



# CPUX-UR

# Public Example Test

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## **1 Preliminary note**

This document contains one example of a complete set of theoretical and practical test questions for the test required for becoming a “Certified Professional for Usability and User Experience – Advanced Level User Requirements Engineering” (CPUX-UR).

Further information regarding the test procedure for CPUX-UR can be found in the document “Examination Regulations CPUX-UR” This document is available free of charge at [www.UXQB.org](http://www.UXQB.org)

## 2 Theoretical test CPUX-UR - Example

### 2.1 Instruction

A set of CPUX-UR test Questions for the theoretical examination always contains 40 test Questions.

You have 90 minutes to answer the test Questions. If the examination is not in your first language, you have 105 minutes.

No aids such as computer, notes or textbooks are allowed during the test.

Each test Question is a multiple-choice Question with 6 choices. One or two or three choices are significantly more correct than the other choices. The number of correct choices is clearly indicated in the header of each test Question .

At the end of the certification test, the Questions and your answers will be collected by the test team. You are not allowed to take the test Questions with you.

In order to pass the theoretical test for the CPUX-UR certificate, at least 84 points out of the maximum of 120 points must be scored (70%).

### 2.2 Assessment

The candidate must decide for each possible answer provided if it must be checked or not. 3 points are assigned if all correct answers (maximum 3) are marked and none of the incorrect answers are marked.

For each correct answer that is not marked and for each incorrect answer that is marked an amount of points is subtracted from 3 as follows

- 3 points for an incorrect answer are subtracted, if only 1 correct answer is possible
- 1.5 points are subtracted for an incorrect answer if 2 correct answers are possible
- 1 point is subtracted for an incorrect answer if 3 correct answers are possible

However, subtraction of points may never lead to a negative point value.

Example 1: A multiple choice Question has 6 available answers, of which 3 are correct, the other 3 are incorrect. The candidate marks 2 correct answers and one incorrect answer. For the correct answer not marked 1 point is subtracted and for the incorrect answer marked, 1 point is subtracted from the maximum possible point value (3 points). The result is therefore 1 point.

Example 2: 2 out of 6 available answers are correct. The candidate marks one correct answer and one incorrect answer. For the incorrect answer marked, 1,5 points are subtracted. For the correct answer that was not marked, also 1,5 points are subtracted. The candidate therefore receives  $3 - 2 * 1,5 = 0$  points.

Example 3: 3 out of 6 available answers are correct. The candidate marks 4 or more answers. They are awarded 0 points, irrespective of any correctly marked answers.

Example 4: 2 out of 6 available answers are correct. The candidate just marks one correct answer. The marked answer is correct. The candidate receives 1,5 points.

### 2.3 Test Questions for the theoretical test - 40 Questions, 90 minutes

Question 1	1 correct choice	LO 1.1.a
Which one of the following dimensions does NOT refer to Technology-centred quality?		
<ul style="list-style-type: none"> <li>A - Maintainability</li> <li>B - Security</li> <li>C - Reliability</li> <li>D - Avoidance of harm from use</li> <li>E - Interoperability</li> <li>F - Functional appropriateness</li> </ul>		

Question 2	3 correct choices	LO 1.1.b
Consider the following statements about different types of information		
<ol style="list-style-type: none"> <li>1. The railway traveller needs to have a valid ticket, in order to start the railway journey.</li> <li>2. With the system, the user must be able to recognise when the train will arrive at the target destination.</li> <li>3. When the train is late, the user must receive an SMS 30 minutes before the scheduled departure time.</li> <li>4. The majority of travellers arrive at the platform 10 minutes before the train leaves.</li> <li>5. The user needs to know which platform the train departs in order to go to the right platform.</li> </ol>		
Which three of the following statements are correct?		
<ul style="list-style-type: none"> <li>A - 1 and 3 are user needs</li> <li>B - 3 is a solution</li> <li>C - 5 is a market requirement</li> <li>D - 2 is a user requirement</li> <li>E - 3 is a user requirement</li> <li>F - 4 is a context of use information</li> </ul>		

**Question 3**      **3 correct choices**      **LO 1.1.g****Which three statements about user interface guidelines are NOT correct?**

- A - A user interface guideline is a rule to be followed which has not been derived from the specific context of use for the interactive system.
- B - A user interface guideline is a user requirement because it describes how the interface should be designed for good usability.
- C - A user interface guideline is a market requirement.
- D - A user interface guideline is typically applicable across different contexts of use.
- E - A user interface guideline is a solution, because it is a characteristic of the interactive system.
- F - A user interface guideline is a specific type of information according to the CPUX-UR curriculum.

**Question 4**      **2 correct choices**      **LO 1.1.h****Which two of the following statements represent solutions?**

- A - With the alarm clock, the user must be able to recognise how much time is left for sleeping.
- B - User interfaces should meet the user requirements.
- C - The remaining time to sleep is indicated by a countdown timer
- D - When the remaining time to sleep is less than 60 minutes, the timer is displayed in yellow.
- E - 80% of users should be able to recognise how much time is left to sleep within 2 seconds.
- F - Light sleepers, on average, wake up every two hours during the night.

**Question 5**      **3 correct choices**      **LO 1.2.c****Which three statements about stakeholder requirements and system requirements are NOT correct?**

- A - System requirements are derived from stakeholder requirements.
- B - Stakeholder requirements are not relevant any longer after they have been translated into system requirements.
- C - Human-centred quality covers the fulfilment of stakeholder requirements.
- D - Requirements can be distinguished into organisational requirements and user requirements.
- E - According to the curriculum user requirements are one type of system requirements.
- F - Quantitative user requirements are stakeholder requirements.

Question 6

2 correct choices

LO 1.2.d

Which two of the following statements about user requirements are correct?

- A - User requirements are part of the stakeholder requirements.
- B - Market requirements are a specific type of user requirements.
- C - Without market requirements, it is impossible to derive user requirements.
- D - User requirements can conflict with market requirements.
- E - Market requirements can override user requirements.
- F - Qualitative user requirements can always be expressed as quantitative user requirements.

Question 7

2 correct choices

LO 1.2.e

Which two statements regarding verification and validation are correct?

- A - A usability inspection by a usability expert that checks if user requirements have been implemented is a validation.
- B - A usability inspection by a usability expert that checks if user interface guidelines have been applied is a verification.
- C - A usability test that checks if user requirements have been appropriately implemented from the perspective of the users is a validation.
- D - A usability test that checks if user requirements have been appropriately implemented from the perspective of the users is a verification.
- E - Validation is the process of determining if all requirements are supported by a suitable product characteristic.
- F - Verification is the process of determining whether all stakeholder requirements have been effectively implemented from the perspective of all stakeholders.



Question 8	3 correct choices	LO 1.3.a
Which three of the following choices are components of the context of use?		
<ul style="list-style-type: none"> <li>A - User needs</li> <li>B - Social environment</li> <li>C - Indirect Users</li> <li>D - Educational environment</li> <li>E - Task models for design</li> <li>F - Exhaustible resources</li> </ul>		

Question 9	3 correct choices	LO 1.3.b
Which three of the following examples are NOT goals?		
<ul style="list-style-type: none"> <li>A - Baking a cake</li> <li>B - Having a cake for the guests when they arrive</li> <li>C - Deciding on the cake for the guests</li> <li>D - Cutting pieces of cake</li> <li>E - Having no cake left after the guests have had their pieces of cake</li> <li>F - Receiving positive feedback on the cake from the guests</li> </ul>		

Question 10	3 correct choices	LO 1.3.c
Consider the following statements about components of a task. Which three statements are correct?		
<ul style="list-style-type: none"> <li>A - "Clearing the window sill" is a subtask within the task "Cleaning the windows at home".</li> <li>B - During the task "Cleaning the windows at home", each window represents a task object of the task.</li> <li>C - "Cleaning the windows at home" is a subtask of the task "Maintaining the house".</li> <li>D - During the task "Cleaning the windows at home", the soapy water represents a task object of the task.</li> <li>E - "Deciding when to clean the windows" is a subtask within the task "Cleaning the windows at home".</li> <li>F - A and E are intended outcomes within the task "Cleaning the windows at home".</li> </ul>		

**Question 11**                      **2 correct choices**                      **LO 1.3.d**

Think about the task “booking a flight using a website”. Which two of the following choices represent preconditions or postconditions of this task?

- A - Name and account information have been supplied.
- B - A flight booking for a certain date is due.
- C - Comparing available flights.
- D - The flight has been booked.
- E - The check in has been completed.
- F - Booking a taxi at the destination airport.

**Question 12**                      **2 correct choices**                      **LO 1.3.e**

Which two of the following statements about task models and context of use are correct?

