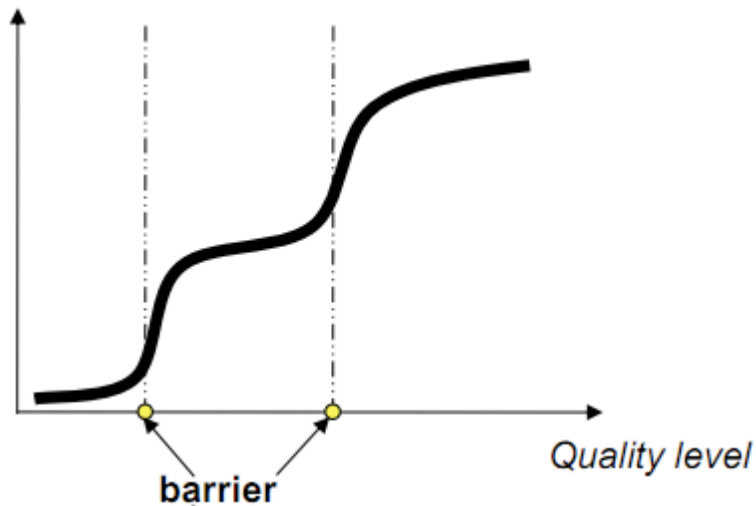**EXAM PROBLEMS, hand-in 2**

Authors: Group C
      Kristofer Axelsson, Mille Boström, Gleb Chernenko, Pontus Johansson, Dan Wolff

Benefit view

Problem 1. QUPER
Proposition: As evident from the figure from the QUPER model above, it is important to pass the second barrier, called the utility breakpoint, before the product can be released.
Reason: The customer benefit rises sharply after the utility breakpoint, since the essential features will be accounted for.
Correct answer: D (proposition is incorrect, reason is a correct statement)
Motivation: The figure actually displays the cost view, in which two cost barriers are marked. The utility breakpoint is instead indicated in the *actual* benefit view, before which the product would be next to useless, and after which it will be useful.
Reference: From lecture about QUPER (lecture 5)
Learning objective: 12, 16, 15, 8

Problem 2: The validation process
Proposition: Accounting for risk is not relevant during the validation stage. It should generally be done during the specification.
Reason: At the validation stage it is generally too late in the process to make large changes to the requirements document.
Answer: E, both are incorrect
Motivation: Risk assessment is carried out during validation. The reason is also incorrect since it is common to change a lot of requirements during the validation process.
Reference: Lau 9; p. 390-393.
Learning objective: 12, 13,

Problem 3: Testing
Proposition: If performed, simulation, prototyping and pilot tests are generally done during the validation process.

Reason: Due to the inherent problems in implementing evolving prototypes, they cannot be done at a earlier stage than during the validation process.
Answer: C, proposition is correct, while the reason is incorrect.
Motivation: All the three methods can be done during the validation process. The reason, however, makes no sense.
Reference: Lau 9, p. 393.
Learning objective: 12

Problem 4: Reports
Proposition: When specifying reports, it is important to specify all reports as early in the process as possible.
Reason: Specifying reports early will make it easier to find data requirements, and any inconsistencies between the two become evident.
Answer: D, proposition is incorrect, but the reason is valid
Motivation: It is important to only focus on the clearly necessary reports, as specifying *all* of them will consume too much time (there are commonly hundreds). Instead, the reports which aren't clearly necessary should be postponed (but it is good to specify *how* they will be made).
Reference: Lau 5, p. 196-198
Learning objective: 11, 1, 3

Problem 5:
Proposition: Användbarhetstestning utförs bäst på en av utvecklarna av programvaran.
Reason: Utvecklarna har bra kunskap om vilka kvalitetskrav som finns på systemet för användbarhet och därmed vet hur systemet ska fungera utefter dessa.
Answer: E, båda är fel.
Motivation: Utvecklaren vet ofta för mycket om hur systemet skall fungera utifrån sin egen implementering och besitter oftast ingen större kunskap om användarvänlighet. Därför är det lätt hänt att utvecklaren stirrar sig blind på funktionaliteten och tycker att allt fungerar bra när det i själva verket, för den vanliga användaren, kan uppstå stora komplikationer som beror på att användbarheten i systemet är för dålig. Ett test ska utföras på en individ som kan spegla den slutgiltiga användaren så väl som möjligt, detta för att upptäcka relevanta fel i systemet.
Reference: Lau 6, p. 253
Learning objective: 2, 7, 9

Problem 6:
Proposition: Om ett användningsfall är lätt att missbruka så är säkerhetskraven dåligt formulerade för detta användningsfall.
Reason: Säkerhetskrav siktar mot att förhindra ett missbruk av användningsfallen i systemet lika mycket som resterande kvalitetskrav siktar mot att stödja användningsfallen.
Answer: A, båda är korrekta
Motivation: Dåligt formulerade eller uteblivna säkeherhetskrav kan resultera i kritiska säkerhetshål i sytemet som i sin tur leder till ett instabilt och osäkert system. Säkerhetskrav är

särskillt viktiga, speciellt idag, då samhället förlitar sig mer och mer på att datorsystem är stabila och säkra att använda, tex sjukhus, kärnkraftverk och flygplatser.
Reference: Lau 6, p. 266-267
Learning objective: 1, 3

Problem 7:
Proposition: Performance requirements specify things such as numbers of records in the database and accuracy of numbers.
Reason: A performance requirement will often have a numerical target to reach.
Answer: D, proposition is incorrect, but the reason is a correct statement
Motivation: The proposition describes capacity and accuracy requirements, not a performance requirement. The reason describes a quality requirement, including performance requirements.
Reference: LAU 6 page 228 and 234
Learning objective: 3

Problem 8:
Proposition: The deployment test is done with user tasks, real costumer records in the database and correct discount codes.
Reason: The purpose of the deployment test is to check that the product can work in daily operation with production data.
Answer: A
Motivation: This is indeed the purpose of a deployment test and it is done with the previously mentioned resources.
Reference: LAU 7 page 319
Learning objective: 15, 9

Problem 9:
Proposition: Accomodating requirements changes during development is a way of tuning the system to better satisfy the customer needs.
Reason: Because we don't make fixed plans, and try to conform to them, accomodating change is easier.
Answer: A
Motivation: Customers provide feedback and can request major changes, therefor it is good to accomodate for changes. The reason is correct.
Reference: AGRE
Learning objective: 15, 9

Problem 10:
Proposition: Estimates of the likely amounts of various resources needed to implement each feature must be determined during the modeling phase of a release plan.
Reason: Because finding a solution to the objective function during exploration depends on it.
Answer: A
Motivation: It needs to be done early because of the reason.
Reference: RP
Learning objective: 17, 14