Goal Elicitation Heuristics Anchored on a Thinking Frame

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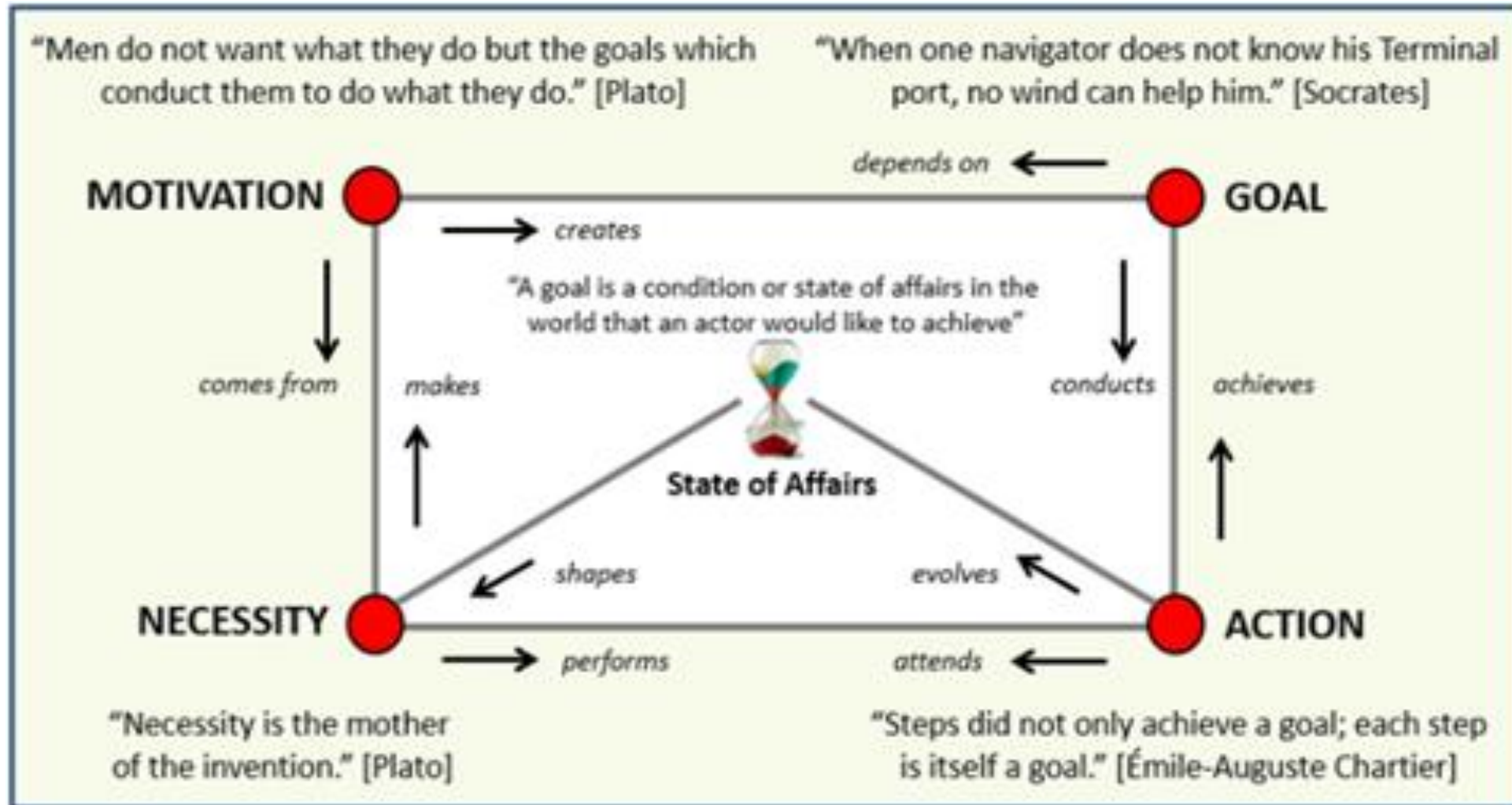IEEE LIFE MEMBER

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Context

- Eliciting goals, a non-trivial task, is a challenge to Goal Modeling

- The understanding that a goal is about the future

- The concept of abstraction is fundamental to modeling

- Dealing with abstraction is far from being a common ability

- Given the literature that we revised, we could not find a structure of thought that could help stakeholders (elicitors, informants, and modelers) better understand the nature of the goal concept, without relying on goal taxonomies.