- A - The lifecycle of a task typically consists of the phases “plan, prepare, choose, evaluate result, pass on result”.
- B - A task model of the context of use describes the subtasks for each task to be supported by the future system.
- C - A task model used for design describes a task and the subtasks as supported by the new or revised interactive system.
- D - The context of use for design can exclude user groups that have been identified in the context of use.
- E - A task model always ends with exactly one post-condition.
- F - A task model describes the logic of at least two tasks including their subtasks.

**Question 13****3 correct choices****LO 1.4.a**

Consider the following statements about user requirements. Which three statements are correct?

- A - The relevance of specific user requirements with regards to the usability of the overall interactive system can vary across user groups.
- B - Quantitative user requirements are generally more important than qualitative user requirements.
- C - User requirements should be sorted by implementation costs to identify how many user requirements will be implemented.
- D - The implementation of one specific user requirement can be more relevant to the usability of the interactive system than the implementation of several other user requirements.
- E - Each user requirement will have the same impact on the usability of the interactive system.
- F - The usability of an interactive system can significantly depend on whether a single user requirement is implemented or not.

**Question 14****3 correct choices****LO 1.4.b**

Consider the following statements about user requirements. Which three statements are correct?

- A - Quantitative user requirements are the central basis for designing the interaction between user and interactive system.
- B - Qualitative user requirements specify what users must be able to recognise, select or input when completing tasks with the interactive system.
- C - User requirements can be directly derived from market requirements.
- D - Stakeholder requirements are a source for quantitative user requirements.
- E - Each qualitative user requirement must be traceable back to one or more other stakeholder requirements.
- F - Qualitative user requirements can be translated into product attributes from the user's perspective and are therefore the basis for designing the interaction between the user and the interactive system.

Question 15      3 correct choices      LO 1.4.c

Which three statements about sources for user requirements are correct?

- A - Anticipated usability problems are not a source for user requirements.
- B - Market requirements can be an indirect source for user requirements.
- C - The direct source for user requirements are always user needs identified in the context of use.
- D - User requirements can lead to organisational requirements but not the other way round.
- E - Heuristics can be an indirect source for the specification of user requirements.
- F - User wants can be simply transformed into user requirements by applying the syntax rule for specifying user requirements.

Question 16      1 correct choice      LO 2.1.b

Read the following human-centred quality objectives and consider which dimension of human-centred quality they relate to.

1. The user should be able to find their desired article within 2 seconds.
2. Users aged 60+ should be able to use the news platform without help.
3. The users should be able to easily find articles again that they have read before.
4. The new platform should provide access to products matching users recently inspected products.

Which ONE of the following statements is true?

- A - All of the statements relate to the "usability" dimension of human-centred quality.
- B - 1 relates to the "performance" dimension of human-centred quality.
- C - All of the above statements relate to the "user experience" dimension of human-centred quality.
- D - 2 relates to the "accessibility" dimension of human-centred quality.
- E - 4 relates to the "individualization" dimension of human-centred quality.
- F - None of the above answers are correct.

**Question 17**      **3 correct choices**      **LO 2.2.a**

Which three statements about empirical information are NOT correct?

- A - Empirical information must be verified by market research.
- B - Empirical information can be obtained by observations.
- C - Empirical information can be gathered through contextual interviews.
- D - Assumptions can serve as empirical information if they are collected through focus groups.
- E - Constructed information is the basis for empirical information.
- F - Assumptions are a starting point for collecting empirical information.

**Question 18**      **2 correct choices**      **LO 2.2.b**

You are running an initial stakeholder workshop to prepare a context of use analysis.

Which two statements that you give to the participants about research questions for a context of use analysis are correct?

- A - The research questions must be defined before the stakeholder workshop because they are the basis for an efficient stakeholder workshop.
- B - In the workshop we will specify user groups and tasks to be supported. It might be possible that we have open questions about the user groups, which result in research questions for the context of use analysis.
- C - In the workshop we will identify user groups. It might be possible that we have open questions about the user groups. In that case we have to verify these questions through market research or other internal statistics before running the context of use analysis.
- D - When specifying and structuring tasks to be supported we might realise that we have open questions about the tasks, which result in research questions for the context of use analysis.
- E - Research questions should not be gathered through a stakeholder workshop. Only stakeholder requests can be gathered in an internal workshop.
- F - Based on the upfront defined research questions, stakeholders can define human-centred quality objectives during the workshop.

**Question 19**

2 correct choices

LO 2.2.c

A company that runs an online banking app wants to optimise their product and the team believes that push notifications about account transactions would increase customer loyalty. The project members doubt that empirical data gathering with users will yield relevant insights and instead want to take the approach "Lean UX".

Decide which TWO of the following activities would NOT be your choices:

- A - I would conduct a classic context of use analysis because of the existing doubts.
- B - I would explain that I recommend a model-based context of use analysis which is a suitable starting point for Lean UX.
- C - I support the "Lean UX" approach because it is suitable for the implementation of small improvements.
- D - I would suggest that at first, the statement "Push notifications about account movements increase customer loyalty" is seen as a hypothesis and we move on by validating this hypothesis by some contextual interviews with real users.
- E - I would recommend a large-scale context of use analysis to identify the innovation potential that is largely unknown to the client.
- F - I would recommend an agile development process which makes it possible to use results from tests directly in the next iteration.

**Question 20**

3 correct choices

LO 3.1.b

You are working for a company that builds a mobile app for business travellers that supports all tasks around business trips . You are preparing a recruitment screener for the user group "business traveller".

Which THREE of the following questions are the LEAST suitable for this user group?

- A - How long have you been with the company?
- B - How often do you go on business trips?
- C - How do you claim expenses for your business trips?
- D - What are your hobbies?
- E - Do you enjoy business trips?
- F - How do you decide on the means of transport when travelling?

Question 21	3 correct choices	LO 3.2.a
Which three of the following are variants of observations?		
<ul style="list-style-type: none"> <li>A - Structured</li> <li>B - Hypothetical</li> <li>C - In the field</li> <li>D - Non-participatory</li> <li>E - Guided</li> <li>F - Unprepared</li> </ul>		

Question 22	3 correct choices	LO 3.2.d
Which three of the following statements are recommended for observations?		
<ul style="list-style-type: none"> <li>A - It can be helpful to have managers of users demonstrate the way the users work before the observations take place.</li> <li>B - The observer does not interfere, except if he/she needs to occasionally ask a clarifying question.</li> <li>C - If no interactive system is used, existing manual procedures should be observed.</li> <li>D - Observations should always be preceded by focus groups.</li> <li>E - Observations should take place in a context that is as natural as possible, for example at the user's workplace.</li> <li>F - Observations should be video documented. Documentation in the form of as-is scenarios are not necessary.</li> </ul>		

Question 23	3 correct choices	LO 3.3.c
Which three of the following statements about personas are NOT correct?		
<ul style="list-style-type: none"> <li>A - Secondary personas are initially derived from assumptions about the relevant user group.</li> <li>B - By using personas, all project members can be more empathic towards the users, their characteristics and goals.</li> <li>C - Personas are realistic representations of users, constructed from empirically determined data, for example from observations or interviews.</li> <li>D - Anti-personas represent users for whom the interactive system is not intended to be used.</li> <li>E - Personas are the basis for developing recruitment screeners.</li> <li>F - Personas serve the same purpose as user group profiles.</li> </ul>		

Question 24	3 correct choices	LO 3.3.d
Which three statements about an appropriately formulated as-is scenario are correct?		
An appropriately formulated as-is scenario		
<ul style="list-style-type: none"> <li>A - is a narrative description of the context of use based on contextual interviews or observations.</li> <li>B - is identical to an interview script in terms of all the information exchanged between the interviewer and the interviewed person.</li> <li>C - only considers the context of use for design.</li> <li>D - is especially helpful for identifying user needs and deriving user requirements.</li> <li>E - minimises the need for project team members to ask questions to the interviewer(s) to clarify the described context of use.</li> <li>F - can be used as a substitute for a user group profile.</li> </ul>		

Question 25	1 correct choice	LO 4.1.a
Look at the following user needs, which your colleague has identified from interviews with customer service agents and identify which type of user need each of them is:		
<ul style="list-style-type: none"> <li>1 The customer service agent needs to know when the product was bought to decide if the complaint was within the warranty period.</li> <li>2 The customer service agent needs to be able to start the internal return process to be able to deal with the customer complaint.</li> <li>3 The customer service agent needs to be able to raise a support ticket, to assign the process to colleagues for further processing.</li> <li>4 The customer service agent needs to know if the complainer wants to have a replacement delivery or a refund.</li> <li>5 The customer service agent needs to have the original invoice for the defect product to be able to start a replacement delivery for the product.</li> <li>6 The customer service agent needs to know whether the address of the complainer is valid to ensure that the replacement delivery will arrive.</li> </ul>		
Which one statement below is correct?		
<ul style="list-style-type: none"> <li>A - 1,2,4,5 are informational needs</li> <li>B - 2 and 3 are competency needs</li> <li>C - 5 is a resource need</li> <li>D - 5 is an informational need</li> <li>E - All 6 are usability needs</li> <li>F - 2 is a capability need</li> </ul>		



