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/ [Study Board of Computer Science](#) / [Courses](#) / [Design and Evaluation of User Interfaces \(DEB\) \(DAT3, SW3\)](#)  
/ [DEB 9: Evaluation - Alternative methods and UX \(3/11, group rooms\)](#) / [DEB exam - E19 \(trial\)](#)

**Started on** Saturday, 8 January 2022, 2:54 PM

**State** Finished

**Completed on** Saturday, 8 January 2022, 3:43 PM

**Time taken** 49 mins 15 secs

**Grade** Not yet graded

Question **1**

Correct

Mark 2.00 out of 2.00

What is the main outcome of the understanding phase (select one option)?

**2 points**

Select one:

- ☐ A. Hi-fi prototypes
- ☐ B. Questionnaire data
- ☐ C. Sketches
- ☐ D. Lo-fi prototypes
- ☐ E. Interview data
- ☒ F. Requirements specification ✓

The correct answer is: Requirements specification



Question **2**

Incorrect

Mark 0.00 out of 2.00

At the very beginning of a project, what data collection technique(s) is/are most suitable for gaining an understanding, assuming that:

1. The domain is highly specialized
2. No similar systems exist already
3. There will be a handful of users of the system
4. Time is limited
5. Budget is limited

Select one or more options

**2 points**

Select one or more:

- ☐ A. Usability evaluation
- ☒ B. Observation ✗
- ☒ C. Interviews ✓
- ☐ D. Questionnaires
- ☐ E. Cultural probes

The correct answer is: Interviews

Question **3**

Correct

Mark 2.00 out of 2.00

In a project that is not overly constrained by time and budget, what data collection technique(s) is/are most suitable for gaining an understanding, assuming that there is a system already (select one or more options)?

**2 points**

Select one or more:

- ☒ A. Observation ✓
- ☒ B. Usability evaluation ✓
- ☒ C. Questionnaires ✓
- ☒ D. Interviews ✓

The correct answers are: Interviews, Questionnaires, Observation, Usability evaluation



## Question 4

Incorrect

Mark 0.00 out of 2.00

What material(s) is/are most suitable for evaluating your understanding of a domain (select one or more options)?

**2 points**

Select one or more:

- ☒ A. Lo-fi prototypes ✓
- ☐ B. Wireframes
- ☐ C. Sketches
- ☒ D. Hi-fi prototypes ✗

The correct answers are: Sketches, Wireframes, Lo-fi prototypes

## Question 5

Partially correct

Mark 1.50 out of 2.00

Which of the following can be suitable for representing requirements (select one or more options)?

**2 points**

Select one or more:

- ☒ A. Text ✓
- ☒ B. Lo-fi prototypes ✓
- ☐ C. Wireframes
- ☐ D. Hi-fi prototypes
- ☒ E. Sketches ✓

The correct answers are: Text, Sketches, Wireframes, Lo-fi prototypes



## Question 6

Correct

Mark 2.00 out of 2.00

In prioritizing requirements, how do you decide whether a requirement is a "Must have", "Should have" etc. (select one or more options)?

**2 points**

Select one or more:

- ☐ A. The development- and design team decides
- ☒ B. Customer involvement ✓
- ☒ C. User involvement ✓

The correct answers are: Customer involvement, User involvement

## Question 7

Incorrect

Mark 0.00 out of 4.00

In the list of requirements below, mark those that are well formulated (select one or more options).

**4 points**

Select one or more:

- ☐ A. Users must be able to complete the main task within three minutes
- ☒ B. Several users must be able to access the system simultaneously ✗
- ☐ C. The system must be maintainable
- ☒ D. The system must persist data ✗
- ☐ E. The system must be accessible all weekdays
- ☒ F. Users must be able to register new items ✗
- ☐ G. The system must be usable
- ☐ H. The system must have high level of usability
- ☒ I. Latency time must not exceed twenty milliseconds ✓

The correct answers are: Users must be able to complete the main task within three minutes, Latency time must not exceed twenty milliseconds, The system must be accessible all weekdays



## Question 8

Incorrect

Mark 0.00 out of 4.00

In the list of requirements below, mark those that are functional (select one or more options).

