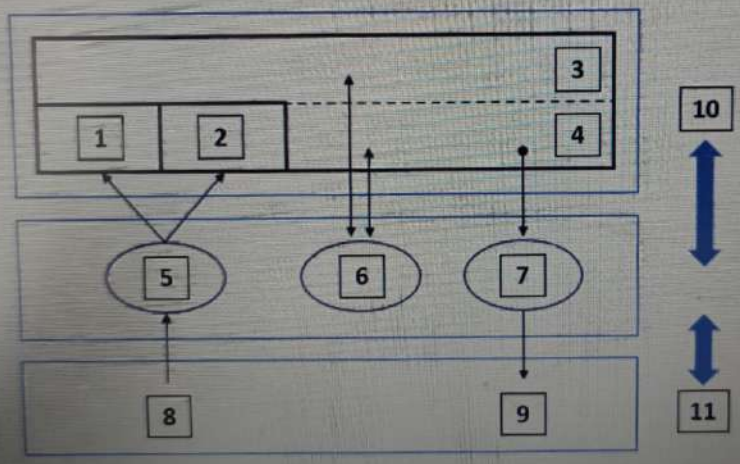
Complete the **Model Human Processor** by choosing the missing terms for the respective gaps.



8 9 11

1. Auditory store
2. Visual store
3. Long term memory
4. Working memory
5. Perceptual processor
6. Cognitive processor
7. Motor processor
8. eyes, ears
9. arms, wrists, fingers, etc.
10. Memory
11. Input/Output

Die bestmögliche Lösung lautet:

[VR] Reality-Virtuality Continuum (2) (3.5 Punkte)

Sie haben die folgende Antwort gegeben:

Assign the correct descriptions to the different levels of the **Reality-Virtuality Continuum**.

Virtual Environment	passt zu	User is totally immersed	✓
Virtual Environment	passt zu	Use of 360° cameras	✓
Virtual Environment	passt zu	Imaginary space that independently exists	✓
Real-World Environment	passt zu	Constrained by laws of physics	✓
Real-World Environment	passt zu	Independent of software updates	✓
Mixed Reality Environment	passt zu	Augmented Virtuality	✓
Mixed Reality Environment	passt zu	Enhancing human perception	✓

Die bestmögliche Lösung lautet:

Final Exam for the 28th March 2022

Zurück zur Übersicht des Durchlaufs

[Princ] User errors (3) (3 Punkte)

