Software Requirements Engineering (INBSRE-08)

2008 Fall
Final Exam
Date: 28-10-08   Time: 14:00-17:00   Location: 5118.-152 (combi)

Name: _____   Student Number: _____

Question 1	12 points
Question 2	15 points
Question 3	14 points
Question 4	10 points
Question 5	10 points
Question 6	12 points
Question 7	12 points
Question 8	15 points
Total	100 points

Question 1: (12 points)
Suggest who might be stakeholders in a university library system as many as you can identify. Give 2 examples where requirements of different stakeholders may conflict in some ways.

Question 2: (15 points)
Context: *"You are responsible for collecting the requirements for a utility company that serves many customers nationally. Customers can call a head office on a toll-free number to place orders for service. The office dispatches mobile engineers from one customer to the next."*
Please provide the business goals for this system that in your opinion may be important for the company. Along with the business goals, specify the features that can achieve certain business goal. If you make any assumptions, regarding the context of your business goals, please state them also.

Question 3: (14 points)
Draw a Use Case Diagram (using UML use case diagram notation) for an Automated Parking Lot (APL) Controller including parking charge function. The APL can help the drivers parking automatically and charge the parking fee when the vehicles exit the parking lot.

Question 4 (10 points)
A use case specification should cover all likely alternative flows (exceptions).

Describing the ideal case when everything works is necessary, but not sufficient.

Context: "*Consider the use case 'Data Entry' for an e-commerce system where a customer is asked to complete and send in an electronic form including name, address, goods wanted and payment details. The details sent by the user are validated and saved to the database.*"

List at least 2 alternative flows you think can occur for this use case. For each of the exceptions, also specify what you think the system response should be. A use case specification template is provided below.

Actors:
Goal:
Stakeholders:
Preconditions:
Basic Flow:
Alternative Flow:
Post conditions:
Special Requirements:

Question 5: (10 points)
Create a backward requirements traceability matrix based on your answers in Question 2, and identify possible requirement defects in this matrix.

Question 6: (12 points)
Analyze the following list of user requirements. Are they complete, clear and verifiable (testable)? If not, reformulate them into proper user requirements, and state the additional information that you would need before you can reformulate them into proper requirements.
1. The system shall be easy to use by personnel with minimal training.
2. The database shall store ten years of records.
3. The maximum delay between transmission and reception of the invoice shall be two hours.

Question 7: (12 points)
Requirements engineering attempts to focus on the problem domain by describing the actions of some software-based computer system that will act on elements of the problem domain, such that the system will act on domain elements to solve the customer's problems in that domain. Yet it is easy to confuse this "what" dimension of the problem with the "how" dimension (i.e., how the problem will be solved). Give 3 examples of statement pairs, one "what" and one "how". Marks will be given for the quality of your answers.

Question 8: (15 points)
List at least 2 requirements elicitation techniques that you have read/discussed in class and discuss the pros & cons of each one of them briefly.