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Paradigms in Requirements Engineering are...

An example is ...

In the paper of Akkermans and Gordijn (“What is this Science called Requirements Engineering?”), various forms of validation are introduced. Usually, these forms of validation are applied to requirements engineering *research*, but they can equally well be applied to requirements engineering *as done by consultants for a real-life company*.

Now, suppose that you have been asked to *assess the validity* of the requirements report of the consultants. Explain then what the following forms of validity mean, in terms of validity of the report of the consultants. (12 points)

Theoretical validity:

Interpretative validity:

Internal validity:

Question 2 Problem Frames (33 points)

- a) One of the main contributions of Jackson’s Problem Frames approach is the identification of *five* basic problem frames. Mention these basic problem frames and explain each frame briefly. (11 points):

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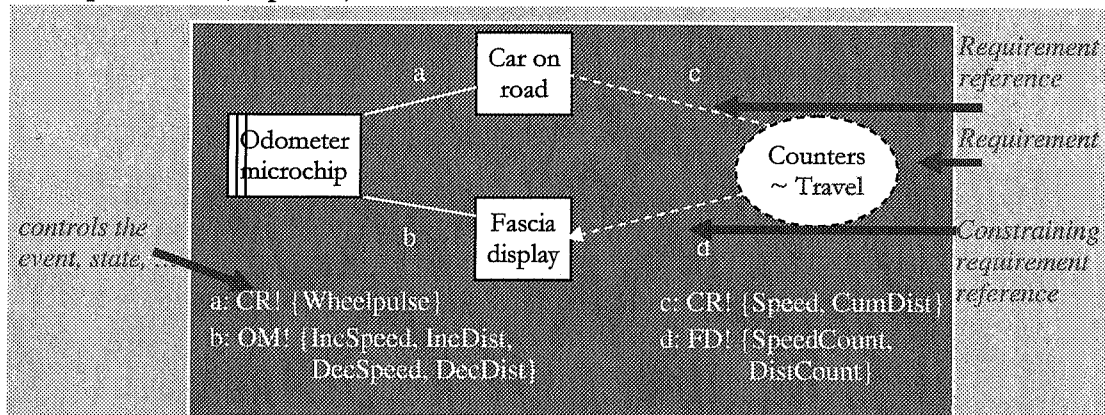
- b) Problem diagrams as proposed by Jackson show so-called domains. Examples include (taken from the patient monitoring case) “Medical staff”, “Analog devices”, and “Monitor machine”, or “Coin acceptor”, “Entry barrier”, or “Zoo visitors” (taken from the ZOO case). Domains are related to each other. What is the construct that is used by Jackson to relate domains, and briefly explain this concept.(11 points)

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- c) Another construct that Jackson uses in his Problem Frames approach is the “Requirement” (see also the example below). The “Requirement” refers to domains; these relations between “Requirement” and “Domain” are called “Requirement References”.

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The diagram below expresses a requirement. Explain - in text – the stated requirement. (11 points)



Question 3 Goal Modeling (33 points)

- a) *i** consists out of two models: the Strategic Rational model and the Strategic Dependency model. How does the Strategic Rational model complement the Strategic Dependency model? (8 point)

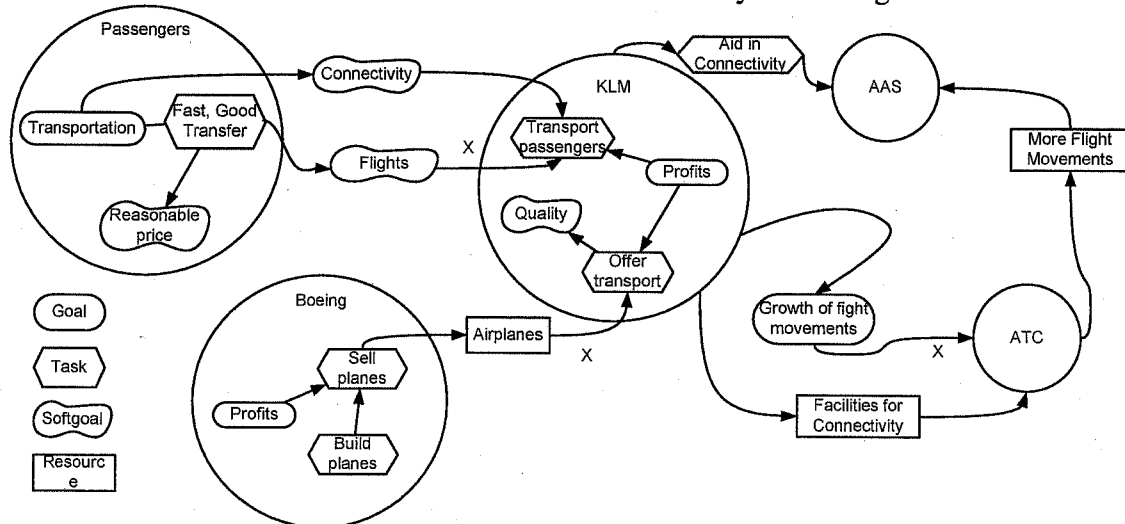
- b) There are two appropriate moments to utilize goal oriented requirements engineering (GORE) during a requirements engineering exercise. Name both moments and explain your answer. (12 points)

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- c) Consider the following case description and corresponding Strategic Dependency model. Identify four errors. Note that missing dependencies are **not** considered as errors. (13 points)

In the Dutch aviation a number of actors dependent on each other (see Strategic Dependency model below). KLM is a large airliner and transfers people from one destination to another via Amsterdam Airport Schiphol (AAS). So Amsterdam is not the final destination for many passengers. Getting passengers from incoming planes to outgoing planes is also referred to as “connectivity”. However, KLM cannot offer connectivity on its own. Aid is needed from AAS and the Air Traffic Control (ATC). AAS provides an airport and facilities for connectivity. ATC provides flight movements (eg. guiding of planes in Dutch airspace). Normally there is a shortage of flight movements, but due to the financial crisis there is currently no shortage.



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