**4 points**

Select one or more:

- ☒ A. Several users must be able to access the system simultaneously ✖
- ☐ B. Latency time must not exceed twenty milliseconds
- ☐ C. The system must persist data
- ☐ D. The system must be maintainable
- ☐ E. The system must have high level of usability
- ☐ F. Users must be able to register new items
- ☒ G. The system must be accessible all weekdays ✖
- ☒ H. Users must be able to complete the main task within three minutes ✖
- ☐ I. The system must be usable

The correct answers are: Users must be able to register new items, The system must persist data

## Question 9

Complete

Marked out of 4.00

What is the most important characteristic of a well formulated requirement and how should requirements be represented (describe in the textarea below)?

**4 points**

A well formulated requirement must be testable. How can we know if we have fulfilled our requirement if we cannot test it.

We can represent our requirements in a multitude of different ways. We can use a requirements table, workflow diagram or even a prototype. And we can prioritize them using MoSCoW.



Question **10**

Correct

Mark 2.00 out of 2.00

How can we classify the purpose(s) of using envisionment techniques in the early stages of development (select one or more options)?

**2 points**

Select one or more:

- ☐ A. Accuracy
- ☒ B. Exploration ✓

The correct answer is: Exploration

Question **11**

Correct

Mark 2.00 out of 2.00

How can we use exploratory envisionment techniques constructively (select one or more options)?

**2 points**

Select one or more:

- ☒ A. To revise the PACT analysis ✓
- ☒ B. To evaluate our understanding of a domain ✓
- ☐ C. To evaluate the usability of a design including task completion times
- ☐ D. To evaluate detailed design elements such as color codes

The correct answers are: To evaluate our understanding of a domain, To revise the PACT analysis



Question **12**

Correct

Mark 2.00 out of 2.00

What are the advantages of using hi-fi prototypes over lo-fi prototypes (select one or more options)?

**2 points**

Select one or more:

- ☒ A. Hi-fi prototypes lead to a high level of evaluation validity ✓
- ☒ B. Hi-fi prototypes are more realistic ✓
- ☐ C. Hi-fi prototypes are cheaper to make
- ☐ D. Hi-fi prototypes are made at early stages in development

The correct answers are: Hi-fi prototypes are more realistic, Hi-fi prototypes lead to a high level of evaluation validity

Question **13**

Complete

Marked out of 4.00

Describe the relationship between the understanding and envisionment phases (describe in the textarea below).

**4 points**

In the understanding phase we try to gain an understanding of the users that are involved in the system that we are going to create, and from that we can make a PACT analysis and system requirements.

In the envisionment phase we want to take our own understanding of the subject and create something that can be shown and maybe even interacted with that shows our understanding.

Then we can evaluate on these two phases, have we gotten things right? Where have things gone wrong? Where have things gone right? Do we need to reevaluate our PACT analysis?.



## Question 14

Incorrect

Mark 0.00 out of 4.00

Which of the following example designs make correct use of the gestalt law “proximity” (select one or more options)?

4 points

### Example A

Choose options

- |                                   |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|
| <input type="checkbox"/> Option 1 | <input type="checkbox"/> Option 7  | <input type="checkbox"/> Option 13 |
| <input type="checkbox"/> Option 2 | <input type="checkbox"/> Option 8  | <input type="checkbox"/> Option 14 |
| <input type="checkbox"/> Option 3 | <input type="checkbox"/> Option 9  | <input type="checkbox"/> Option 15 |
| <input type="checkbox"/> Option 4 | <input type="checkbox"/> Option 10 | <input type="checkbox"/> Option 16 |
| <input type="checkbox"/> Option 5 | <input type="checkbox"/> Option 11 | <input type="checkbox"/> Option 17 |
| <input type="checkbox"/> Option 6 | <input type="checkbox"/> Option 12 | <input type="checkbox"/> Option 18 |

