message.

Collaborative Session Patterns

CSL – Collaborative Session Location

Name: Collaborative Session Location (CSL)

Alternative Patterns: --

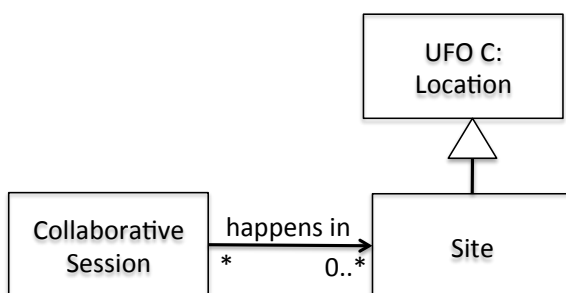
Intent: To represent the site where the collaborative session happens.

Rationale: A Collaborative Session happens in a specific site, which is a location. This pattern makes this site explicit.

Competency Questions:

- Where is the collaborative session?

Conceptual Model



LT - Location Type

Name: Location Type

Alternative Patterns: --

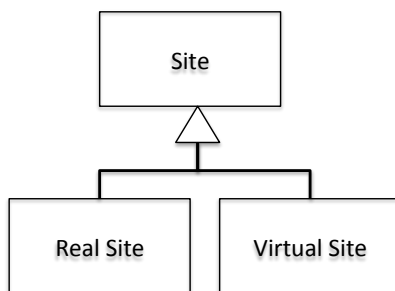
Intent: To represent the type of site where the collaborative session happens.

Rationale: The site where the collaborative session happens can be a real site or a virtual site.

Competency Questions:

- Is the collaborative session site real or virtual?

Conceptual Model



Agreement and Agreement Description Patterns

CA - Collaborative Agreement

Name: Collaborative Agreement

Alternative Patterns: --

Intent: To represent the collaborative agreement that rules the collaborative session.

Rationale: A collaborative session is ruled by a social relator named collaborative agreement.

Competency Questions:

- What is the collaborative agreement that rules the collaborative session?

Conceptual Model



CAD – Collaborative Agreement Description

Name: Collaborative Agreement Description

Alternative Patterns: --

Intent: To represent the collaborative agreement description that describes the collaborative agreement.

Rationale: A collaborative agreement kind has a description, which is a kind of a contract defining the rights and obligations of the roles that may participate in a collaborative session.

Competency Questions:

- What is the collaborative agreement description that describes the collaborative agreement kind?

Conceptual Model



CSAD – Collaborative Session Agreement Description

Name: Collaborative Session Agreement Description

Alternative Patterns: --

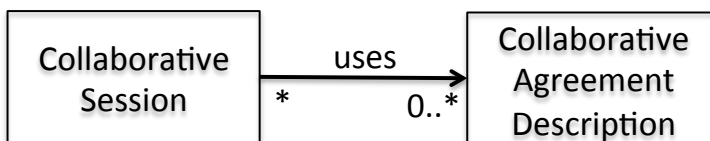
Intent: To represent the collaborative agreement description used in the collaborative session.

Rationale: A collaborative session uses a collaborative agreement description that governs the actions executed in the collaborative session.

Competency Questions:

- What is the collaborative agreement description used in the collaborative session?

Conceptual Model



CAC – Collaborative Agreement Composition

Name: Collaborative Agreement Composition

Alternative Patterns: --

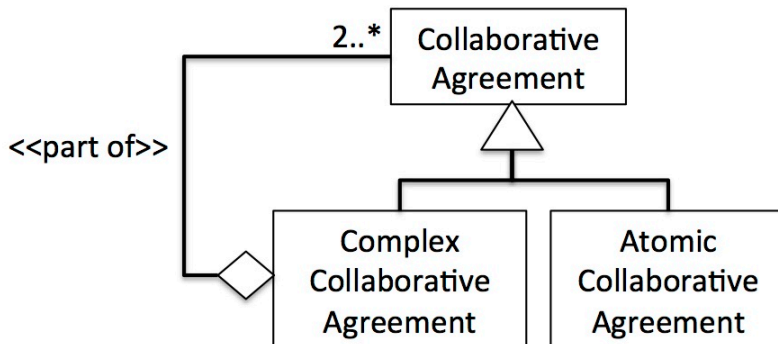
Intent: To represent a collaborative agreement mereological decomposition.