Difficulties In Dealing With Goals

- Abstraction

- Function / Data

- The Limits of Why

- Viewpoints

The IRES Thinking Frame

"Men do not want what they do but the goals which conduct them to do what they do." [Plato]

"When one navigator does not know his Terminal port, no wind can help him." [Socrates]

MOTIVATION — depends on ← GOAL

→ creates

"A goal is a condition or state of affairs in the world that an actor would like to achieve"

comes from   makes

State of Affairs

conducts   achieves

shapes   evolves

NECESSITY   ACTION

→ performs   attends ←

"Necessity is the mother of the invention." [Plato]

"Steps did not only achieve a goal; each step is itself a goal." [Émile-Auguste Chartier]

Heuristics

- We used the IRES Thinking Frame as the argument for the creation of elicitation heuristics that help the modeling of goals

- The heuristics are organized in three classes
  - High Level Goals
  - Vocabulary (Lexicon)
  - Feedback Heuristics (Checking the Elicited Goals)

Initial Model


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Revised Model

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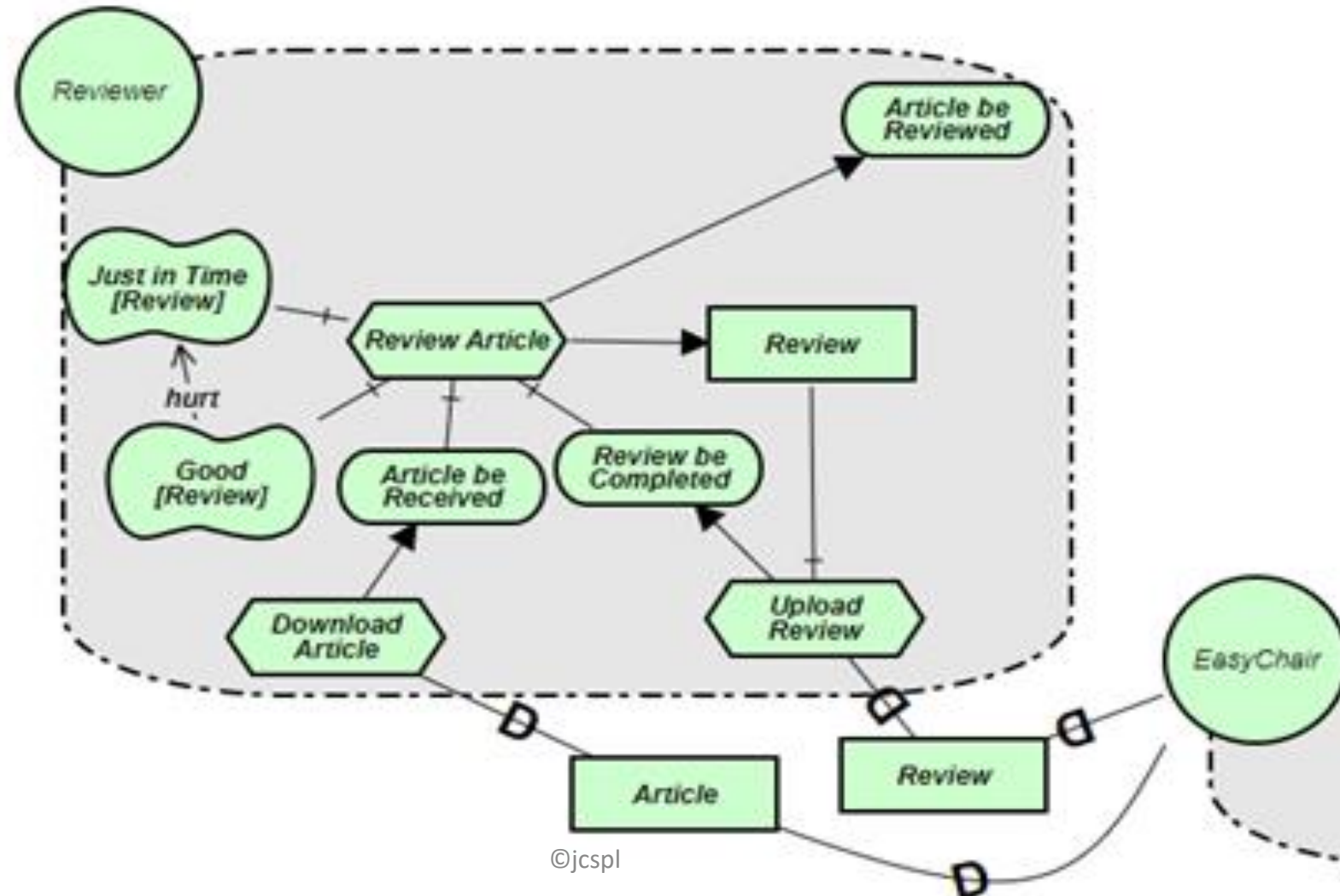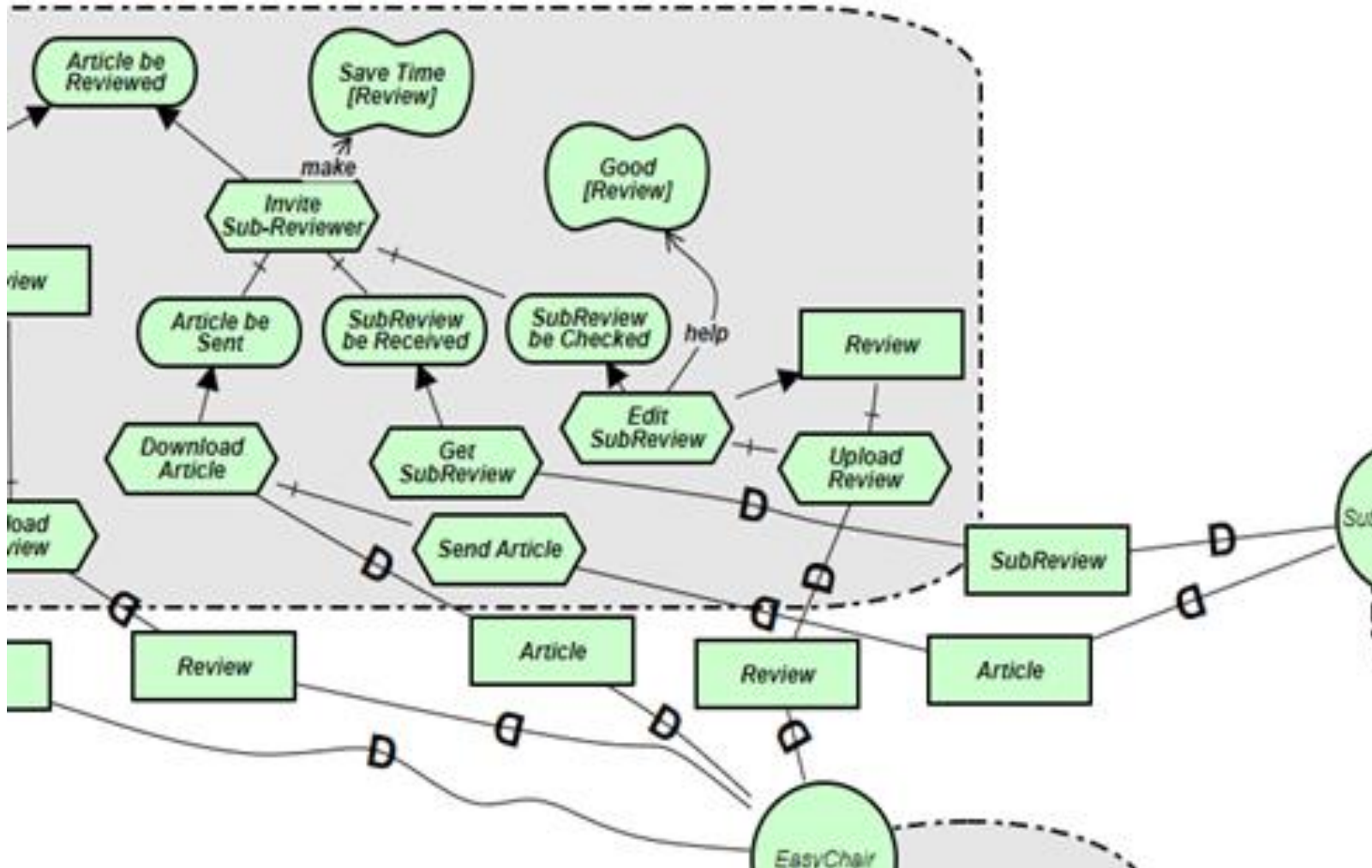
Heuristics

a) "From Necessity, Question stakeholders to make an association from their top needs with the reason (motivation) for these needs.". This led to the Motivation: Having a Conference Program.