Submit

### Example B

Choose options

- |                                   |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|
| <input type="checkbox"/> Option 1 | <input type="checkbox"/> Option 7  | <input type="checkbox"/> Option 13 |
| <input type="checkbox"/> Option 2 | <input type="checkbox"/> Option 8  | <input type="checkbox"/> Option 14 |
| <input type="checkbox"/> Option 3 | <input type="checkbox"/> Option 9  | <input type="checkbox"/> Option 15 |
| <input type="checkbox"/> Option 4 | <input type="checkbox"/> Option 10 | <input type="checkbox"/> Option 16 |
| <input type="checkbox"/> Option 5 | <input type="checkbox"/> Option 11 | <input type="checkbox"/> Option 17 |
| <input type="checkbox"/> Option 6 | <input type="checkbox"/> Option 12 | <input type="checkbox"/> Option 18 |

Submit

### Example C

Choose options

- |                                   |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|
| <input type="checkbox"/> Option 1 | <input type="checkbox"/> Option 7  | <input type="checkbox"/> Option 13 |
| <input type="checkbox"/> Option 2 | <input type="checkbox"/> Option 8  | <input type="checkbox"/> Option 14 |
| <input type="checkbox"/> Option 3 | <input type="checkbox"/> Option 9  | <input type="checkbox"/> Option 15 |
| <input type="checkbox"/> Option 4 | <input type="checkbox"/> Option 10 | <input type="checkbox"/> Option 16 |
| <input type="checkbox"/> Option 5 | <input type="checkbox"/> Option 11 | <input type="checkbox"/> Option 17 |
| <input type="checkbox"/> Option 6 | <input type="checkbox"/> Option 12 | <input type="checkbox"/> Option 18 |

Submit

### Example D

Choose options

- |                                   |                                    |                                    |
|-----------------------------------|------------------------------------|------------------------------------|
| <input type="checkbox"/> Option 1 | <input type="checkbox"/> Option 7  | <input type="checkbox"/> Option 13 |
| <input type="checkbox"/> Option 2 | <input type="checkbox"/> Option 8  | <input type="checkbox"/> Option 14 |
| <input type="checkbox"/> Option 3 | <input type="checkbox"/> Option 9  | <input type="checkbox"/> Option 15 |
| <input type="checkbox"/> Option 4 | <input type="checkbox"/> Option 10 | <input type="checkbox"/> Option 16 |
| <input type="checkbox"/> Option 5 | <input type="checkbox"/> Option 11 | <input type="checkbox"/> Option 17 |
| <input type="checkbox"/> Option 6 | <input type="checkbox"/> Option 12 | <input type="checkbox"/> Option 18 |

Submit

Select one or more:

- ☒ A. Example A ❌
- ☒ B. Example B ✅
- ☐ C. Example C
- ☐ D. Example D

The correct answer is: Example B





Question 15

Correct

Mark 4.00 out of 4.00

Which of the following example designs make correct use of the gestalt law “similarity” (select one or more options)?

4 points

### Example A

Create user

User name

Password

☐ Option 1

☒ Option 2

☐ Option 3

☐ Option 4

### Example B

Create user

User name

Password

☐ Option 1

☒ Option 2

☐ Option 3

☐ Option 4

### Example C

Create user

User name

Password

☐ Option 1

☒ Option 2

☐ Option 3

☐ Option 4

### Example D

Create user

User name

Password

☐ Option 1

☒ Option 2

☐ Option 3

☐ Option 4

Select one or more:

☐ A. Example A

☐ B. Example B

☒ C. Example C ✓

☒ D. Example D ✓

The correct answers are: Example C, Example D

Question **16**

Correct

Mark 2.00 out of 2.00

Nielsens heuristic "Consistency and Standards" states that user interface designers should express the same type of design elements (e.g. radio button widgets) in the same way across designs. This heuristic also implies that designed elements should conform to platform interface conventions. Which of the following notions is/are used to explain why humans can readily perceive the affordance of standardized design elements (select one or more options)?

