

**SE 382 – Requirements Engineering and Specification**  
**Winter Quarter 2002-2003**  
**Final Exam**

Name: \_\_\_\_\_

Q1	10	
Q2	10	
Q3	15	
Q4	15	
Q5	20	
Q6	20	
Q7	10	
<b>Total</b>	<b>100</b>	

SE-382 Software Requirements and Specification  
(Final Exam)

At the beginning of the course, a number of course objectives were identified. Please give your assessment of your own success in meeting each of these objectives and of the value of the course in helping you meet them. You should use a scale of **1 (not successful at all)** to **5 (very successful)** for each rating.

The results of this survey will be used for course assessment purposes and will not affect your grade.

Upon successful completion of this course, the student will:	Assessment of your success in meeting this goal.	Assessment of course as assisting you in this goal.	Comments
Understand the role of requirements engineering in a variety of software development models			
Be able to elicit requirements from system stakeholders and to overcome common obstacles to the elicitation process			
Be able to analyze and negotiate software requirements			
Be able to specify software requirements with use cases, formal methods, and other documentation techniques			
Be able to specify requirements that are verifiable, traceable, measurable and testable			
Be able to verify that specified requirements are accurate, unambiguous, complete and consist			
Understand the importance and common methods of managing software requirements			
Be able to communicate software requirements in written documents and oral presentations			

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- Read all questions carefully.
- Answer all 7 questions.
- If you use extra sheets of paper, clearly identify the question you are working on.
- Show your work clearly. If I cannot understand what you are doing, I cannot give you partial credit for it.

Question 1

(10)

Requirements should state what a system should do, without stating how to do it. Why is this distinction useful? Give an example and show how this distinction is useful.

Question 2

(10)

The “Work Boundary” or “Work Context” includes everything that you need to know to understand the product under development.

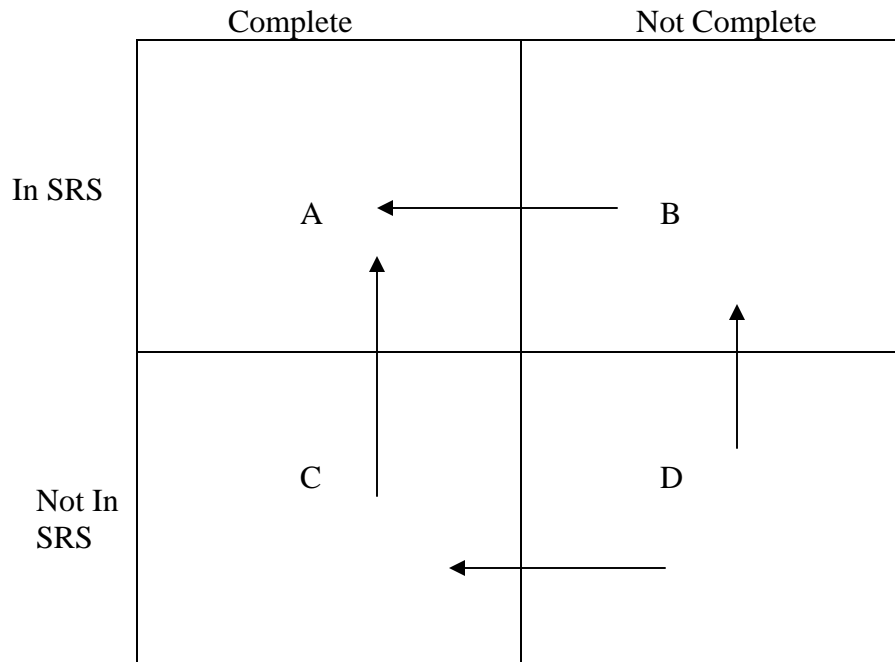
- Using an example, explain what is the difference between “work boundary” and “product boundary”.
- Why is it important to understand the work boundary when all you are ultimately responsible for is developing the product?

Question 3

(15)

In the “Local Requirements Completeness Model” drawn below, what steps would you take to

- (a) Move a requirement from Quadrant B to Quadrant A?
- (b) Move a requirement from Quadrant C to Quadrant A?
- (c) Move a requirement from Quadrant D to either Quadrant B or C?



Question 4

(15)

A centralized lock control system, which controls the locks of all external doors in University buildings, is to be implemented. Some requirements for this system are as follows:

- Staff and Students are issued a card which provides them with access to those buildings which they are authorized to use after normal working hours.
- Access is implemented by swiping a personalized card through a card reader and, if entry is allowed, the door lock is released.
- Users must use the card to both enter and leave locked buildings.
- If a card is lost, it should be reported to the security office who will issue a new card and arrange all access rights associated with the old card to be cancelled.

Review these requirements and mention at least two problems that should be corrected before the SRS is finalized.

Question 5

(20)

(a) Project managers sometimes regard work put into writing high quality specifications as “gold plating”, and claim that it is unnecessary, as it doesn’t contribute to producing program code. Under what circumstances is this view sensible, and under what circumstances is it foolish? In the later case, how would you persuade such a manager that the specification does need to be high quality?

(b) In your experience with the project you were working on in SE-382 throughout the quarter, is the cost (effort & time) of producing a decent quality SRS justified? Justify your conclusion with examples.

Question 6

(20)

Consider a university system whose main goal is to allow potential students to apply for admission remotely. The university believes that the system will offer the following advantages

- It will streamline operations in the enrollment office and hence reduce costs.
- Provide better service/information to potential students.

(a) How will you measure the advantage offered by the system?

(b) Can you use this goal to derive some non-functional requirements for the system?

Explain using examples.

(c) Why is it important to state the major goals of the project important during project blastoff?



Question 7

(10)

In the Requirements process, discuss some strategies to identify conflicts. Why is conflict resolution and negotiation important before software requirements are specified completely?

[Extra space]