Student name:	
Student number:	

EXAM Advanced Requirements Engineering (ARE)

29 juni, 2006, 12.00-14.00

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. You will be reported the* final *grade for the ARE course.*
- *This exam has four pages plus one page with a survey.*

Success!

Group assignment

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

Yes/No	I did my group assignment this year (2006)

Question 1 Requirements Engineering (34 points)

a) A typical requirements engineering process consists of a series of activities, one of them being *requirements elicitation.* Mention three *other* activities than requirements elicitation, and explain them all briefly (including requirements elicitation). (12 points)

- *Requirements elicitation*:
- … :
- … :
- … :

Student name:	
Student number:	

b) In the field of Requirements Engineering (RE), we can distinguish requirements *engineers* and RE-*researchers*. According to Wieringa, both the work of the requirements engineer and the RE-researcher relates to a generic *design* process. This process includes problem investigation, solution design, implementation and evaluation, implementation use and implementation evaluation. Explain which of these activities can be seen as research problems, including a short motivation. (11 points)

c) In qualitative research, various forms of *validation* can be distinguished. Also, RE-approaches should be validated. Discuss two forms of such validation that may applicable for RE-approaches (11 points).

Student name:	
Student number:	

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. (17 points):

- … :
- … :
- … :
- … :
- … :

b) One of the distinguishing features of the Problem Frames approach of Jackson is to understand the *context* of software systems well. However, other approaches such as Data Flow Diagrams (DFDs) and use cases already focus on the context of software system for many years. Briefly explain how the Problem Frames approach differs from the more traditional approaches (such as DFDs or use cases) while considering context. (16 points)

Student name:	
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Question 3 Goal Modeling (33 points)

a) The *i** methodology exists of two related models. Name both models, give a short explanation of both models and describe the relationship between the models (20 points)

- … :
- … :
- Relationship :

b) *I** is considered as a "goal modeling technique". Besides goals other elements, such as processes and information, of the system under investigation have to be examined. Explain how *i** relates to requirements engineering techniques which focus on these other elements. Mention at least two other techniques. (13 points)

Student name:	
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Survey

Questions to be filled after doing the exam. You can not earn points with these questions, so your cooperation is entirely voluntary. We use these questions to improve the course.

Please score the questions on a scale of 1 to 5: (1:strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree)

1) This course reached the stated goal: explaining me what RE research is, plus showing me some examples of such research. *Score* …
2) I am interested in RE as a topic. *Score* …
3) I found this an interesting lecture.
    a. Lecture 1: *Score* …
    b. Lecture 2: *Score* …
    c. Lecture 3: *Score* …
4) The total amount of time I have spent on this course (lectures, assignment, exam) corresponds to the 3 ECTS for this course. *Score* …
5) Next time, I want to have more assignments. *Score* …
6) I prefer to do the entire course in one week (rather than three weeks): *Score* …
7) It was for me easy to understand the lectures: *Score* …
8) It was for me easy to read the compulsory articles: *Score* …
9) I have also read some of the optional materials: *Score* …
10) I have the following other remarks:

Thank you!