**2 points**

Select one or more:

- ☐ A. Interactivity
- ☒ B. Perceptual set ✓
- ☐ C. Visual cues

The correct answer is: Perceptual set

Question **17**

Correct

Mark 2.00 out of 2.00

Which of the following type(s) of cues is/are relevant to consider in order to create a sense of depth in graphical user interface design (select one or more options)?

**2 points**

Select one or more:

- ☐ A. Tertiary cues
- ☒ B. Secondary cues ✓
- ☐ C. Primary cues

The correct answer is: Secondary cues



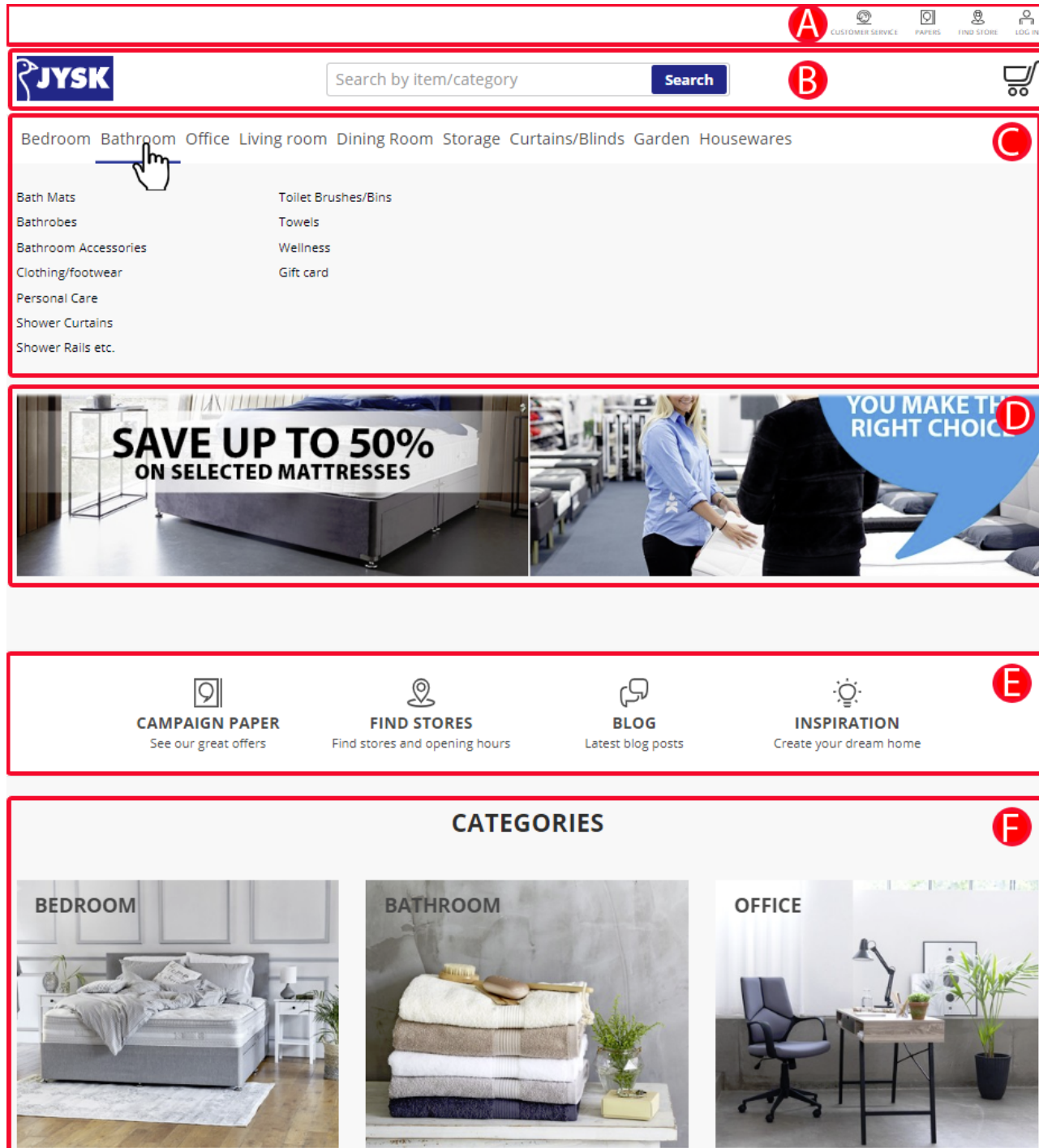
## Question 18

Correct

Mark 6.00 out of 6.00

The example design below (from Jysk) shows the front page. One aim for such a page is for a user to gain an overview of the possible interactions with the site. Which section(s) in the following example use(s) navigational signs to support object identification, i.e. which section(s) use(s) informational signs to differentiate one design element (section) from another (select one or more options)?

6 points



Select one or more:

☒ A. A ✓


- ☒ B. B ✓
- ☒ C. C ✓
- ☒ D. D ✓
- ☒ E. E ✓
- ☒ F. F ✓

The correct answers are: A, B, C, D, E, F



## Question 19

Partially correct

Mark 5.00 out of 6.00

In the example design below (from Jysk) the aim is for a user to find bath mats for a bathroom. Which part(s) of the design applies navigational signs to support exploration, i.e. which section(s) use(s) warning and reassurance signs help the user identify if the correct destination is reached (select one or more options)?

6 points

The screenshot shows the Jysk website interface for bath mats. Red boxes and letters A-M highlight specific elements:

- A:** Top navigation bar with links: CUSTOMER SERVICE, PAPERS, FIND STORE, LOG IN.
- B:** Search bar with placeholder text "Search by item/category" and a "Search" button.
- C:** Shopping cart icon.
- D:** Category navigation bar: Bedroom, Bathroom, Office, Living room, Dining Room, Storage, Curtains/Blinds, Garden, Housewares.
- E:** Breadcrumb trail: Home / Bathroom / Bath Mats.
- F:** Filter section: Bath Mats (BASIC, PLUS, GOLD).
- G:** Main heading: WIDE RANGE OF BATH MATS FOR YOUR BATHROOM.
- H:** Price filter (GBP) with ranges: 0 - 10 (20), 10 - 50 (5).
- I:** Sort by relevance dropdown.
- J:** Sub-heading: BATH MATS - BASIC.
- K:** Colour filter with options: Black (1), Blue (4), Grey (10), Natural (7), Red (2), White (2).
- L:** Product grid showing three bath mats: SIBBHULT 40x60 natural (£1.25/EACH), SVANVIK 45x65 (£4/EACH), and BACKE 45x75 grey (£5/EACH).
- M:** Design filter with options: Patterned (4), Solid (21), EVERYDAY LOW PRICE (7), Products sold online (23), Products sold in store (25).

Select one or more:

- ☐ A. A
- ☐ B. B
- ☐ C. C
- ☒ D. D ✗
- ☒ E. E ✓
- ☒ F. F ✓
- ☒ G. G ✓



- ☐ H. H
- ☒ I. I ✓
- ☒ J. J ✓
- ☐ K. K
- ☒ L. L ✓
- ☐ M. M

The correct answers are: E, F, G, I, J, L

Question **20**

Incorrect

Mark 0.00 out of 2.00

Theories claim that the human short term memory is constrained by being able to contain between  $4 \pm 1$  or  $7 \pm 2$  elements. This is based on freely remembering e.g. numbers or names. How should this be applied to designing graphical user interfaces (select one or more options)?

