

Exam problems, part II

Lau:5,7

Problem: Rating the requirements

Proposition: Requirements may be fulfilled to varying degrees of satisfaction, and it is up to the customer to decide if it is enough. For the developer of the system the problem of meeting the customer's satisfaction can be achieved by letting the customer give priorities to the requirements.

Reason: By letting the customer prioritise the requirements and then letting the developers only implement the most prioritized, you are guaranteed to meet the customer's satisfaction level and thereby delivering a good product.

Correct answer: C

Motivation: You shouldn't only implement the most prioritized requirements because of dependencies. Also priorities might sound like a good idea but it may end up useless because of customers giving all requirements high priority.

Reference: Lauesen S.: Software Requirements – Styles and Techniques. p. 304,

Learning objective: 1.1.3, 1.2.5, 1.3.4

Main responsible: Fredrik Månsson

Lau:6, QUPER

Problem: Quality requirements

Proposition: Quality requirements can't be directly compared with functional requirements during prioritization.

Reason: When creating the release plan it is important to consider both functional requirements and non-functional requirements, thus also different processes within the product lifecycle.

Correct answer: D

Motivation: During the different steps in creating the three different views of the Quper model, you have to consider competitor's, current market, the cost of implementing quality and your current quality level. This will enhance the overall understanding of the quality requirements and make it possible to relate the priority of quality requirements to the priority of functional requirements and thus also include the quality requirements in the prioritization. Since the release plan is affected by the prioritization of requirements it means that the quality requirements are very much requirements needed to be taken into account. The release plan then involves different processes of the product lifecycle and other aspects of the product development.

Reference: Supporting Roadmapping of Quality Requirements “Quper”, Björn Regnell, Richard Berntsson Svensson, Thomas Olsson.

Learning objective: 1.1.4, 1.1.5, 1.1.7, 1.3.1, 1.3.5

Main responsible: Filip Månsson

Problem: Usability requirements

Proposition: Prototyping can help to improve the usability of the end product but slows down the development process.

Reason: Creating prototypes after the implementation has begun often uncovers serious usability problems that are expensive to repair.

Correct answer: D

Motivation: Experience has shown that prototyping done correctly does not slow down the development and instead makes it faster and more predictable. However, it is correct that if a prototype is not made early enough, the design might contain very big problems with usability. Correcting these problems is time consuming since a lot of work will have to be undone and the faulty parts of the system redesigned.

Reference: Lau p. 249

Learning objective: 1.1.1.

Main responsible: Elin Blomstergren

Lau:9, INSP

Problem: Quality criteria for a specification

Proposition: The requirement specification is considered consistent when all requirements reflects a customer's need or expectation.

Reason: By using tasks or stated business goals as justifications for each requirement one can ensure consistency.

Correct answer: E

Motivation: The requirement specification is considered consistent when no parts of it conflict, for instance the data model does not conflict with the data dictionary and so on. The mapping between a requirement and a customers need is called correctness. To ensure correctness one can use tasks and business goals to justify a requirement.

Reference: Lau. p. 376-377

Learning objective: 1.1.1, 1.2.4

Main responsible: Oskar Fällström

MDRE+PRIO+RP

Problem: Activities in market-driven projects

Proposition: Apart from the activities needed in customer-specific projects, market analysis is essential in market-driven projects.

Reason: The primary objective of market-driven development is to deliver the right product at the right time, while the customer-specific projects often are focused on fulfillment of a contract and compliance to a requirements specification.

Correct answer: A

Motivation: Both the proposition and the reason are true and the reason explains the proposition. Market-driven projects are often driven under the pressure of competition from other producers and as the market and product evolves, the process of the developing organisation also needs to evolve in order to stay ahead of competition. Therefore it is essential to carry out an accurate market analysis.

Reference: MDRE section 13.2.1 & 13.2.2

Learning objective: 1.1.6

Main responsible: Emma Ekström

AGRE+INTDEP

Problem: Requirements selection strategy for release planning

Proposition: When doing release planning, it is best to first identify the most dependent requirements and assess them pair-wise, in order to minimize the number of comparisons that has to be made.

Reason: The degree of Requirements Coupling within a set of requirements R can be expressed by the following formula, where I is the number of distinct interdependencies within the set:

$$C_{req} = \frac{I}{(R(R-1))/2}$$

Correct answer: B

Motivation: Both the proposition and the reason are correct, but the reason does not explain the proposition. They are related in content, but not to the degree of explanation. They are both taken from the article on requirements interdependencies in relation to release planning (INTDEP) and are results of the scientific study. While comparing highly dependent requirements can reduce the number of total comparisons, it has little to do with the coupling criteria introduced on the next page, which rather is used as a tool for requirements partitioning.

Reference: INTDEP p. 6-7

Learning objective: 1.1.7

Main responsible: Gustav Halling