Question 26	3 correct choices	LO 4.1.b
Which three statements about user needs in the following list are true?		
<p>A - A user needs statement must not contain the interactive system.</p> <p>B - User needs are always justified in the context of use.</p> <p>C - A user need always consists of a task that a user performs that is related to the interactive system.</p> <p>D - User needs always consist of a goal to be achieved and the prerequisite that is necessary to achieve the goal.</p> <p>E - Resource needs are less important than information needs.</p> <p>F - User needs that don't lead to user requirements for the interactive system to be designed should not be identified.</p>		

Question 27	3 correct choices	LO 4.1.c
<p>A software manufacturer who wants to improve their online banking app has collected some empirical information from users on which tasks they perform and wants you to identify relevant user needs.</p> <p>The context of use documented as part of an as-is scenario is as follows:</p> <p><i>"I have two bank accounts, which I use for different purposes. Sometimes my accounts have a low balance. So when I have to transfer money, I always check each account for the balance first. Once I have checked which account has a sufficiently high balance, I decide which account to use for the transfer. Sometimes I transfer money between my accounts before I initiate a transfer."</i></p> <p>Which three of the following user needs would you NOT identify in your context of use analysis?</p>		
<p>A - The account holder needs to be able to transfer money between the accounts.</p> <p>B - The account holder needs to have the opportunity to check their account movements in order to check for incoming money.</p> <p>C - The account holder needs to have enough money in one of their accounts in order to transfer a required amount.</p> <p>D - The account holder needs to know the overall current balance across all the bank accounts to identify if a required amount can be transferred.</p> <p>E - The account holder needs to know the current balance of each bank account to decide which account can be used for money transfers.</p> <p>F - The account holder needs to have a list of all accounts and account balances in order to make a decision about transferring money.</p>		

**Question 28**
**2 correct choices**
**LO 4.1.d**

Your team has performed a context of use analysis with estate agents for rented apartments. Your colleague has identified the following 6 user needs.

- 1 The estate agent needs to know how much rent the customer is willing to pay, in order to offer relevant apartments.
- 2 The estate agent needs to be able to send a notification to the customer when relevant apartments are available.
- 3 The estate agent needs to be able to contact the customer in case an apartment of interest has been rented by somebody else.
- 4 The estate agent needs to know the address of the customer.
- 5 The estate agent needs to have the contact data of the customer, to inform the customer about new relevant apartments.
- 6 The estate agent needs to know when a rental contract of a customer is expiring, to offer new relevant apartments.

Your colleague asks you for feedback on whether these user needs are well-phrased?

Which two of the following statements are correct?

- A - All six user needs should start with “the user” rather than with specific role of “estate agent”.
- B - 1, 2, 4, 5 and 6 are well-phrased.
- C - 1, 5 and 6 are well-phrased.
- D - 2, 3 and 4 are not well-phrased.
- E - All six user needs are well-phrased.
- F - None of the user needs are well-phrased.

**Question 29**
**2 correct choices**
**LO 4.1.e**

Which two of the following statements about user wants are NOT correct?

- A - A user want represents the demand of a user group.
- B - User wants should be further investigated for the underlying context of use.
- C - User wants can be the starting point for analysing the underlying context of use.
- D - User wants are often formulated as desired solutions.
- E - A user want is a subjective statement.
- F - User wants are often implicitly contained in context of use descriptions.

**Question 30**      **3 correct choices**      **LO 5.1.a**

Below find some quality criteria for user requirements. Which three statements about user requirements are correct?

- A - User requirements always satisfy one or more user needs.
- B - User requirements are specific to the users that were interviewed or observed.
- C - User requirements must be formulated with regard to the use of the solution, but not formulate the solution itself.
- D - Quantitative user requirements are valid for all user groups.
- E - User wants can directly be transferred into qualitative user requirements.
- F - Statements of user requirements are always expressed in terms of what users must be able to recognise on, select with or input into the interactive system.

**Question 31**      **2 correct choices**      **LO 5.1.b**

Which two of the following are appropriately stated user requirements?

- A - With the invoicing system, the user must have a means to send a reminder to the customer about unpaid invoices.
- B - With the invoicing system, the user must be able to create an invoice.
- C - With the invoicing system the user must be able to input the amount to be paid.
- D - With the invoicing system, the user must be able to recognise which invoices are overdue.
- E - With the invoicing system, the user must be able to switch between list view and grid view.
- F - The invoicing system must allow the user to input the amount to be paid.

**Question 32****3 correct choices****LO 5.1.c**

You have identified the following three user needs from a context of use analysis.

1. The customer needs to know the current value of goods in his shopping cart in order to decide when he has to stop shopping.
2. The customer needs to know the available quantity for each product in order to identify if they can order the needed quantity.
3. The customer needs to know when a product will be in stock again in order to decide if they shall enquire in another shop.

Now you have to derive the user requirements. Which three of the following choices would you NOT derive?

- A - With the system, the user must have the information about the current value of their shopping cart.
- B - With the system, the user must be able to select the required quantity of a product.
- C - With the system, the user must be able to open another browser window to access other shops while shopping on the website.
- D - With the system, the user must be able to recognise the current value of goods in their shopping cart.
- E - With the system, the user must be able to recognise the available quantity for each product to be purchased.
- F - With the system, the user must be able to input a desired timeframe for a product to come back in stock.

**Question 33****2 correct choices****LO 5.1.d**

You are working for “Your car now”, a company that offers rental cars. You are asked to review the following requirements.

Which two of the following are well phrased quantitative user requirements?

- A - The rental cars with manual gears must be 10% cheaper than cars with automatic gear.
- B - 80% of at least 25 users who use the navigation system for the first time must be able to start the ride to the intended destination using the navigation system without reading the instructions for use.
- C - The user must be able to select at least 5 different heights of the driver seat for each rental car.
- D - 90% of at least 25 users who are ordering a rental car online must be able to complete the checkout process correctly within 30 seconds.
- E - The user must be able to locate the rental car in the car park within 1 minute.
- F - The user must be able to read all of the instructions within 5 minutes.

**Question 34****2 correct choices****LO 5.1.e**

A colleague asks for your help. He has identified conflicting user needs within a user group and now asks what to do. Which two statements are correct?

- A - The best thing to do is delete one of the user needs, otherwise you will have endless discussions in the project team.
- B - You suggest deriving the user requirements to enable identification of a solution that is a compromise for satisfying both user needs.
- C - Conflicting user needs don't exist. Appropriate context of use analysis does not produce conflicting user needs.
- D - Conflicting user needs can still lead to non-conflicting user requirements.
- E - Conflicting user needs are user wants that have been misinterpreted.
- F - Conflicting user needs point to different user groups that have conflicts with each other.

**Question 35****3 correct choices****LO 5.2.a**

What differentiates a task model of the context of use and a task model used for design? Which THREE statements are correct?

- A - "Task model used for design" is a synonym for "context of use for design."
- B - A task model used for design can have more subtasks than a task model of the context of use.
- C - Task models of the context of use are irrelevant because the task models used for design override them.
- D - A task model used for design can have less subtasks than a task model of the context of use.
- E - A task model for design can include subtasks that have emerged from the technology of the interactive system.
- F - Task models used for design are always identical to task models of the context of use.

**Question 36**
**2 correct choices**
**LO 5.2.b**

You are working for a company that builds air pumps for gas stations. You have developed a task model for the task “Checking the tyre pressure”.

*Contextual pre-condition: The car driver had all four tyres replaced and was told to check the air pressure after 50km of driving.*

1. *Identify when to check the tyre pressure*
2. *Decide at which gas station to check the tyre pressure*
3. *Drive to the gas station*
4. *Remove the air valve cap of each tyre to be inflated*
5. *Position the air pressure gauge at the air valve of each tyre to be inflated*
6. *Read the current air pressure of each tyre*
7. *Correct the air pressure of each tyre to the required value*
8. *Replace each air valve cap of each tyre*
9. *Verify that all four tyres have been inflated*

*Intended outcome (contextual post-condition): The car driver feels safe that the air pressure of the new tyres is at a required level and is ready to bring the car back on the road.*

After you identified the user needs within the context of use, you derived the following three user requirements:

UR1 – With the system, the user must be able to recognise the current value of tyre pressure.

UR2 – With the system, the user must be able to select the pressure value for the tyre.

UR3 – With the system, the user must be able to recognise when the tyre is filled to the required pressure.