b) "From Motivation, Ask stakeholders what the evolution/development of the product will create in terms of future achievements (it may be a goal)." This led to the Goal *Article be Reviewed*, which will be executed by a Reviewer.

c) From this goal we used the Frame relation **conducts**, which led to the task (Action) Review Article. We confirm this Action by applying the relation **performs**.

d) It is interesting to note that the task Review Article is abstract. As such, we use the Frame to find out that there is a Necessity to Have the Article, which **makes** the Motivation Obtain the Article which **creates** the Goal Article be Received.

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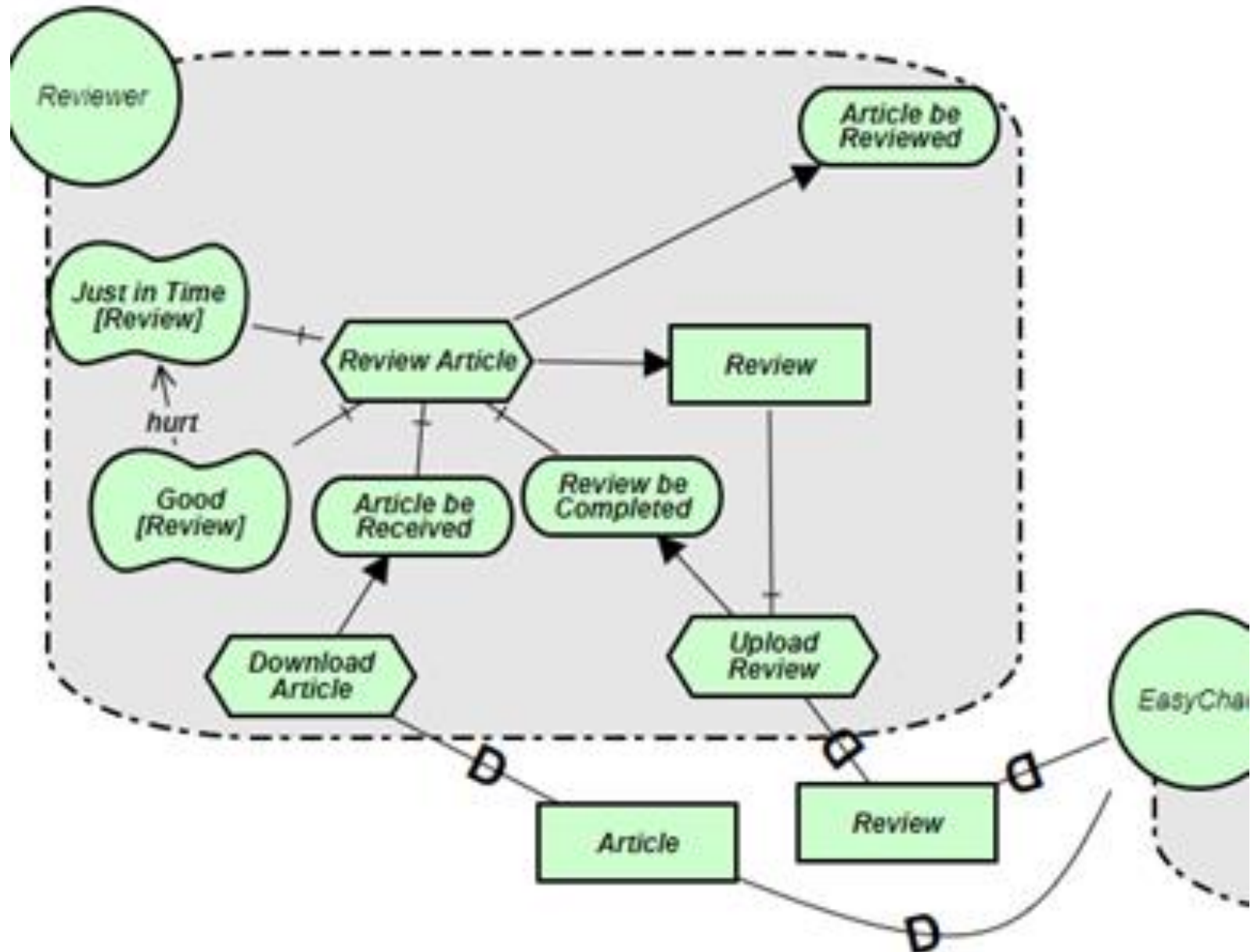
Heuristics