Rationale: A collaborative session agreement may be atomic or complex.

Competency Questions:

- What are the collaborative session agreement subagreements?

Conceptual Model



Action Contribution Patterns

CSAC – Collaborative Session Action Contributions

Name: Collaborative Session Action Contributions (CSAC)

Alternative Patterns: --

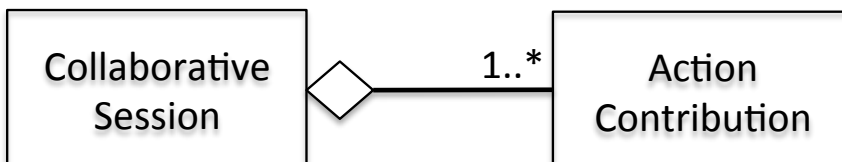
Intent: To represent the action contributions that compose the collaborative session.

Rationale: Two or more action contributions compose a collaborative session.

Competency Questions:

- What are the action contributions that compose the collaborative session?

Conceptual Model



ACPPS - Action Contribution Pre and Post Situations

Name: Action Contribution Pre and Post Situations (ACPPS)

Alternative Patterns: --

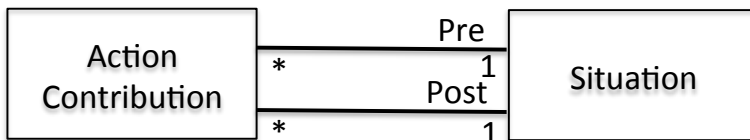
Intent: To represent the pre and post situation (state) related to an action contribution.

Rationale: An action contribution has a pre-situation, i.e. a situation that enables the action to occur and a post-situation, i.e. a situation resulting from the execution of the action contribution.

Competency Questions:

- What are the action contribution's pre-situations?
- What are the action contribution's post-situations?

Conceptual Model:



ACD – Action Contribution Dependence

Name: Action Contribution Dependence (ACD)

Alternative Patterns: --

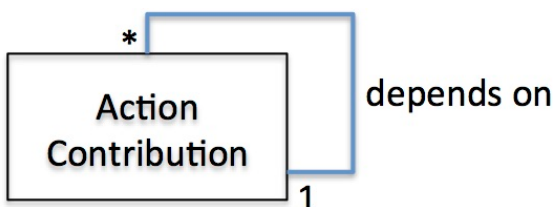
Intent: To represent the dependence between two action contributions.

Rationale: One action contribution is only executed if another action contribution is executed first.

Competency Questions:

- Does this action contribution depends on another action contribution?

Conceptual Model



ACC – Action Contribution Composition

Name: Action Contribution Composition (ACC)

Alternative Patterns: --

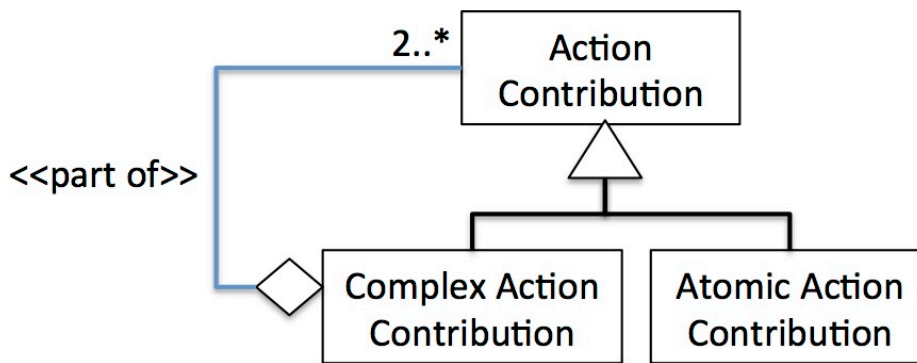
Intent: To represent the action contribution's mereological decomposition.

