

ICS 52 - Introduction to Software Engineering
Midterm Exam #1 – Fall, 2009

First Name: _____ Last Name: _____

1	2	3	4	5	Total
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1. (25 points; 5 points each.) Define the following terms, as used in software engineering.
 - A. Software process.
A set of activities which produce a software product. Phases in the development of software. Software life-cycle.
 - B. Agile methods.
Approaches to software development which view the world as fundamentally chaotic, which involve the users in every step, which do not have an extensive architectural or design phase up front, which are people-oriented, and which do not spend much energy on documentation. (pp. 54-55)
 - C. Requirements elicitation.
The process of understanding the (user's) problem and building a model of the domain. (p. 218)
 - D. ISO's external and internal quality model.
Internal quality refers to the product itself, ultimately the source code. External quality refers to the quality when the software is executed. (p. 127)
 - E. Maintenance.
All activities needed to keep the system operational after it has been delivered to the user. (p. 14)

2. (20 points.) The textbook says, “By taking appropriate counter-measures, the potential disadvantages of prototyping can be guarded against.” Name one of the potential disadvantages (or “cons”) of prototyping listed in the book, explain what specifically about prototyping leads to this disadvantage, and describe an appropriate counter-measure.

See pp. 58—60.

15 points for “name and explain” (if broken down, 5 for name, 10 for explain); 5 points for “describe”

One weak answer was to say “making the prototype wastes time”

3. (25 points) Different types of software processes may lead to software with different qualities. Select one desirable software quality discussed in lecture or in the textbook, briefly define it, and explain how following the Waterfall model is particularly likely to lead to software with this quality.

10 points for “select and define” 15 points for “explain”

For full credit the answer had to a specific aspect of the Waterfall model to the particular quality.

4. (20 points) The textbook describes several requirements elicitation techniques. For example, one is "Asking," defined as "We may simply ask the users what they expect from the system." Name and describe one other requirements elicitation technique described in the textbook. Describe how you might have proceeded with the AutoAd requirements process using the technique you selected.

See pages 226 – 233.

Scenario-based analysis

Ethnography

Form analysis

Natural language descriptions

Derivation from an existing system

Business Process Redesign

Prototyping

5. (10 points) Draw and label a diagram of the waterfall model (you can follow either the textbook or the lecture version).