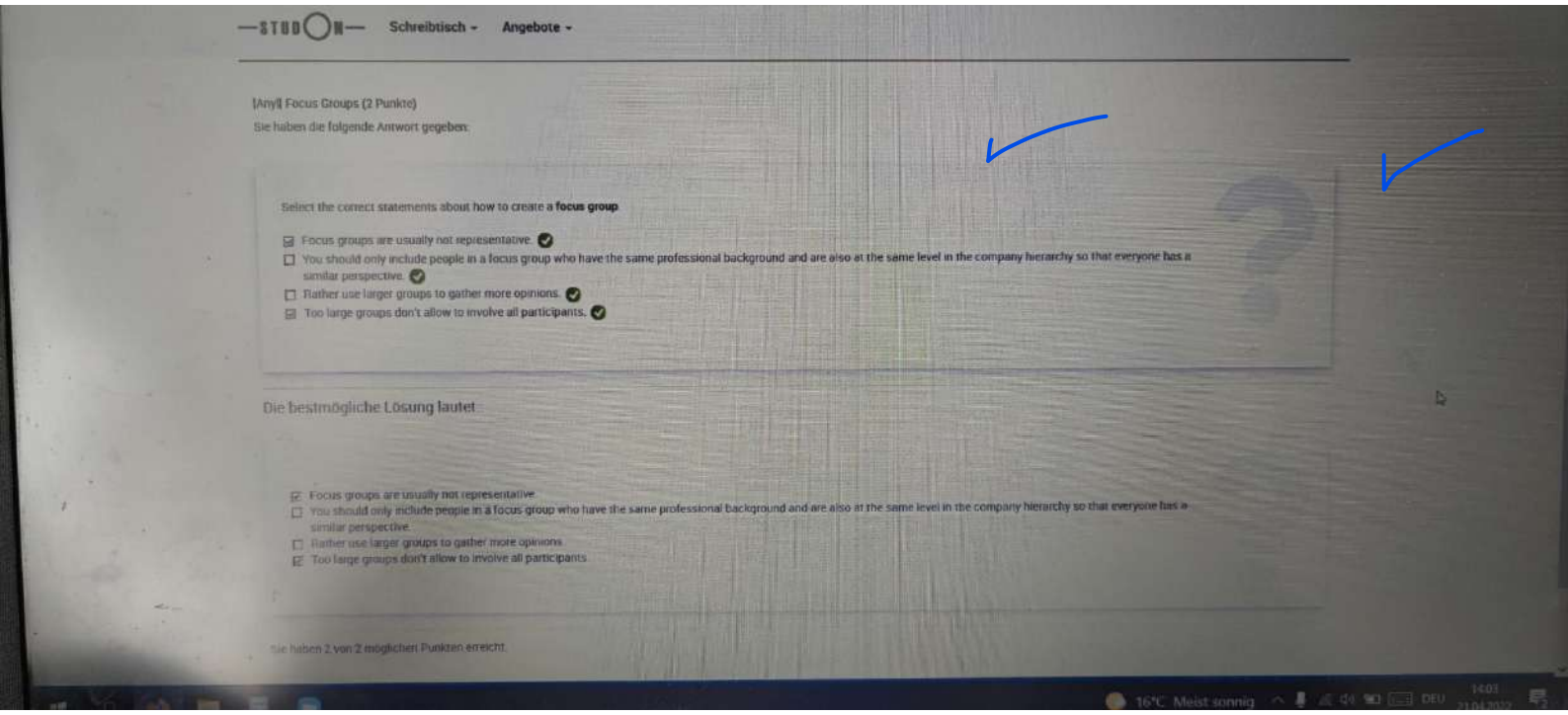
Sie haben die folgende Antwort gegeben:

Assign the correct error types to the different **descriptions of errors** users can make.

Two actions with common start point, the more familiar one captures the unusual (driving to work on Saturday instead of the supermarket)	passt zu	Capture errors
Performing an action that is close to the action that one wanted to perform (putting the cutlery in the bin instead of the sink)	passt zu	Description errors
Using data that is visible in a particular moment instead of the data that is well-known (calling the room number you see instead of the phone number you know by heart)	passt zu	Data driven errors
You think of something and that influences your action (e.g. saying Come in after picking up the phone)	passt zu	Associate action errors
In a given environment you decided to do something but when leaving then you forgot what you wanted to do. Going back to the start place you remember	passt zu	Loss-of-Activation error (forgetting)
You forget that you are in a mode that does not allow a certain action or where a action has a different effect	passt zu	Mode error

Die bestmögliche Lösung lautet:

Two actions with common start point, the more familiar one captures the unusual (driving to work on Saturday	passt	


—STUDON— Schreibtisch Angebote
[Any] Focus Groups (2 Punkte)
Sie haben die folgende Antwort gegeben:
Select the correct statements about how to create a focus group.
Focus groups are usually not representative.
You should only include people in a focus group who have the same professional background and are also at the same level in the company hierarchy so that everyone has a similar perspective.
Rather use larger groups to gather more opinions.
Too large groups don't allow to involve all participants.
Die bestmögliche Lösung lautet:
Focus groups are usually not representative.
You should only include people in a focus group who have the same professional background and are also at the same level in the company hierarchy so that everyone has a similar perspective.
Rather use larger groups to gather more opinions.
Too large groups don't allow to involve all participants.
Sie haben 2 von 2 möglichen Punkten erreicht.
16°C Meist sonnig
DEU

Choose the corresponding **Gestalt law** for each picture.