Rationale: An action contribution can be composed of other action contributions, either composite action contributions (which can be further decomposed) or simple action contributions (which cannot be decomposed)

Competency Questions:

- Can this action contribution be decomposed?
- What are the components of this action contribution?

Conceptual Model



ACPD - Action Contribution Plan Description

Name: Action Contribution Plan Description

Alternative Patterns: --

Intent: To represent the plan description used to describe the action contribution.

Rationale: An action contribution is described by a plan description.

Competency Questions:

- What is the plan description that describes the action contribution?

Conceptual Model



Collaborative Commitments Patterns

CCAC - Collaborative Commitment for Action Contributions

Name: Collaborative Commitment for Action Contributions (CCAC)

Alternative Patterns: --

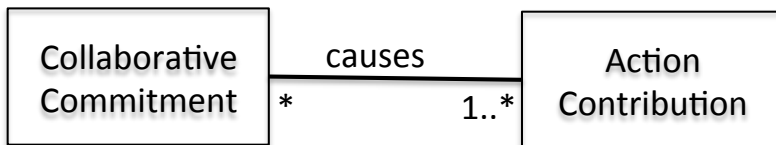
Intent: To represent the collaborative commitment that causes the action contribution.

Rationale: One action contributions is caused by a collaborative commitment

Competency Questions:

- What is the collaborative commitment that causes the action contribution?

Conceptual Model



CCIC – Collaborative Commitments Inheres in Collaborator

(verificar)

Name: Collaborative Commitments inhere in Collaborator (CCIC)

Alternative Patterns: --

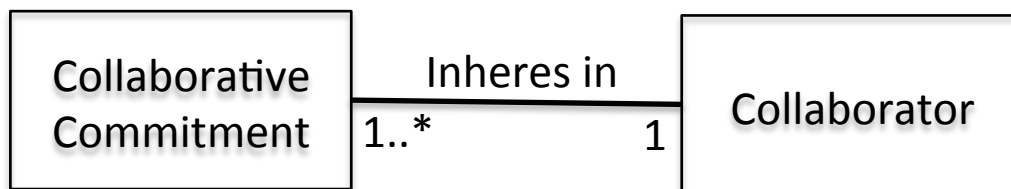
Intent: To represent the collaborative commitments that inhere in a collaborator.

Rationale: Collaborators participating in a collaborative session usually bear collaborative commitments to perform certain action contributions.

Competency Questions:

- What are the collaborative commitments that inhere in the collaborator?

Conceptual Model



GPCCC – Goal as the Propositional Content of a Collaborative Commitment

Name: Goal as the Propositional Content of a Collaborative Commitment (GPCCC)

Alternative Patterns: --

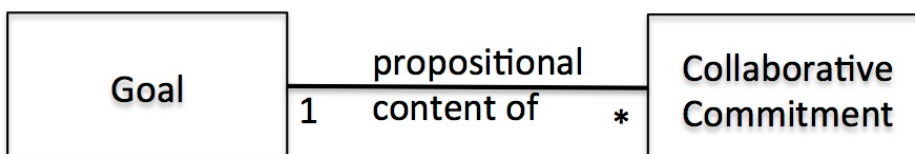
Intent: To represent the goal that is the propositional content of a collaborative commitment.

Rationale: A goal that is the propositional content of a collaborative commitment

Competency Questions:

- What is the goal that is the propositional content of a collaborative commitment?

Conceptual Model



GC – Goal Conflict

Name: Goal Conflict (GC)

Alternative Patterns: --

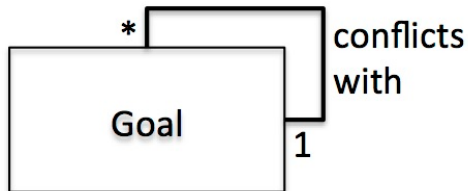
Intent: To represent the conflict between two goals.