Now you want to assign each user requirement to the corresponding subtask.

Which two of the following statements are correct?

- A - UR3 cannot be assigned because there is no corresponding subtask.
- B - UR1 belongs to subtask 6.
- C - UR2 and UR3 belong to subtask 7.
- D - UR2 is not correct because it contains a solution.
- E - None of the user requirements can be assigned to a corresponding subtask.
- F - UR1 and UR3 belong to subtask 9.

Question 37

2 correct choices

LO 6.1.b

Consider the following statements about the use of standardised models for prioritising user requirements. Which three of the following statements are correct?

- A - Standardised models (e.g. the Kano model) allow user requirements to be prioritised from the user's perspective rather than by personal opinions of other stakeholders or project team members.
- B - Standardised models (e.g. the Kano model) help to come to a user-oriented consensus on priorities.
- C - A simple but useful prioritisation model consists of the priorities "absolute must" versus "nice to have".
- D - Prioritising user requirements does not require user involvement if the context of use analysis has been carried out properly.
- E - Standardised models (e.g. the Kano model) for prioritisation are not necessary for prioritisation, since "low hanging fruit" and "quick wins" always have the highest priority.
- F - The project team should prioritise user requirements primarily based on implementation costs.

Question 38

3 correct choices

LO 6.2.a

You are expected to present the results of a context of use analysis to the project team. You have already assessed the relevance of each user requirement with a group of representative users.

Which three of the below activities do you NOT recommend for introducing the user requirements to the project team?

- A - I go through all as-is scenarios in detail, so the project team has a deep understanding of each of the interviewed users.
- B - I first recap the human-centred quality objectives that were set for the release to be implemented.
- C - I focus on stated problems with our existing system and present improvements that serve as "low hanging fruit" and "quick wins".
- D - I point out the major attributes and attitudes for each user group by one persona for each user group.
- E - I introduce the user requirements by the tasks to be supported to keep the focus on the required user support for the whole project team.
- F - I present the identified user wants rather than the user requirements since these are more engaging.

Question 39

2 correct choices

LO 6.2.a

Based on a workshop with users, user requirements were verified in terms of completeness, correctness and relevance to the users. Some of the user requirements were rated more relevant than others. The implementation effort for those user requirements has been identified as rather high by the project team. The project manager has invited you to a project team meeting in your role as the person responsible for the user requirements and asks for advice.

Which two of the following options should you take?

- A - You advise the project team that it is their decision what to do with user requirements and that you only deliver the user requirements.
- B - You explain to the project team what the consequences of not implementing the user requirements in question are regarding reduced effectiveness, efficiency and satisfaction of the users.
- C - You recommend implementing the user requirements due to the high relevance to users and in case of project constraints not allowing this, to place them on a road map for the upcoming releases of the product.
- D - You agree with the project manager that decision making from an economic perspective always overrides user requirements.
- E - You agree that users always rate the relevance of user requirements higher than they actually are.
- F - You explain that “low hanging fruit” and “quick wins” always have the highest priority when it comes to user requirements.



Question 40

2 correct choices

LO 6.2.d

You work for a company as a user requirements engineer. The product owner of the product you are working on is confronted with your list of requirements that have a high relevance according to the users. The product owner is not happy because the requirements cannot be implemented within a short time period and they cannot see the benefits of the implementation.

Which two answers would you give to the product owner?

- A - I tell him that these are urgent user requirements that shall be implemented for the sake of the user's acceptance in the current release version. They should stop all other implementation to focus on these high priority requirements.
- B - I explain that the implementation can take place over several releases. Typically, not all user requirements can be implemented at the same time and they should be placed on a road map.
- C - I tell the product owner to conduct another workshop with the users and suggest to the users how to prioritise the user requirements so they align with the release schedule.
- D - I explain that everything chosen for future development is actually a nice-to-have and therefore does not need to be considered. This means the number of relevant requirements shrinks and becomes manageable.
- E - I explain the user needs and the context of use which the requirements are based on, demonstrate benefits users get from implementing the user requirements as well as the risks arising from not implementing them.
- F - I explain that these are just the opinions and assumptions of users. The project team should conduct a prioritisation on its own.

## 2.4 Answers to the Public Test Questions

Question	Correct answer(s)	Notes
1	D	<p>D is the correct answer. "Avoidance of harm from use" is a dimension of human-centred quality.</p> <p>Answers A, B, C, E, F state dimensions of technology-centred quality.</p>
2	B, D, F	<p>B, D and F are the correct answers.</p> <ul style="list-style-type: none"> <li>B states a product attribute and therefore is a solution.</li> <li>D states a user requirement because it contains a statement of what a user must be able to recognise.</li> <li>F is a context of use information because it states factual information about the context of use.</li> </ul> <p>A, C and E are incorrect answers:</p> <ul style="list-style-type: none"> <li>A is an incorrect answer, because 3 is a solution, not a user need.</li> <li>C is an incorrect answer, because 5 is a user need, not a market requirement.</li> <li>E is an incorrect answer because 3 is a solution, not a user requirement.</li> </ul>
3	B, C, E	<p>B, C and E are the correct answers.</p> <ul style="list-style-type: none"> <li>B is correct because user interface guidelines are not user requirements.</li> <li>C is correct because user interface guidelines are not market requirements.</li> <li>E is correct because user interface guidelines are not solutions but rules for designing solutions.</li> </ul> <p>A, D and F are incorrect answers:</p> <ul style="list-style-type: none"> <li>A correctly describes what a user interface guideline is.</li> <li>D correctly describes that user interface guidelines apply across many contexts of use.</li> <li>F correctly describes that the term "user interface guideline" as a type of information in the CPUX-UR curriculum.</li> </ul>

Question	Correct answer(s)	Notes
4	C, D	<p>C and D are the correct answers.</p> <ul style="list-style-type: none"> <li>• C is correct because it describes a product attribute.</li> <li>• D is correct because it a product attribute.</li> </ul> <p>A, B, E and F are incorrect answers:</p> <ul style="list-style-type: none"> <li>• A is a user requirement</li> <li>• B is a recommendation that is always true.</li> <li>• E is a quantitative user requirement.</li> <li>• F is a context of use information.</li> </ul>
5	B, D, E	<p>B, D and E are the correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because stakeholder requirements are the basis for designing the solution from the perspective of the stakeholders. The translation of stakeholder requirements into system requirements does not make stakeholder requirements superfluent.</li> <li>• D is correct because requirements cannot be only differentiated into organisational requirements and user requirements. (Requirements are differentiated in legal requirements, market requirements, organisational requirements, domain-specific requirements, user requirements and system requirements.)</li> <li>• E is correct, because user requirements are not one type of system requirements (They are one type of stakeholder requirements.)</li> </ul> <p>A, C and F are incorrect answers:</p> <ul style="list-style-type: none"> <li>• A correctly states that system requirements are derived from stakeholder requirements.</li> <li>• C correctly states that human-centred quality covers the fulfilment of stakeholder requirements.</li> <li>• F correctly states that quantitative user requirements are stakeholder requirements.</li> </ul>

Question	Correct answer(s)	Notes
6	A, D	<p>A and D are the correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because user requirements are part of the stakeholder requirements.</li> <li>• D is correct because user requirements can conflict with market requirements.</li> </ul> <p>B, C, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because market requirements are not a specific type of user requirements.</li> <li>• C is incorrect because user requirements are derived from user needs, not necessarily from market requirements.</li> <li>• E is incorrect because requirements don't "override" other requirements. The different types of requirements do not imply a ranking. For example, if market requirements are implemented that are in conflict with user requirements, the user requirements are not overridden. They still exist but have been assigned a lower priority.</li> <li>• F is incorrect because qualitative user requirements can typically not be expressed as quantitative user requirements. They are two different type of user requirements.</li> </ul>
7	B,C	<p>B and C are the correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because inspections are verifications.</li> <li>• C is correct because a usability test is a validation from the perspective of the stakeholder group "primary and secondary users".</li> </ul> <p>A, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because inspections are verifications. Validation always involves stakeholders.</li> <li>• D is incorrect because a usability test is a validation from the perspective of the stakeholder group "primary and secondary users".</li> <li>• E is incorrect because it is the definition of verification.</li> <li>• F is incorrect because it is the definition of validation.</li> </ul>