a) "From Goal: Examine if there is something that can improve or give an advantage to the goal.", we got a Reviewer Necessity: Someone to Help, and a Motivation: Support Productivity, which led to the Goal (Softgoal) *Save Time*

b) "From Action: Consider if alternative actions may be executed for achieving the goal.". The Reviewer brought up the opportunity of a sub-reviewer, leading to the Action: *Invite Sub-Reviewer*, as an alternative to the Goal *Article be Reviewed*.
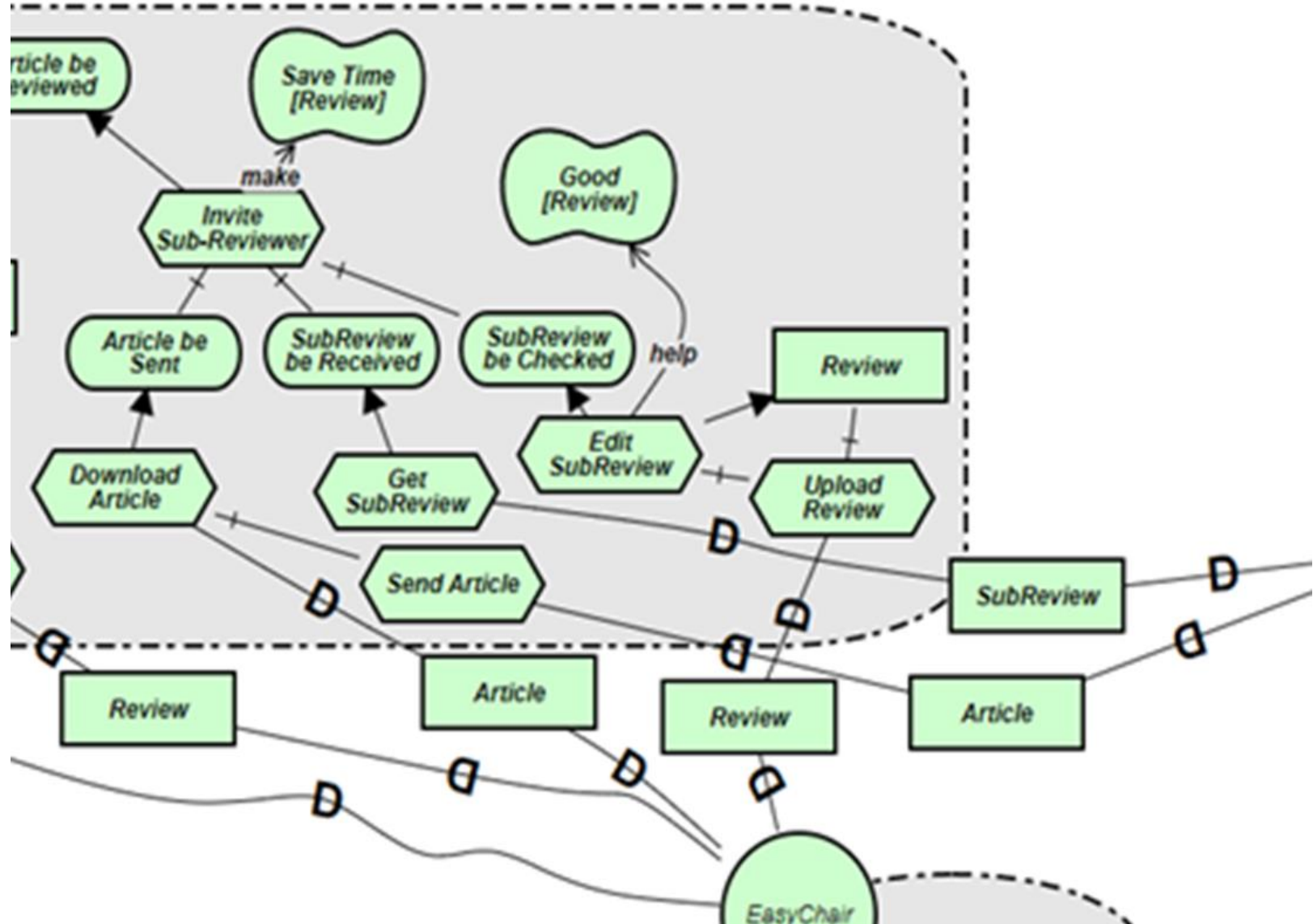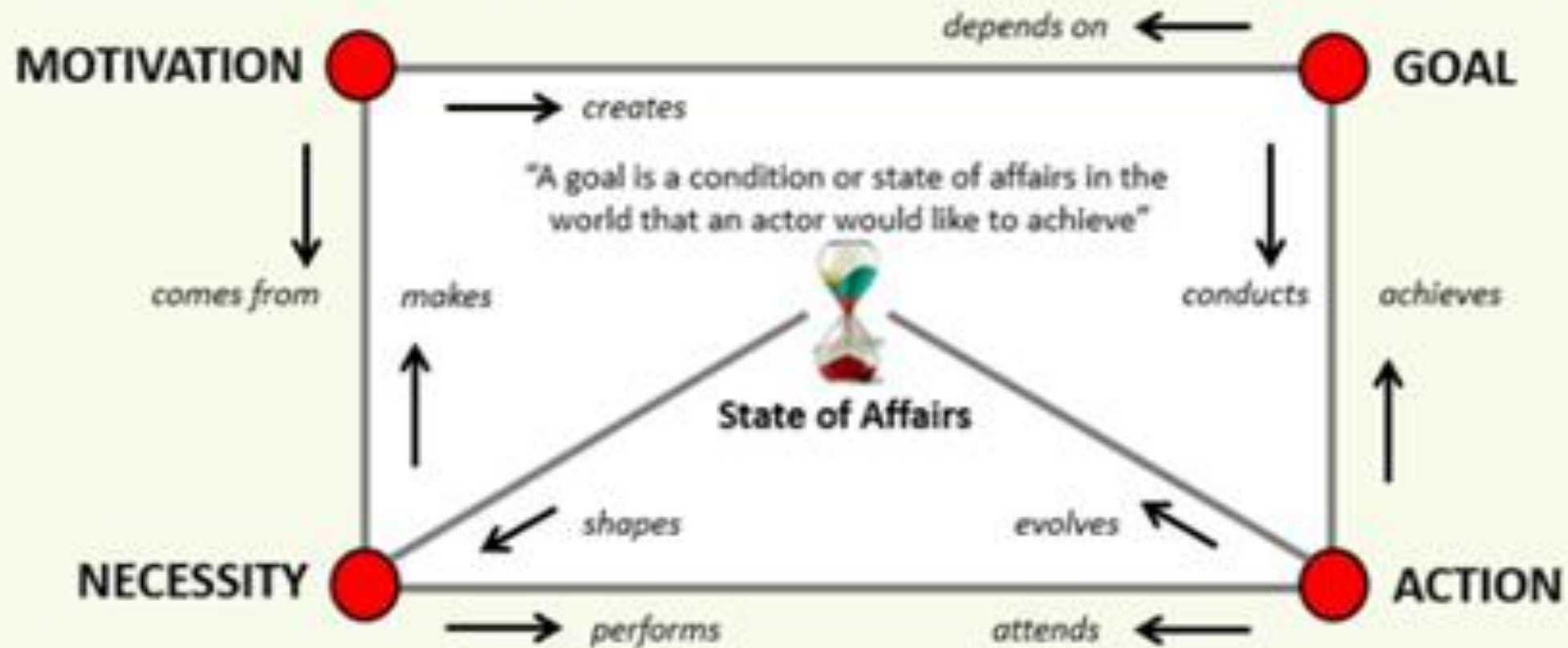
Conclusion

- We have found a lack of depth in the discussion of goal elicitation from the literature, with a preponderance of direct questioning, which is not proper to get to goals.

- Our discussion of the goal concept is centered on the interweaving of elicitation and modeling, it is about the elaboration of models.

- The novelty of our contribution is the IRES Thinking Frame.

- The IRES Frame contributes to a better understanding of the concept of goal empowering modelers in their use of the goal-oriented language of choice.

- As it is now, the set of example heuristics are general and not guided to specific domains. Of course, that experimental work may be developed to check the extent of positive results in applying a given set of heuristics

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Thanks!