Rationale: A goal conflicts with another goal

Competency Questions:

- Does this goal conflict with another goal?

Conceptual Model



GC – Goal Dependence

Name: Goal Dependence (GD)

Alternative Patterns: --

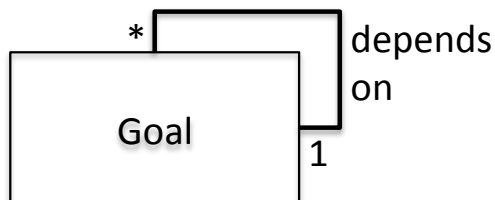
Intent: To represent the dependence between two goals.

Rationale: A goal dependence from another goal

Competency Questions:

- Does this goal depends on another goal?

Conceptual Model



Agents and Role Definition Patterns

CSA – Collaborative Session Agents

Name: Collaborative Session Agents (CSA)

Alternative Patterns: --

Intent: To represent the agents that participate in the collaborative session.

Rationale: Two or more agents participate in a collaborative session.

Competency Questions:

- What are the agents that participate in the collaborative session?

Conceptual Model



CRD – Collaborative Role Definition

Name: Collaborative Role Definition

Alternative Patterns: CRDS (Collaborative Role Definition Simple)

Intent: To represent the collaborative roles that participate in a collaborative session, which are defined by a collaborative agreement kind.

Rationale: A collaborative session is ruled by a collaborative agreement. This collaborative agreement instantiates a collaborative agreement kind that defines the collaborative roles that participate in the collaborative session.

Competency Questions:

- What are the collaborative roles that participate in a collaborative session?
- What is the collaborative agreement universal that defines the collaborative roles that participate in a collaborative session?

Conceptual Model

CRDS – Collaborative Role Definition Simple

Name: Collaborative Role Definition Simple

Alternative Patterns: CRD (Collaborative Role Definition)

Intent: To represent the collaborative roles that participate in a collaborative session.

Rationale: A set of collaborative roles participate in a collaborative session.

Competency Questions:

- What are the collaborative roles that participate in a collaborative session?

Conceptual Model

APCRS – Agent Plays Collaborative Role

Name: Agent Plays Collaborative Role Simple

Alternative Patterns: --

Intent: To represent the collaborative roles instantiated by the agents that participate in the collaborative session.

Rationale: The agents participating in a collaborative session instantiate collaborative roles.

Competency Questions:

- What collaborative roles are instantiated by the agents?

Conceptual Model

Resource Participation Patterns

CSR –Collaborative Session Resource

Name: Collaborative Session Resource (CSR)

Alternative Patterns: CSRS (Collaborative Session Resource Simple)

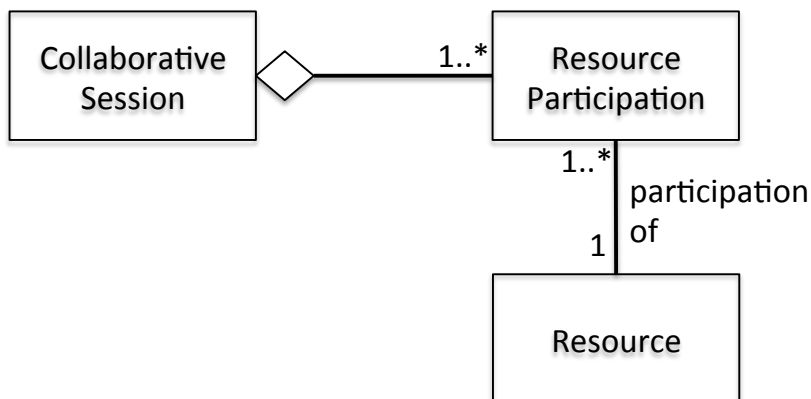
Intent: To represent the participation of resources in collaborative session (with the resource participation event).