Question	Correct answer(s)	Notes
8	B, C, F	<p>B, C and F are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because the social environment is part of the context of use.</li> <li>• C is correct because indirect users are part of the context of use.</li> <li>• F is correct because the exhaustible resources are part of the context of use.</li> </ul> <p>A, D and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect user needs are not part of the context of use. They can be identified in the context of use.</li> <li>• D is incorrect because “educational environment” is not a defined term.</li> <li>• E is incorrect because task models for design are constructed information. Context of use information is always empirical information.</li> </ul>
9	A, C, D	<p>A, C and D are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because “baking a cake” is a task.</li> <li>• C is correct because “deciding on the cake for the guests” is a subtask.</li> <li>• D is correct because “Cutting pieces of cake” is a subtask.</li> </ul> <p>B, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because it is a statement of a goal.</li> <li>• E is incorrect because it is a statement of a goal.</li> <li>• F is incorrect because it is a statement of a goal.</li> </ul>
10	A, B, E	<p>A, B and E are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because it correctly describes a subtask.</li> <li>• B is correct because it correctly describes a task object.</li> <li>• E is correct because it correctly describes a subtask.</li> </ul> <p>C, D and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• C is incorrect because “Cleaning the windows at home” is a task. “Maintaining the house” is a set of tasks that can include e.g. the tasks “Cleaning the windows at home” and “repairing the roof”.</li> <li>• D is incorrect because soap water is a resource in the context of use.</li> <li>• F is incorrect because A and E are subtasks, they are not descriptions of goals / intended outcomes.</li> </ul>

Question	Correct answer(s)	Notes
11	B, D	<p>B and D are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it describes the condition that has to be present before the task can start (“precondition”).</li> <li>• D is correct because it states the condition that describes the intended outcome (“postcondition”) that is true if the task has been successfully completed.</li> </ul> <p>A, C, E, F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because it is a statement of an outcome of a subtask not leading directly to the intended outcome of the task.</li> <li>• C is incorrect because it is a statement of a subtask.</li> <li>• E is incorrect because it is a statement of an outcome of a subtask that is not part of the task.</li> <li>• F is incorrect because it is a statement of a subtask.</li> </ul>
12	C, D	<p>C and D are correct answers.</p> <ul style="list-style-type: none"> <li>• C is correct because it correctly illustrates the term “task model for design”.</li> <li>• D is correct because it correctly illustrates the term “context of use for design” as a subset of the context of use.</li> </ul> <p>A, B, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because “choose” is not a phase in a task. (The correct phase would have been “perform”).</li> <li>• B is incorrect because a task model of the context of use describes the subtasks of one single task in the (given) context of use.</li> <li>• E is incorrect since a task can have more than one intended outcomes (“postconditions”).</li> <li>• F is incorrect because a task model describes the subtasks of one single task.</li> </ul>

Question	Correct answer(s)	Notes
13	A, D, F	<p>A, D and F are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because user requirements are not equally relevant to all user groups.</li> <li>• D is correct because different user requirements have different relevance for the use of the system. While some user requirements may be highly relevant for the usability of the interactive system, many others may have limited relevance for the usability of the interactive system.</li> <li>• F is correct (see explanation to answer D).</li> </ul> <p>B, C and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because whether a user requirement is qualitative or quantitative does not determine the relevance of the user requirement to the user.</li> <li>• C is incorrect because user requirements should be sorted by tasks and subtasks to maintain focus on the tasks to be supported for the users.</li> <li>• E is incorrect (see explanation to answer D).</li> </ul>
14	B, D, F	<p>B, D and F are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it states the what user must be able to perform on the interactive system.</li> <li>• D is correct because quantitative user requirements are mainly derived from stakeholder requirements.</li> <li>• F is correct because it describes the how to make use of user requirements in design.</li> </ul> <p>A, C and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because quantitative user requirements primarily serve as acceptance criteria for the interactive system.</li> <li>• C is incorrect because the only direct source for qualitative user requirements are user needs.</li> <li>• E is incorrect because qualitative user requirements must be traceable back to one or more user needs.</li> </ul>

Question	Correct answer(s)	Notes
15	B, C, E	<p>B, C and E are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because any stakeholder requirement can be an indirect source for user requirements.</li> <li>• C is correct because the only direct source for qualitative user requirements are user needs.</li> <li>• E is correct because heuristics and also dialogue principles can be an indirect source for specifying user requirements.</li> </ul> <p>A, D and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because anticipated usability problems can be analysed for unmet user needs and serve as an indirect source for user requirements.</li> <li>• D is incorrect because organisational requirements can lead to user requirements.</li> <li>• F is incorrect because user wants should first be analysed for the underlying context of use and identifiable user needs within this context of use.</li> </ul>
16	A	<p>A is the correct answers because each of the stated human-centred quality objectives relates to either effectiveness or efficiency.</p> <p>B, C, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because performance is not a dimension of human-centred quality.</li> <li>• C is incorrect because none of the stated human-centred quality objectives relates to subjective perception of users or responses of users.</li> <li>• D is incorrect because accessibility relates to disabilities. To be 60+ is not a disability but it might imply limited experience with the conventions used in interactive systems.</li> <li>• E is incorrect because individualization is not a dimension of human-centred quality.</li> <li>• F is incorrect because answer A is correct.</li> </ul>



Question	Correct answer(s)	Notes
17	A, D, E	<p>A, D and E are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because there is no need for “verification of empirical information by market research”.</li> <li>• D is correct because assumptions can be gathered by various means besides focus groups, e.g. by stakeholder workshops.</li> <li>• E is correct because constructed information is not the basis for empirical information. It is the other way round.</li> </ul> <p>B, C and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because observation is a valid approach for gathering empirical information.</li> <li>• C is incorrect because contextual interviews are a valid approach for gathering empirical information.</li> <li>• F is incorrect because assumptions are a starting point for collecting empirical information.</li> </ul>
18	B, D	<p>B and D are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because the stakeholder workshop takes an inventory of what is known or assumed and also identifies what is unknown resulting in research questions.</li> <li>• D is correct because research questions address the context of use and should lead to contextual interviews and/or observations.</li> </ul> <p>A, C, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because the research questions are an output of the stakeholder workshop, not an input.</li> <li>• C is incorrect because research questions address the context of use and should lead to contextual interviews and/or observations.</li> <li>• E is incorrect because identifying research questions with stakeholders identified the need for context of use analysis.</li> <li>• F is incorrect because human-centred quality objectives are one stimulus for identifying research questions.</li> </ul>

Question	Correct answer(s)	Notes
19	A, E	<p>A and E are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because classic context of use analysis will not be accepted by the team.</li> <li>• E is correct because classic context of use analysis will not be accepted by the team.</li> </ul> <p>are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because model-based context of use analysis is a suitable starting point for Lean UX.</li> <li>• C is incorrect because the approach Lean UX is suitable for the implementation of small improvements.</li> <li>• D is incorrect because it aims at validation of a given hypothesis.</li> <li>• F is incorrect because Lean UX fits well with agile development.</li> </ul>
20	A, D, E	<p>A, D and E are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because the question is not specific to the context.</li> <li>• D is correct because the question is not specific to the context.</li> <li>• E is correct because the question will not produce empirical information that is suitable for deriving user requirements.</li> </ul> <p>are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because it is likely to produce empirical information relevant to the context of use.</li> <li>• C is incorrect because it is likely to produce empirical information relevant to the context of use.</li> <li>• F is incorrect because it is likely to produce empirical information relevant to the context of use.</li> </ul>
21	A, C, D	<p>A, C and D are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because “structured” is a variant of observation (in contrast to “unstructured”).</li> <li>• C is correct because “in the field” is a variant to observation (in contrast to “in the lab”).</li> <li>• D is correct because “non-participatory” is a variant to observation (in contrast to “participatory”).</li> </ul> <p>B, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because “hypothetic” observation is not defined.</li> <li>• E is incorrect because “guided” observation is not defined.</li> <li>• F is incorrect because “unprepared” observation is not defined. (Unstructured observation is defined).</li> </ul>

Question	Correct answer(s)	Notes
22	B, C, E	<p>B, C and E are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it maximizes the probability of gathering objective context of use information.</li> <li>• C is correct because it maximizes the probability of gathering objective context of use information.</li> <li>• E is correct because it maximizes the probability of gathering objective context of use information.</li> </ul> <p>A, D and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because it biases an observation unnecessarily.</li> <li>• D is incorrect because it does not support the observation in any way.</li> <li>• F is incorrect because a documentation of observation in the form of as-is scenarios enables the structured identification of user needs.</li> </ul>
23	A, E, F	<p>A, E and F are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because secondary personas are derived from empirical information.</li> <li>• E is correct because personas are not the basis for recruitment screeners. The basis for recruitment screeners are user group profiles.</li> <li>• F is correct because personas don't serve the same purpose as user group profiles. While personas primarily serve to create empathy, user group profiles primarily serve for recruiting users for contextual interviews, observations, focus group and usability evaluations.</li> </ul> <p>B, C and D are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because it correctly states the purpose of a persona description.</li> <li>• C is incorrect because it correctly summarizes what a persona is.</li> <li>• D is incorrect because it correctly describes what an Anti-Persona is.</li> </ul>

