

King Fahd University of Petroleum & Minerals  
Information and Computer Science Department

SWE 214  
Introduction to Software Engineering  
Section 1 Fall 2006

**Final Exam**

Date: Jan. 24, 2007

Duration: 2 hours

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Name:

ID#:

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Please answer all of the following questions. Make your answers clearly understandable,  
brief, concise and to-the-point.

**Question 1: [18 marks]**

1. Effective requirements management can be accomplished only via an effective software team whose members have different team skills. **State and explain** the Requisites six team skills for effective requirements management.

2. What are the guidelines that one should follow in order to elicit and understand the true needs of the users and stakeholders?

**Question 2: [18 marks]**

1. **For each** of the following categories of the nonfunctional requirements, give **two recommendations** on how to write good measurable requirements.

(a) Usability:

(b) Reliability:

(c) Performance:

2. **For each** of the following nonfunctional requirements, **indicate** to which category it belongs, **and rewrite it** in a quantitative way to become measurable. You may use any metrics you like to express the requirements.

(a) The library system shall be easy to use.

(b) The library system shall provide reliable service to all classes of user.

(c) The library system shall provide a rapid response to all user requests for book information.



2. There are many techniques that can be used to clarify ambiguous requirements. If you cannot afford to have a certain requirement to be misunderstood, explain what you should do more beside applying the disambiguation techniques to clarify this requirement.

**Question 5: [20 marks]**

1. Explain how the software project manager can manage and monitor the software requirements process to make sure that the process is working as planned.

2. Different project contexts may require different requirement methods. **Explain** the difference between the extreme and the agile requirements methods **and when** do you recommend to use each of these method.

**Question 6: [20 marks]**

1. Throughout the course you have learned many techniques and methods that you can apply to elicit, document, validate and manage the software requirements in order to have a high-quality software. For each of the following techniques, **explain clearly** how it may mitigate the risk of having an unsuccessful project outcome.

(a) Vision document:

(b) Requirement Traceability:

2. **Explain clearly in details** the techniques and methods that you can use during the software requirement management process to make sure that you are building the right system that satisfies the user needs?