Rationale: A collaborative session has one or more resource participation, which refers to one resource.

Competency Questions:

- What are the resources that participate on the collaborative session?

Conceptual Model:



CSRS –Collaborative Session Resources Simple

Name: Collaborative Session Resources Simple (CSRS)

Alternative Patterns: CSR

Intent: To represent the resources that participate in the collaborative session.

Rationale: One or more resources participate in a collaborative session.

Competency Questions:

- What are the resources that participate in the collaborative session?

Conceptual Model:**RC – Resource Composition**

Name: Resource Composition (RC)

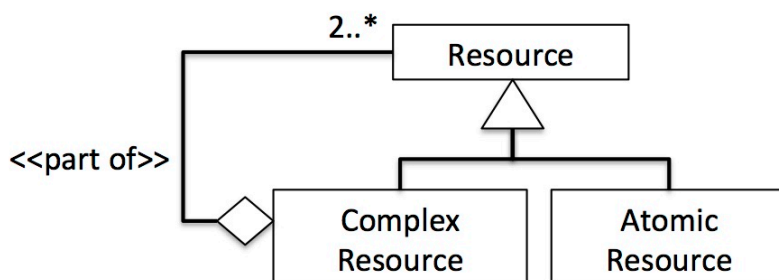
Alternative Patterns: --

Intent: To represent the resource's mereological parts.

Rationale: A resource can be composed of other resources, either composed resources (which can be further decomposed) or simple resources (which cannot be decomposed)

Competency Questions:

- Can this resource be decomposed?
- What are the components of this resource?

Conceptual Model:**RN – Resource Nature**

Name: Resource Nature (RN)

Alternative Patterns: --

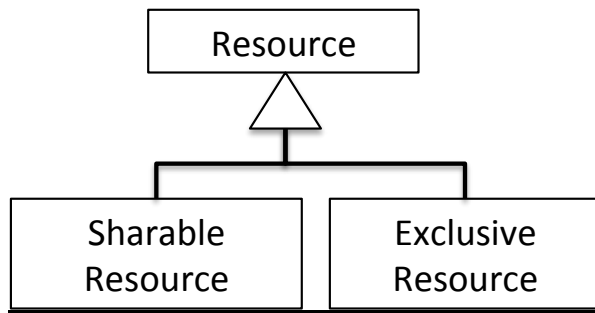
Intent: To represent resource types in terms of shareability.

Rationale: A resource can be either sharable or exclusive

Competency Questions:

- Can this resource be shared?

Conceptual Model



Axioms

A14 - *Exclusive Resource* (r) $\rightarrow \forall p, p' \text{ participation_of } (p, r) \wedge \text{ participation_of } (p', r) \wedge (p \neq p') \rightarrow \neg (\text{overlaps } (ti(p), ti(p')))$