Question	Correct answer(s)	Notes
24	A, D, E	<p>A, D and E are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because it correctly describes what a as-is scenario is.</li> <li>• D is correct because narrative text describing the context of use is suitable for structured identification of user needs.</li> <li>• E is correct because it correctly describes a quality criterion for an as-is scenario.</li> </ul> <p>B, C and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because as-is scenarios are not transcripts of interviews. As-is scenarios represent the context-of use information stated by users in response to research questions. In an as-is scenario a statement like “can I have one more cup of coffee?” would not appear. In an interview transcript, it would appear.</li> <li>• C is incorrect because an as-is scenario considers the context of use (“as is”), not the context of use for design.</li> <li>• E is incorrect because the user group profile is a description that enables recruitment of users. User group profiles don’t enable structured identification of user needs.</li> </ul>
25	C	<p>C is the correct answer because 5 is a statement of a resource need (“needs to have”).</p> <p>A, B, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because 2 is not an informational need and 5 is a resource need.</li> <li>• B is incorrect because 2 and 3 are not descriptions of user needs but are descriptions of tasks to be supported.</li> <li>• D is incorrect because 5 is a resource need.</li> <li>• E is incorrect because the term “usability needs” is not defined.</li> <li>• F is incorrect because the term “capability needs” is not defined.</li> </ul>

Question	Correct answer(s)	Notes
26	A, B, D	<p>A, B and D are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because it is a valid quality criterion for phrasing user needs.</li> <li>• B is correct because it is a valid quality criterion for phrasing user needs.</li> <li>• D is correct because it is a valid quality criterion for phrasing user needs.</li> </ul> <p>C, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• C is incorrect because user needs should not “rephrase” tasks to be supported by the system but rather state what is needed when completing each task to be supported by the system.</li> <li>• E is incorrect because the type of user need (needed resource versus needed information versus needed competency) does not imply its relevance for the users.</li> <li>• F is incorrect because when identifying user needs it is not yet clear what user requirements can be derived from the user needs.</li> </ul>
27	A, B, F	<p>A, B and F are correct answers.</p> <p>User needs should always state prerequisites in terms of "needs to know" or "needs to have &lt;resource&gt;" or needs to have &lt;skill&gt;.</p> <ul style="list-style-type: none"> <li>• In A "needs to be able to" is neither of them and encircles "something to be made possible". Further more, the description of the intended outcome is missing.</li> <li>• In B "needs to have the opportunity" is neither of them and also encircles "something to be made possible"</li> </ul> <p>In F "needs to have a list" is neither of them and also encircles "something to be made possible" in terms of a product attribute.C, D and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• C is incorrect because it is a valid resource need in the context of use.</li> <li>• D is incorrect because it is a valid informational need in the context of use.</li> <li>• E is incorrect because it is a valid informational need in the context of use.</li> </ul>

Question	Correct answer(s)	Notes
28	C, D	<p>C and D are correct answers.</p> <ul style="list-style-type: none"> <li>• C is correct because 1, 5 and 6 consist of a necessary prerequisite and the goal to be achieved.</li> <li>• D is correct because               <ul style="list-style-type: none"> <li>○ 2 rephrases a task. It neither states needed information nor a needed resource nor a needed competency. Therefore choice 2 is wrong.</li> <li>○ 3 does not state the needed resource or information or competency.</li> <li>○ 4 only states a prerequisite but not the intended outcome.</li> </ul> </li> </ul> <p>A, B, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because user needs must always state the user group that the user needs applies to.</li> <li>• B is incorrect because 2 and 4 are not well phrased.</li> <li>• E is incorrect because 2, 3 and 4 are not well-phrased.</li> <li>• F is incorrect because 1, 5 and 6 are well phrased.</li> </ul>
29	A, F	<p>A and F are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because a user want is typically stated by individual users and the term “demand” is not defined in the curriculum.</li> <li>• F is correct because user wants are explicitly stated by users. User needs in turn are often implicitly contained in context of use descriptions.</li> </ul> <p>B, C, D and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because user wants should be further investigated by identifying the underlying context of use. This might uncover the actual user need(s).</li> <li>• C is incorrect because user wants can be the starting point for analysing the underlying context of use.</li> <li>• D is incorrect because user wants are often formulated as desired solutions.</li> <li>• E is incorrect because user wants are subjective statements of individual users.</li> </ul>

Question	Correct answer(s)	Notes
30	A, C, F	<p>A, C and F are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because user requirements must always rest on one or more user needs.</li> <li>• C is correct because user requirements must not state “required product attributes” but state what the user should be enabled to recognise, select or input.</li> <li>• F is correct because it specifies correctly how user requirements statements should be phrased.</li> </ul> <p>B, D and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because user requirements must be derived so they are applicable to the whole of a user group.</li> <li>• D is incorrect because neither quantitative user requirements nor qualitative user requirement are necessarily valid across user groups.</li> <li>• E is incorrect because user wants should first be analysed for the underlying context of use and identifiable user needs before transforming them into user requirements.</li> </ul>
31	C, D	<p>C and D are correct answers.</p> <ul style="list-style-type: none"> <li>• C is correct because it is a statement of a user requirement that conforms to the phrasing rule for qualitative user requirements.</li> <li>• D is correct because it is a statement of a user requirement that conforms to the phrasing rule for qualitative user requirements.</li> </ul> <p>A, B, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because it states a solution (product attribute).</li> <li>• B is incorrect because it states the task to be supported (but not precisely what the user must be able to recognise, select, input during the completion of the task).</li> <li>• E is incorrect because it states a solution (product attribute).</li> <li>• F is incorrect because it is a statement of a user requirement that does not conform to the phrasing rule for qualitative user requirements. The requirement is phrased following the phrasing rule for system requirements, which only enables verification, not validation.</li> </ul>

Question	Correct answer(s)	Notes
32	A, C, F	<p>A, C and F are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because user requirements must not state “required product attributes” but state what the user has to be enabled to recognise, select or input.</li> <li>• C is correct because the technical solution is described in the statement rather than the user requirement.</li> <li>• F is correct because it is a user requirement that cannot be derived from the user needs.</li> </ul> <p>are incorrect answers.</p> <ul style="list-style-type: none"> <li>• B is incorrect because it is a statement of a user requirement that conforms to the phrasing rule for qualitative user requirements and can be derived from the user needs.</li> <li>• D is incorrect because it is a statement of a user requirement that conforms to the phrasing rule for qualitative user requirements and can be derived from the user needs.</li> <li>• E is incorrect because it is a statement of a user requirement that conforms to the phrasing rule for qualitative user requirements and can be derived from the user needs.</li> </ul>
33	B, D	<p>B and D are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it is a statement of a quantitative user requirement that conforms to the quality criteria of quantitative user requirements.</li> <li>• D is correct because it is a statement of a quantitative user requirement that conforms to the quality criteria of quantitative user requirements.</li> </ul> <p>A, C, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because it is a market requirement.</li> <li>• C is incorrect because it is a solution.</li> <li>• E is incorrect because the elements “user group” and “percentage of users” are missing.</li> <li>• F is incorrect because the elements “user group” and “percentage of users” are missing.</li> </ul>



Question	Correct answer(s)	Notes
34	B, D	<p>B and D are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it is an approach to eliminate the conflict in the solution.</li> <li>• D is correct because it is an approach to eliminate the conflict in the user requirements.</li> </ul> <p>A, C, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because user needs must not be deleted if they can be identified within the context of use. Every valid user need has relevance to the usability of the interactive system.</li> <li>• C is incorrect because conflicting user needs are an existing phenomenon.</li> <li>• E is incorrect because conflicting user needs are not necessarily conflicting user wants.</li> <li>• F is incorrect because conflicting user needs don't point to user groups that have conflict with one another.</li> </ul>
35	B, D, E	<p>B, D and E are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because a task model used for design can have more subtasks than a task model of the context of use.</li> <li>• D is correct because task model used for design can have less subtasks than a task model of the context of use.</li> <li>• E is correct because task model for design can include subtasks that have emerged from the technology of the interactive system.</li> </ul> <p>A, C and D are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because "Task model used for design" is not a synonym for "context of use for design."</li> <li>• C is incorrect because task models of the context of use are the basis for the task models used for design and inform project teams about the context of use to be supported by the interactive system. Both task models exist. One describes the present. The other describes the future once the interactive system is in use.</li> <li>• F is incorrect because task models used for design can be identical to task models of the context of use but in many cases differ.</li> </ul>