**2 points**

Select one or more:

- ☒ A. The maximum number of menu items allowed in the design is between 5-9 ✗
- ☐ B. Having less than 3-5 menu items makes the design significantly more effective to use
- ☐ C. None of the above

The correct answer is: None of the above



Question **21**

Incorrect

Mark 0.00 out of 2.00

Which design principle(s) and heuristic(s) below is/are directly related to reducing the load on human working memory (select one or more options)?

**2 points**

Select one or more:

- ☐ A. User control and freedom
- ☐ B. Flexibility and efficiency of use
- ☒ C. Chunking ✓
- ☒ D. Error prevention ✗
- ☒ E. Recognition rather than recall ✓
- ☒ F. Visibility of system status ✗

The correct answers are: Recognition rather than recall, Chunking



## Question 22

Correct

Mark 4.00 out of 4.00

Considering the use context shown in the illustration below (walking on the street interacting with your phone), which type of attention is employed by the phone users (select one or more options)?

**4 points**

Select one or more:

- ☐ A. Selective attention
- ☒ B. Divided attention ✓
- ☐ C. Limited attention
- ☐ D. Enhanced attention

The correct answer is: Divided attention



Question **23**


Partially correct

Mark 3.00 out of 6.00

External factors are known to affect our attention, e.g. factors such as noise and light affect our stress levels and, in turn, our level of emotional arousal. The Yerkes-Dodson Law explains what happens to our performance when exposed to stressors when conducting simple and complicated tasks. What does the Yerkes-Dodson law claim (select one or more options)?

**6 points**

Select one or more:

- ☐ A. A high level of performance can only be reached if there is a high level of arousal
- ☐ B. We can reach a high level of performance with several stressors when conducting simple tasks. In comparison, when conducting complex tasks in the same environment, performance will be considerably lower
- ☒ C. In case of both simple and complicated tasks, there can be a high level of performance, even when we are exposed to stressors 
- ☐ D. The level of arousal depends on the nature of the task to be completed, i.e. whether this is simple or complex

The correct answers are: In case of both simple and complicated tasks, there can be a high level of performance, even when we are exposed to stressors, We can reach a high level of performance with several stressors when conducting simple tasks. In comparison, when conducting complex tasks in the same environment, performance will be considerably lower



Mark 4.80 out of 6.00

In the mock-up design below, fill in the box next to each label with a suitable widget type (drag widget images and drop them into each of the 10 boxes next to the labels).

New Rental	
Customer name:	<input type="text"/>
Customer email:	<input type="text"/>
Customer phone:	<input type="text"/>
License number:	<input type="text"/>
<hr/>	
Car type:	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Extra options:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Pick-up date:	<input type="text"/> / <input type="text"/> / <input type="text"/> <input type="button" value="Calendar"/>
Return date:	<input type="text"/> / <input type="text"/> / <input type="text"/> <input type="button" value="Calendar"/>
Pick-up location:	<input type="text"/> <input type="button" value="v"/>
Return location:	<input type="text"/> <input type="button" value="v"/>
<input type="button" value="Cancel"/> <input type="button" value="Submit"/>	

This block displays a variety of standard and specialized UI controls. It includes a simple text input field, a button, a search field with a magnifying glass icon, a horizontal slider, a group of four radio buttons, a numeric spinner showing the value '3', a dropdown menu labeled 'ComboBox', a group of four checkboxes, and a date picker field with a calendar icon.

Question **25**

Correct

Mark 2.00 out of 2.00

Which test type(s) below denote(s) type(s) of user based usability tests (select one or more options)?

