Assignment 3 (Draft), Requirements Engineering preliminary goal diagram

1 Preliminary goal diagram of Assignment 3

You will be drawing up a preliminary goal diagram based on the subject matter you studied.

Study guide

Complete this assignment after studying course unit 9. You will submit your work to the examiner.

We estimate that you will need five hours to complete this assignment. You will mainly spend your time installing and learning to work with Objectiver and modelling with goals for the first time. You are definitely not expected to produce an extensive diagram.

Read the case study thoroughly.

For this assignment, you will create a preliminary goal diagram. We will provide you with the basics of such a diagram, plus a number of tips about what we expect from you.

Generally speaking, when preparing a goal diagram, it is sensible to keep the picture on page 18 of the textbook close at hand. Goals relate to the 'environmental phenomena' (a.k.a. world phenomena) and the 'shared phenomena'. It is also a good idea to bear in mind the text on page 260 under the header 'What are goals?' The system should be able to achieve a goal through collaboration between the agents.

When looking for the top goal for the system described in the case study, it would initially appear to involve matters such as the reduction of CO2 emissions, etc. As it is very clear that the system can only contribute to this to a very limited degree and can therefore bear little responsibility in this regard, we will base ourselves on a less ambitious goal, that of ensuring that carpooling journeys are completed successfully (i.e. all passengers who shall be picked up are dropped off at their destinations).

We have included this as the top goal in our initial diagram. We have refined that top goal a number of times, always showing one of the sub-goals; see Figure 1.

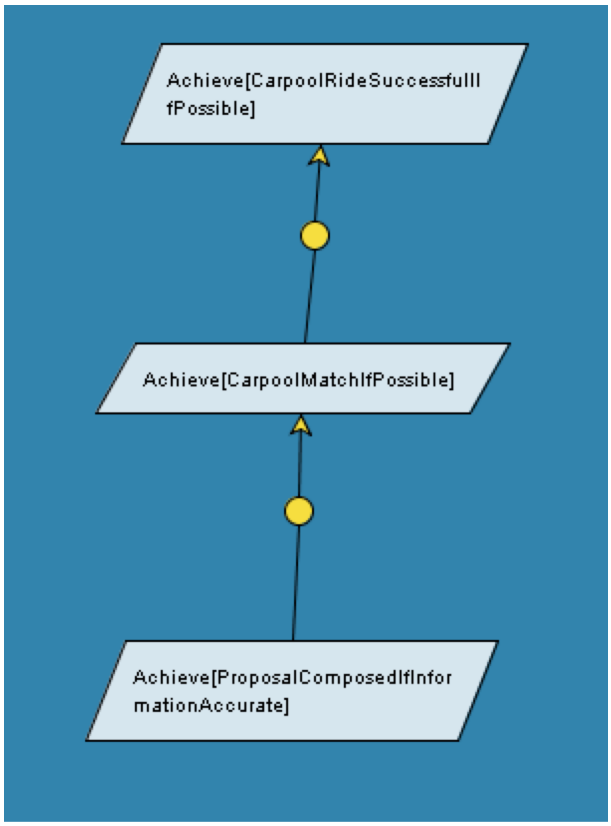

FIGURE 1 Starting point for the preliminary goal diagram

We are now asking the following from you:

– Refine all the goals in the initial diagram. The sub-goals you define here *do not have to be refined any further*!
– For all refinements, indicate *which pattern* has been used for the refinement. You can (and should) indicate this in Objectiver by clicking the yellow ball; on the left, you can then indicate the pattern under the details of the refinement. Try to make the refinements complete.
– For all goals, use their names to clarify what kind of *goal type* is involved. Always include the *category* as well.
– Provide a clear *definition* of each goal and indicate any *issues*. While drawing up this diagram, if you can already think of circumstances in which the goals could not be achieved, you can include those with the issues.
– The use of the initial diagram in Figure 1 is not mandatory. If you do use it, you can make as many changes as you want. In this case, you should also make sure that you refine the top goal, one of the sub-goals and so forth. More refinements are not required in this assignment!

Write a brief report (about half a side of an A4 page in length), indicating which considerations you used when specifying the goal diagram. In doing so, you should mainly focus on refinements that you are unsure about. What are the alternatives and why did you choose this specification?

When providing feedback on your goal diagram, we will use the following criteria. We will use similar criteria when assessing the final assignment, so you can use the feedback to see what you should improve for the final assignment.

MODELLING OF GOAL DIAGRAM	
Shared and world phenomena	The goals must be related to the shared and/or world (environmental) phenomena. It must be possible to achieve the goals through collaboration by the agents of the system.
Goal types and categories	The type of a goal (e.g. achieve or maintain) must match the meaning of the goal. This also applies to the goal's category.
Patterns	For each refinement, the pattern used for it must be indicated. Such a pattern must be applied correctly.
OR refinements	Whenever you use an OR refinement, it must be clear that you are presenting a choice between two different systems.
AND refinements	Whenever you refine a goal, the refinement must match whatever is described as a desired situation in the case study. Whenever you indicate that a refinement is complete, this must actually be the case. The sub-goals must logically fit within the refinement (according to the pattern used).
Modelling in goals	The goals you include are actual goals of the system