Question	Correct answer(s)	Notes
36	B, C	<p>B and C are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because UR1 belongs to subtask 6.</li> <li>• C is correct because UR2 and UR3 belong to subtask 7.</li> </ul> <p>A, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because UR3 belongs to subtask 7.</li> <li>• D is incorrect because UR2 is a correctly phrased user requirement.</li> <li>• E is incorrect because all three user requirements can be assigned to one or more subtasks.</li> <li>• F is incorrect because UR1 belongs to subtask 6 and UR 3 belongs to subtask 7.</li> </ul>
37	A, B	<p>A and B are correct answers.</p> <ul style="list-style-type: none"> <li>• A is correct because standardised models (e.g. the Kano model) focus on the value for the user.</li> <li>• B is correct because standardised models (e.g. the Kano model) focus on the value for the user.</li> </ul> <p>C, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• C is incorrect because the model will suggest to users that all valid user requirements must be implemented.</li> <li>• D is incorrect because it assumes that all user requirements can be implemented at once, which is not realistic.</li> <li>• E is incorrect because it is a cost-driven prioritisation scheme that does not take the relevance of individual user requirements into account. Therefore, user requirements with limited relevance to the users might be implemented, while user requirements with high relevance to the users might be ignored.</li> <li>• F is incorrect because it is a cost-driven prioritisation scheme that does not take the relevance of individual user requirements into account. Therefore, user requirements with limited relevance to the users might be implemented, while user requirements with high relevance to the users might be ignored.</li> </ul>

Question	Correct answer(s)	Notes
38	A, C, F	<p>A, C and F are correct answers.</p> <ul style="list-style-type: none"> <li>A is correct because going through as-is scenarios in detail is not engaging for stakeholders.</li> <li>C is correct because focussing on stated problems with the existing system and presenting improvements should not be the focus of a context of use analysis. This approach will not enhance the understanding of the context of use of the stakeholders.</li> <li>F is correct because it is misleading to the stakeholders to focus on stated user wants rather than objective user needs.</li> </ul> <p>B, D and E are incorrect answers.</p> <ul style="list-style-type: none"> <li>B is incorrect because recapitulating the human-centred quality objectives reminds the stakeholders why the context of use analysis took place.</li> <li>D is incorrect because personas help to build empathy of the stakeholders for the users and engage stakeholders.</li> <li>E is incorrect because going through the user requirements by tasks and subtasks helps the development team to focus on the tasks of the users rather than the resulting functionality.</li> </ul>
39	B, C	<p>B and C are correct answers.</p> <ul style="list-style-type: none"> <li>B is correct because it helps the project team to make a decision that takes both considerations into account, the relevance to the users and the implementation costs.</li> <li>C is correct because it helps the project team to make a decision that takes both considerations into account, the relevance to the users and the implementation costs.</li> <li>is correct because</li> </ul> <p>A, D, E and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>A is incorrect because it is not guiding the project team to focus on the relevance of specific user requirements.</li> <li>D is incorrect because it is not guiding the project team to focus on the relevance of specific user requirements.</li> <li>E is incorrect because using standardised models (e.g. the Kano model) assist users in assessing the relevance of a user requirement appropriately.</li> <li>F is incorrect because it is not guiding the project team to focus on the relevance of specific user requirements.</li> </ul>

Question	Correct answer(s)	Notes
40	B, E	<p>B and E are correct answers.</p> <ul style="list-style-type: none"> <li>• B is correct because it assists the continuous implementation of user requirements over time.</li> <li>• E is correct because it assists the project team in assessing the priority of each user requirement by facing the risk resulting from not implementing each user requirement.</li> </ul> <p>A, C, D and F are incorrect answers.</p> <ul style="list-style-type: none"> <li>• A is incorrect because it will not be possible to implement all user requirements at the same time.</li> <li>• C is incorrect because users will feel fooled by those who conducted the context of use analysis.</li> <li>• D is incorrect because “for future consideration” does not mean “nice to have”. User requirements with the priority “for future consideration” might be the ones that maintain the success of the interactive system.</li> <li>• F is incorrect because it does not assist the project team in taking user requirements seriously.</li> </ul>

### 3 Practical assignment – Example

#### 3.0 Instruction

*Introduction:*

- In a moment, you will watch a video recording of part of a contextual interview. The recording lasts 30 minutes. (Note: The video does not exist for this public example test. The videos exist for the real assignments used during certification tests for the CPUX-UR.)
- Before the recording is shown, you have 5 minutes to read about
  - the goal of the context of use analysis (section 3.1),
  - the user group profile (section 3.2) and
  - the 4 Questions on the interview checklist (section 3.3).
- Section 3.4 contains the text of the as-is scenario regarding Questions 1, 2 and 4 of the interview checklist.
- You have 5 hours' time in total to complete the assignment.

*Your task:*

1. Complete the as-is scenario regarding Question 3 based on the statements from the interviewee in the video recording. Write down your as-is scenario into the table next to Question 3 in section 3.4.
2. Identify all other user groups that occur in the as-is scenario (section 3.4, Questions 1 to 4). Write down all user groups into the table in section 0.
3. Identify **all user needs** that can be found in the as-is scenario **regarding Question 4**. Write down all user needs identified into the table in section 3.6.

*Important notes:*

*The as-is scenario contains a large number of identifiable user needs. In order to achieve the maximum number of 30 points in this examination task, TEN valid user needs must be identified and correctly formulated.*

- *A user need is valid if it can be derived from the as-is scenario and is not based on other assumptions and if it is not redundant because of another already identified user need.*
- *Each valid and correctly formulated user need is given THREE points, invalid user needs are given ZERO points.*
- *There is a deduction of THREE points for each user need that is not formulated correctly, i.e. if it is not formulated as (1) goal and prerequisite or (2) the prerequisite and/or (3) the goal is/are not formulated using the applicable syntax.*
- *No user need can be allocated less than ZERO points.*

Instruction continues on next page!

4. Subsequently, specify **all user requirements** that can be **derived from the identified user needs**. Write down all derived user requirements also into the table in section 3.6.

*Important notes:*

*A minimum of 13 user requirements can be derived from the user needs identified in the as-is scenario. In order to achieve the maximum score in this examination task, you must derive and correctly formulate THIRTEEN valid user requirements.*

- *A user requirement is valid if it is derived correctly from one of the 10 user needs with a double underline and is not redundant because of another already formulated user requirement.*
  - *Each valid and correctly formulated user requirement is given THREE points, invalid user requirements are given ZERO points.*
  - *There is a deduction of THREE points for each user requirement that has not been formulated correctly, i.e. if the user requirement
    - a. *does not describe what the user has to recognise/select/enter in the system or*
    - b. *is not correctly formulated pursuant to the syntax rules.**
  - *There is a deduction of THREE points for each user requirement that is immunised.*
  - *No user requirement can be allocated less than ZERO points.*
5. All identified user needs and user requirements belong to the same (one) task.
- The task will be predefined. You have to name its pre-condition(s) and its post-condition(s).
  - Identify the sub-tasks of the task.
  - Assign each identified user requirement to the matching sub-task.
  - Use the table in section 3.7 for the assignment.
6. Write down possible behavioural errors made by the interviewer that you noticed in the video recording. Write them down in section 3.8.

### 3.1 Goal of the context of use analysis

A developer of apps for smartphones sees market potential for an app to support business travellers in the preparation and execution of business trips.

As it is unclear what the requirements for such a system are, a user requirements engineer is asked to perform a context of use analysis.

### 3.2 User group profile

Name of the user group	Expected professional training and professional activities	Demographic characteristics	Expected IT skills and IT equipment
Business traveller	<ul style="list-style-type: none"> <li>Completed apprenticeship or studies for some profession</li> <li>Field operation, requiring frequent travelling by business vehicle, train or plane.</li> </ul>	<ul style="list-style-type: none"> <li>male or female</li> <li>between 25 and 65 years old</li> </ul>	<ul style="list-style-type: none"> <li>Smartphone</li> <li>Notebook</li> <li>Word processing</li> <li>E-Mail</li> <li>Uses electronic calendars</li> </ul>

### 3.3 Interview checklist for the contextual interview

1. How often do you travel on business and to what destinations?
2. How do you decide for each trip, if you want to go by train, business car or plane?
3. Which is your preferred means of travel and why?
4. What problems do you experience with the respective means of travel during your business trip?

### 3.4 As-is scenario

The statements of the interviewed person regarding Question 3 are to be added by the candidate.

