Student name:	
Student number:	

EXAM Advanced Requirements Engineering (ARE)

April 7th, 2011, 18.30-20.30

Instructions (please read carefully):

- *This is a closed book exam – it is not allowed to consult any material – physical or electronic. Be sure to switch mobile phones off and store them in a closed bag.*
- ***Use this exam to write the answers on questions. Use the available boxes after each question for your answer. Do not write outside the boxes***
- ***Be sure to indicate name and student number on each sheet of paper.***
- *Concise yet complete answers are better than long-winded answers.*
- *You may answer in English on in Dutch.*
- *Grade for this exam is Round (Sumof Points / 10).*
- *Grade for the ARE course is 0.7* this exam + 0.3 * group assignments. On TIS, you will be reported the* final *grade for the ARE course.*
- *This exam has six pages.*

Success!

Group assignment

Before starting with the exam, please indicate below whether you did your group assignments.

Yes/No	I did my assignments in the year 2011
Yes/No	I did my assignments in the year 2010

Question 1 Requirements Engineering (34 points)

a) In the field of Requirements Engineering several types of modeling techniques exist. Mention three types of modeling techniques and explain them briefly (11 points).

1.

2.

3.

b) Explain what Thomas Kuhn's theory about paradigms has to do with requirements engineering (11 points).

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c) Explain at least three practical problems the requirements engineering researcher may encounter and discuss these problems briefly. (12 points)

1.

2.

3.

Question 2 Problem Frames (33 points)

a) Michael Jackson identified 5 problem frames. Mention these 5 frames and explain them briefly (11 points).

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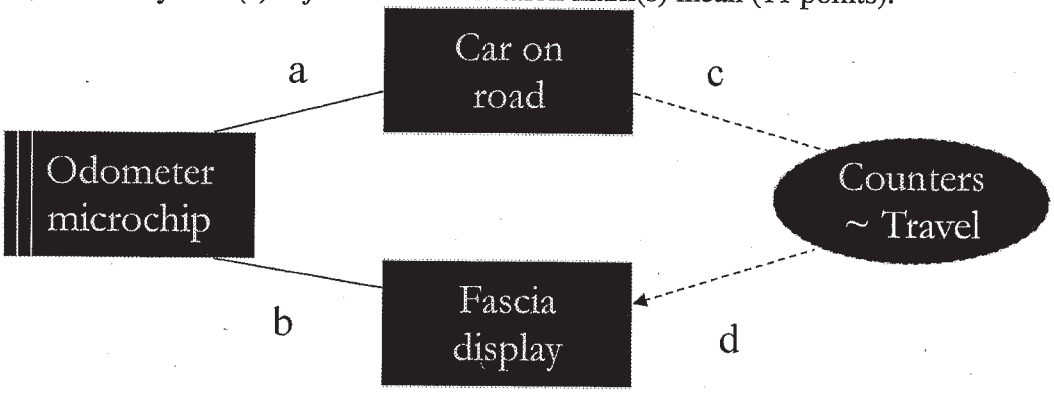
b) Consider the problem diagram below. Explain what the dashed line, dashed arrow, and the symbol(s) *before* the exclamation mark(s) mean (11 points).



a: CR! {Wheelpulse}

b: OM! {IncSpeed, IncDist, DecSpeed, DecDist}

d: FD! {SpeedCount, DistCount}

Source: Michael Jackson, Problem Frames

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Dashed line:

Dashed arrow:

Symbol before exclamation mark:

c) Problem Frames may include causal domains, biddable domains and lexical domains. Explain these three domains (11 points).

Causal:

Biddable:

Lexical:

Question 3 Goal Modeling (33 points)

a) According to John Mylopoulos, soft goals are satisficed (or not). Explain when a soft goal is satisficed (11 points).

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b) The *i** approach has no temporal dimension. What is meant by this? (11 point)

c) *I** supports task-decomposition. In which constructs can a task be decomposed into? (11 points).

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