**2 points**

Select one or more:

- ☒ A. Comparison ✓
- ☒ B. Validation ✓
- ☐ C. Acceptance test
- ☒ D. Exploratory ✓
- ☐ E. Heuristic Inspection
- ☒ F. Assessment ✓

The correct answers are: Comparison, Assessment, Validation, Exploratory

Question **26**

Partially correct

Mark 2.00 out of 6.00

When we evaluate the usability of a design, we test the extent to which a design is effective, efficient and satisfying. This is measured through the metrics of task accuracy, task timing and through subjective questioning, e.g. debriefing interviews or questionnaires. How is task accuracy measured in a user based usability test (select one or more options)?

**6 points**

Select one or more:

- ☐ A. By asking through free-form questions and comments
- ☐ B. The number of usability problems identified, e.g. in relation to errors made by participants
- ☒ C. Percentage of participants successfully completing the tasks ✓
- ☐ D. Median time to complete
- ☐ E. By participants asking during debriefing sessions
- ☐ F. By asking through limited-choice questions
- ☐ G. Range (high and low) of completion times
- ☐ H. Standard deviation (SD) of completion times
- ☒ I. Mean time to complete ✗
- ☒ J. Percentage of participants successfully completing tasks within a time benchmark ✓

The correct answers are: The number of usability problems identified, e.g. in relation to errors made by participants, Percentage of participants successfully completing the tasks, Percentage of participants successfully completing tasks within a time benchmark



Question **27**

Correct

Mark 2.00 out of 2.00

What is the responsibility of the test moderator in user based usability evaluations where a think-aloud protocol is used (select one or more options)?

**2 points**

Select one or more:

- ☐ A. Controlling participants by instructing them how to complete the tasks
- ☒ B. Introducing participants to the test purpose, procedure and tasks ✓
- ☒ C. Intervening when it is clear that participants cannot solve the tasks ✓
- ☒ D. Making sure participants think aloud ✓

The correct answers are: Making sure participants think aloud, Introducing participants to the test purpose, procedure and tasks, Intervening when it is clear that participants cannot solve the tasks

Question **28**

Partially correct

Mark 4.00 out of 6.00

The following example from a log transcript indicates that the user is experiencing a usability problem related to unclear functionality of a button. The example is extracted from an analysis of a user based usability test in which a think-aloud protocol was used. Which observation(s) in the example indicate(s) that there is a usability problem (select one or more options)?

*"The user is asked to type in his address in a web form. He types in his street name and number. He then notices a button labeled 'Retrieve address information'. He pauses and after some silence asks for himself 'Retrieve address information?'. The test moderator asks what the participant is thinking to which he answers: 'If I press the button I believe the system will retrieve the zip code and city name'. After pressing the button the system feedback states 'Address ok'. The participant shakes his head and says: 'Oh, ok it might as well have retrieved the zip code and city name'. He continues solving the task."*

**6 points**

Select one or more:

- ☒ A. Participant stops talking ✓
- ☒ B. Participant changes strategy or approach for solving the task ✗
- ☐ C. Participant makes a mistake by typing in wrong information
- ☒ D. Participant is delayed in completing the task ✓
- ☒ E. Participant is confused or surprised ✓

The correct answers are: Participant is confused or surprised, Participant stops talking, Participant is delayed in completing the task