A15 - *Sharable Resource* (r) $\rightarrow \neg \text{Exclusive Resource } (r)$

Communication Patterns

CIP - Communication Interaction Pattern

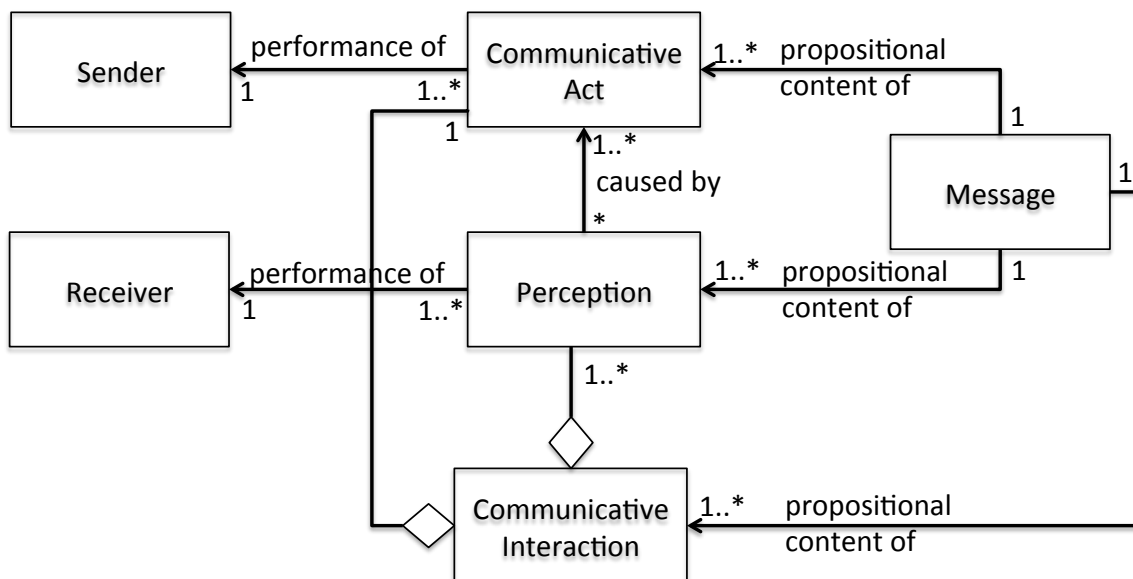
Name: Communication Interaction Pattern**Alternative Patterns: Communication Interaction Pattern Simple**

Intent: To represent in detail an interaction pattern connecting a sender and a receiver.

Rationale: A communication interaction consists in a communicative act performed by the sender and a perception performed by the receiver. The message is the propositional content of the communicative act and the perception.

Competency Questions:

- Who is the sender in the communicative interaction?
- Who is the receiver in the communicative interaction?
- What is the message of the communicative interaction?

Conceptual Model**CIPS – Communication Interaction Pattern Simple**

Name: Communication Interaction Pattern Simple

Alternative Patterns: Communication Interaction Pattern

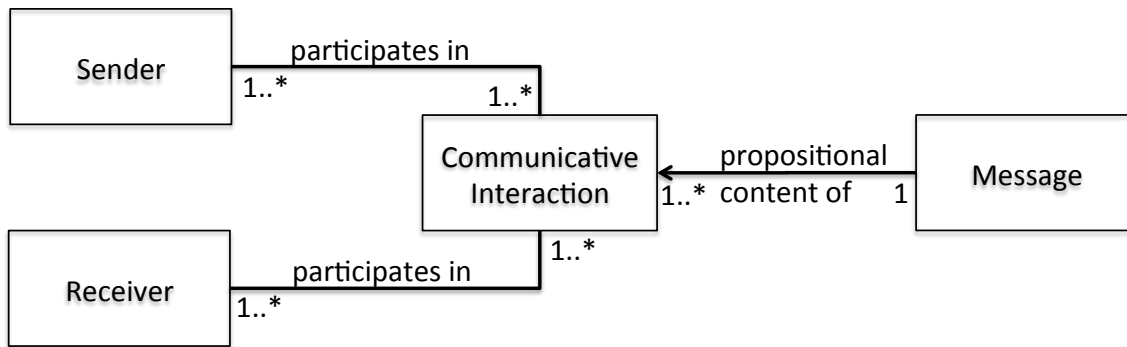
Intent: To represent an interaction pattern connecting a sender and a receiver.

Rationale: A communication interaction consists in a sender sending a message to a receiver .

Competency Questions:

- Who is the sender in the communicative interaction?
- Who is the receiver in the communicative interaction?
- What is the message of the communicative interaction?

Conceptual Model



IL - Idiomatic Language Pattern

Name: Idiomatic Language Pattern

Alternative Patterns: --

Intent: To represent the idiomatic language codifying the message.

Rationale: A message may be codified in an idiomatic language.

Competency Questions:

- What is the idiomatic language that codifies the message?

Conceptual Model