Question	As-is scenario
1. How often do you travel on business and to what destinations?	<p>Mr. Smith works in field sales for a large service company. He acquires process audits with manufacturers of all kind for his company. The goal here is to analyse existing development processes regarding weaknesses in quality management and make detailed suggestions for improvement.</p> <p>Mr. Smith travels for business and is away from Tuesday to Thursday almost every week. He is responsible for the countries Germany, Austria and Switzerland. For his business trips, he uses his business car as well as trains and planes. When visiting potential customers, he is always dealing with budget managers for the area of quality.</p> <p>Mostly he returns back home in the evenings, so most of the time he does not return home until 21:00 and has to leave again the next day, early in the morning. Therefore, he does not get to spend much time with his family. He then stays at a hotel in the town of his next destination.</p>
2. How do you decide for each trip, if you want to go by train, business car or plane?	<p>The decision regarding the means of travel mostly depends on the distance and the respective travel time. Mr. Smith typically starts his business trips from home. Nowadays, he mostly travels by train or plane, even though he has a business car available. When he knows that the trip will take three consecutive days, he takes a taxi from his home, because overall this is cheaper than parking at the airport.</p> <p>He makes a new decision for each destination to go by train, car or plane. Unless it is a destination that he has been to several times before. If it is a completely new destination, it can take a while for him to find the best solution. He then searches the websites of rail companies and airlines to find out how long the trip will be. He also takes possible taxi rides into consideration, but they can become rather expensive. On site, he never takes local buses or trains because it is too troublesome for him. It takes too much thinking and results in too many bills that need to be kept for accounts upon returning.</p>



Question	As-is scenario
3. Which is your preferred means of travel and why?	The as-is scenario for this Question must be added by the candidate.
4. What problems do you experience with the respective means of travel during your business trip?	Mr. Smith leaves home as late as possible. His wife doesn't like this, but he is rather relaxed about it. The calendar in his notebook and smartphone contains the travel plan for each of the three days (Tuesday, Wednesday, Thursday). This works rather well for the trip to the train station because the route has low traffic. It typically takes 15 minutes at maximum. It is a different story though for the airport. Here he has to decide when to leave anew every time. Unfortunately, Mr. Smith often forgets to check if the train or plane is delayed. In case he accidentally finds out, he will leave even later. He typically buys his tickets online the Friday before, no matter if he goes by train or plane. Normally this should be done by a colleague from the service office, but he thinks this is too complicated, which is why he prefers to do it himself. Nevertheless, Mr. Smith typically leaves home exactly one hour before the plane's departure time. It typically takes 20 minutes to get to the airport. Recently he drove to the airport with his business car to start a one-day business trip. When he arrived at the airport, all car parks were full. There were already ten cars waiting at each entrance. Mr. Smith only just caught his flight and had he have known about the car parks, he of course would have taken a taxi to the airport.
End of the extract of the contextual interview. Here the interviewer would continue with the second task of Mr. Smith.	-/-

### 3.5 Other user groups appearing in the as-is scenario

Note: The total number of user groups is less than or equal to 5. Providing 5 rows here does not mean that there are 5 user groups.

No.	Name of the user group
1	Business traveller (interviewed person)
2	Budget manager from potential customer
3	Spouse
4	Colleague at the service office
5	-/-

### 3.6 Identified user needs and derived user requirements (for Question 4 only)

All content of the following table refers to Question 4 from the interview checklist.

As-is scenario for Question 4 from the interview checklist	Identified user needs (to be filled out by the candidate) (To be numbered, N1, N2, N3, ...)	Derived user requirements (to be filled out by the candidate) (To be numbered, UR1, UR2, UR3, ...)
<p>Mr. Smith leaves home as late as possible. His wife doesn't like this, but he is rather relaxed about it. The calendar in his notebook and smartphone contains the travel plan for each of the three days (Tuesday, Wednesday, Thursday).</p>	<p>N1 The business traveller needs to know how long the ride to the train station or airport will take in order to be able to decide when to leave.</p> <p>N2 The business traveller needs to know when the time has come to leave in order to not miss the next means of transport.</p> <p>N3 The business traveller needs to know when the next trip will begin in order to be able to decide when to leave.</p> <p>N4 The business traveller needs to know which means of travel he will use for the next trip in order to be able to selectively reach the train station or airport.</p>	<p>UR1 With the system the user must be able to recognise how long the ride to the train station or airport will currently take.</p> <p>UR2 With the system the user must be able to recognise that the point of time has come when he must leave.</p> <p>UR3 With the system the user must be able to recognise when his next trip with the train or plane will start.</p> <p>UR4 With the system the user must be able to input all details of a trip with the train or plane.</p> <p>UR5 With the system the user must be able to recognise for every trip if it is done by train or by plane.</p>

As-is scenario for Question 4 from the interview checklist	Identified user needs (to be filled out by the candidate)  (To be numbered, N1, N2, N3, ...)	Derived user requirements (to be filled out by the candidate)  (To be numbered, UR1, UR2, UR3, ...)
<p>This works rather well for the trip to the train station because the route has low traffic. It typically takes 15 minutes at maximum. It is a different story though for the airport. Here he has to decide when to leave anew every time.</p>	<p>See N1</p>	
<p>Unfortunately, Mr. Smith often forgets to check if the train or plane is delayed. In case he accidentally finds out, he will leave even later.</p>	<p>N5 The business traveller needs to know if the train or plane is delayed in order to be able to decide when to leave.</p>	<p>UR6 With the system, the use must be able to recognize if his train or flight is delayed.  UR7 With the system the user must be able to recognise the expected delay and any changes of the delay at any time.</p>

As-is scenario for Question 4 from the interview checklist	Identified user needs (to be filled out by the candidate)  (To be numbered, N1, N2, N3, ...)	Derived user requirements (to be filled out by the candidate)  (To be numbered, UR1, UR2, UR3, ...)
<p>He typically buys his tickets online the Friday before, no matter if he goes by train or plane. Normally this should be done by a colleague from the service office, but he thinks this is too complicated, which is why he prefers to do it himself.</p>	<p>N6 The business traveller needs to possess a ticket for each ride with a train or plane in order to be able to start the trip.</p> <p>N7 The business traveller needs to know if he already has a ticket for his next trip or if he still needs to get one in order to be able to start the trip.</p>	<p>UR8 With the system the user must be able to select a ticket (and initiate the purchase) for a stored train ride or flight. (See also UR4)</p> <p>UR9 For each planned trip, the user must be able to recognise with the system if he already has a ticket available. (See also UR4)</p>
<p>Nevertheless, Mr. Smith typically leaves exactly one hour before the plane's departure time. It typically takes 20 minutes to get to the airport. Recently he drove to the airport with his business car to start a one-day business trip.</p>	<p>See N1</p> <p>See N4</p>	

As-is scenario for Question 4 from the interview checklist	Identified user needs (to be filled out by the candidate)  (To be numbered, N1, N2, N3, ...)	Derived user requirements (to be filled out by the candidate)  (To be numbered, UR1, UR2, UR3, ...)
<p>When he arrived at the airport, all car parks were full. There were already ten cars waiting at each entrance. Mr. Smith only just caught his flight and had he have known about the car parks, he of course would have taken a taxi to the airport.</p>	<p>N8 The business traveller needs to have a parking lot available at the train station or airport for his car in order to be able to start the trip by train or plane.</p> <p>N9 The business traveller needs to know before leaving if there will be parking lots available at the train station or airport upon arrival in order to be able to decide if he goes by business car or by taxi.</p>	<p>UR10 With the system the user must be able to recognise if parking lots are available at the time of arrival.</p> <p>UR11 With the system the user must be able to select a reservation for a parking lot for a definable point in time.</p> <p>UR12 With the system the user must be able to order a taxi in the system.</p>

### 3.7 User requirements assigned to sub-tasks

Name of the task:	Start a planned business trip
Pre-condition(s):	The business traveller prepares himself for a business trip by car, train or plane that he will soon start.
Post-condition(s):	The business traveller has started the trip with the means of transportation as planned.

Subtasks	Assigned user requirements (Just naming the numbers as references is enough, e.g. "UR4")
1. Determine when the train or plane actually departs	UR3 UR6
2. Check if one has a ticket available	UR9
3. Buy ticket if necessary	UR8
4. Identify the required departure time	UR1
5. Decide to go by taxi or by business car	UR10 UR11 UR12
6. If applicable, order a taxi	UR12
7. Start the journey to the airport or train station	UR7

### 3.8 Observed behavioural errors made by the interviewer (Examples)

- The interviewer does not let the interviewee finish his sentence

- The interviewer suggests solutions in the contextual interview

#### 4 Important changes compared to previous versions

Date, version	Change
21-03-2023 Version 2.2	Numbers of learning objectives in the header of theoretical questions corrected.
17-03-2021, Version 2.1	<p>Clause 3.0 expanded to include important notes on the highlighting and number of user needs and user requirements to be included in the assessment of the exam.</p> <p>Clause 3.6 modified to consistently use the phrasing "...needs to..." for user needs and the phrasing "With the system the user must be able to" for user requirements.</p>
10-03-2021, Version 2.0	<p>Clause 2.3 completely revised as a set of 40 multiple-choice test questions.</p> <p>Clause 2.4 completely revised to show the correct answers to the set of 40 multiple-choice test questions including an explanation for each correct answer and each incorrect answer.</p>