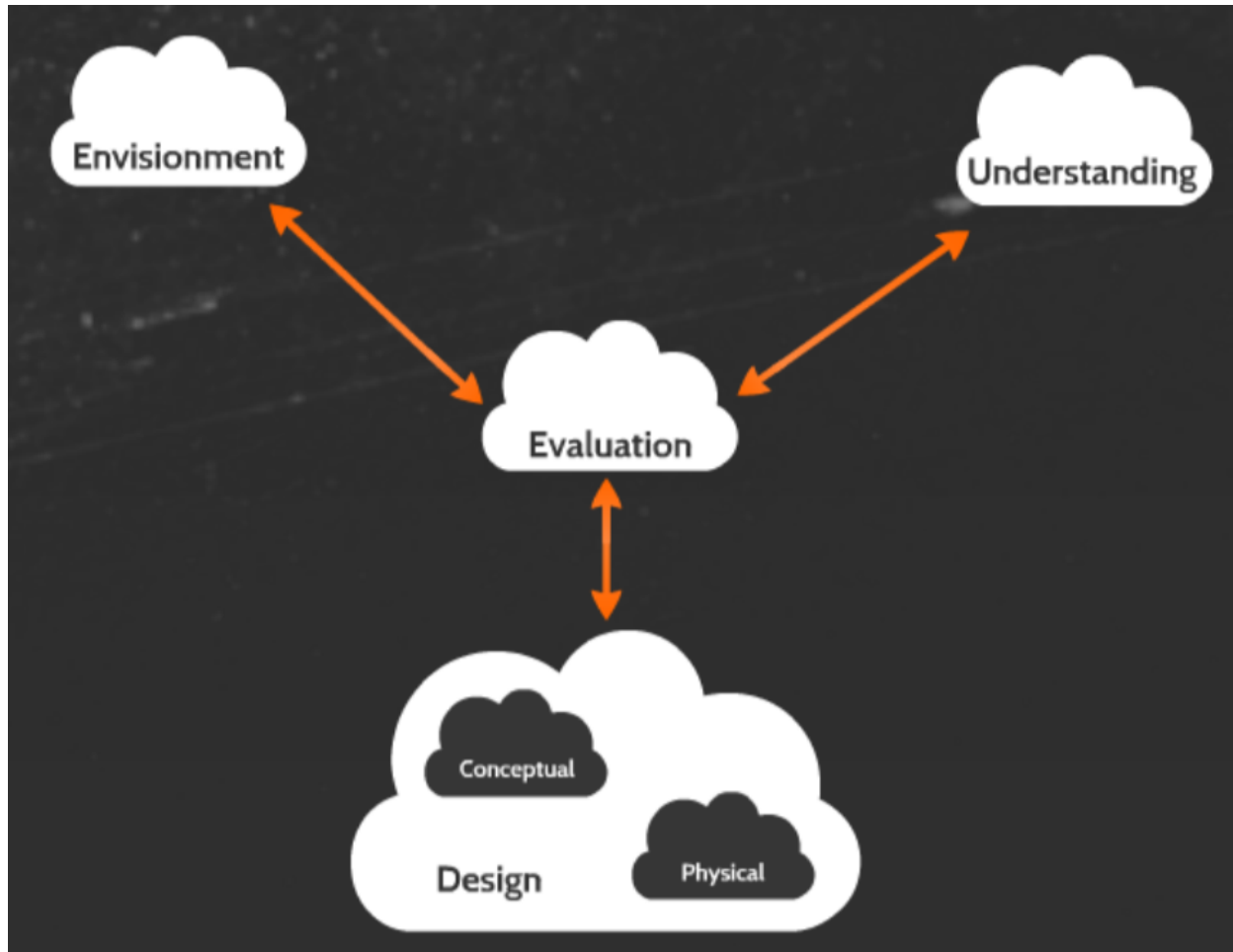
## Question 29

Complete

Marked out of 6.00

In Benyons design process (image below), "Evaluation" is listed as a central phase connecting all other phases. Why is evaluation positioned in the center? And what is the relationship between the "Evaluation" phase and the other phases of "Understanding", "Envisionment" and "Design" (describe in the textarea below)?

6 points



Evaluation is what makes sure that we are on the right track. If we never evaluate what we are doing nothing is stopping us from creating a system or product that will never be used. We have to evaluate to make sure that we have a correct understanding, such that we can create useful designs and when we evaluate these designs the customer might say something that improves our understanding of the problem. Without evaluating our designs and our understanding of the problem can only be so good. Discovering flaws or good aspects in in phase might lead to breakthroughs in another, thus we can incrementally create something very good.

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