

Exam Software Engineering (IBI001)

August 21, 2013, HG00.068 (HG00.058 for extra time students)
08:30 – 10:30

Name:	
Student number:	
Giphouse project name:	

- You can answer the questions in English, or in Dutch.
- Before you start: write (**now!**) on this piece of paper in the table above, your name, student number and the name of the Giphouse project you worked on.
- Books, personal notes etcetera can not be used during this exam.
- The questions concern the subjects covered by the course documents on the Redmine wiki, i.e. the notes of the (guest)lectures with added background material, and the content of the corresponding chapters of the book as indicated in the lecture notes.
- For every question a maximum number of points is stated. The exam as a whole has a maximum of 100 points.
- Start with the questions that you can answer immediately!
- Put your answers on this paper within the indicated borders. Use extra paper for draft answers when needed.
- Please formulate precisely and concisely.
- Do not forget to hand in your answers to the supervisor!

Success!

Examinator Marko van Eekelen (exam checked by Engelbert Hubbers)
The result is expected to be available by Friday August 23 at the latest.

1. The Software Development Process

(25 pt)

a) What is CMM trying to measure in general?

(5 pt)

b) Someone says 'Your GipHouse project was operating on CMM level 2'.

Give at least 2 two concrete arguments why you agree or disagree with this statement?. Give at least two concrete arguments. Relate the arguments specifically to how you worked within your project. **(10 pt)**

- c) 1. What are the pros and cons of agile development with respect to top-down development? Refer to the agile manifesto where appropriate.
2. Give at least one concrete situation in which you would prefer top-down development. **(10 pt)**

2. Requirements engineering

(25 pt)

- a) 1. What is the difference between functional and non-functional requirements?
2. Give for each category an example of such a requirement in your GipHouse project.

(10 pt)

b) Requirements/Agreements have to be SMART in order to be effective.

1. Specify what the characters in SMART stand for and what that means. Furthermore, describe for each of the following statements in which ways (if there can be more than one, give them all) it is not SMART:
2. 'The system shall have an optimal response time for the end-user.'
3. 'The requirement report will be available soon after month-end close.'

(10 pt)

c) What is requirements *elicitation*? **(5 pt)**

3. Architecture, Collaboration, Design

(25 pt)

- a) 1. What are the advantages of partitioning?
2. What is the purpose of horizontal partitioning and
3. What is the purpose of vertical partitioning?

(10 pt)

- b) Give a collaboration pattern that everyone should know in order to have a successful GpHouse project. Describe the pattern in pattern format (name, problem, solution).

(5 pt)

c) What are the main key considerations in designing user interfaces?

(10 pt)

4. Testing, Code Review

(25 pt)

- a) Testing in the V-model software development process identifies four kinds of testing. Describe these four kinds of testing and describe for each kind of testing where it fits in the V-model. (10 pt)

- b) 1. What is the purpose of defining a test plan as part of the requirements and design documents?
2. What were in your project the advantages and disadvantages of having such a test plan? Be specific. **(10 pt)**

- c) What kind of code review should in your opinion be held in next year's GipHouse projects in order to improve the quality of the produced code? Give a motivated answer. Be specific. **(5 pt)**