1 

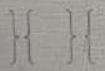
4 

2 

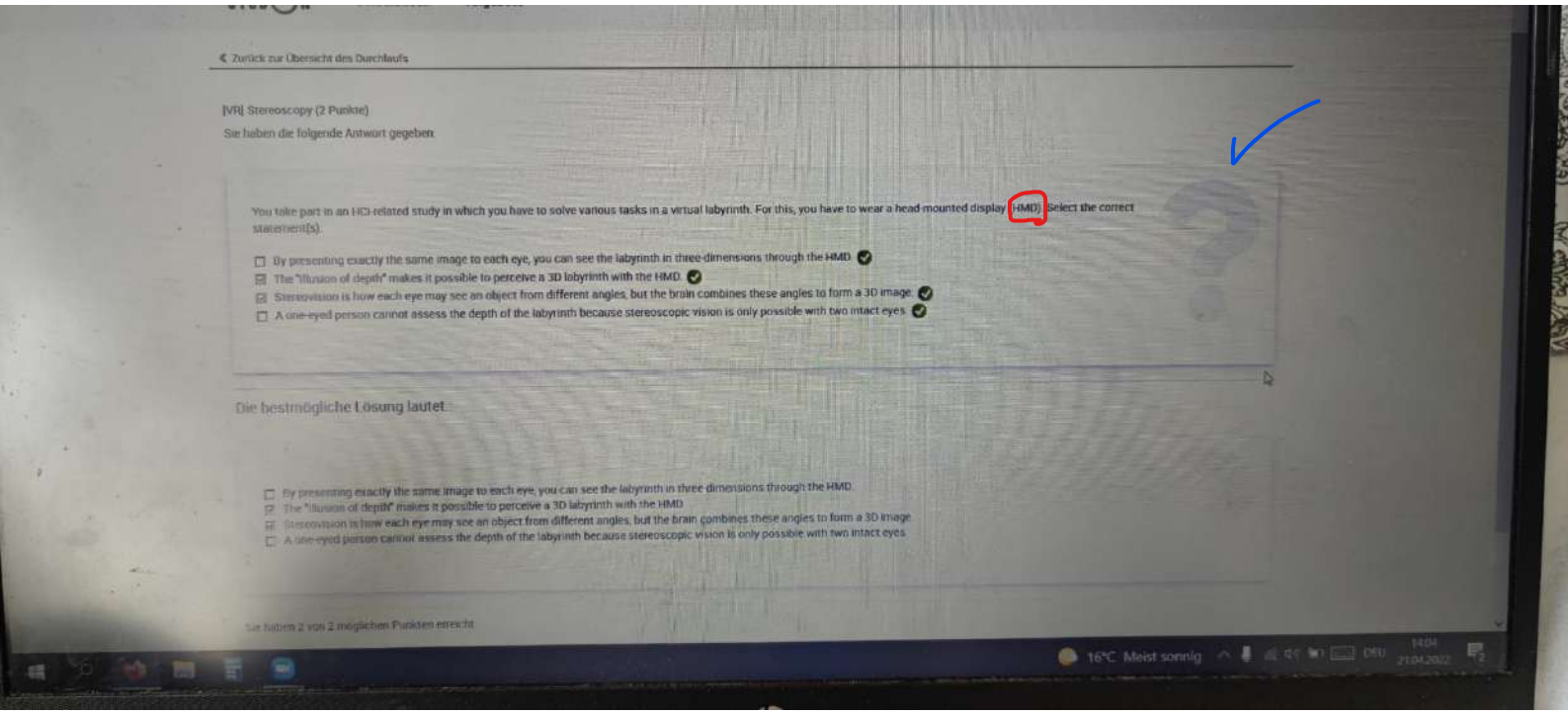
5 

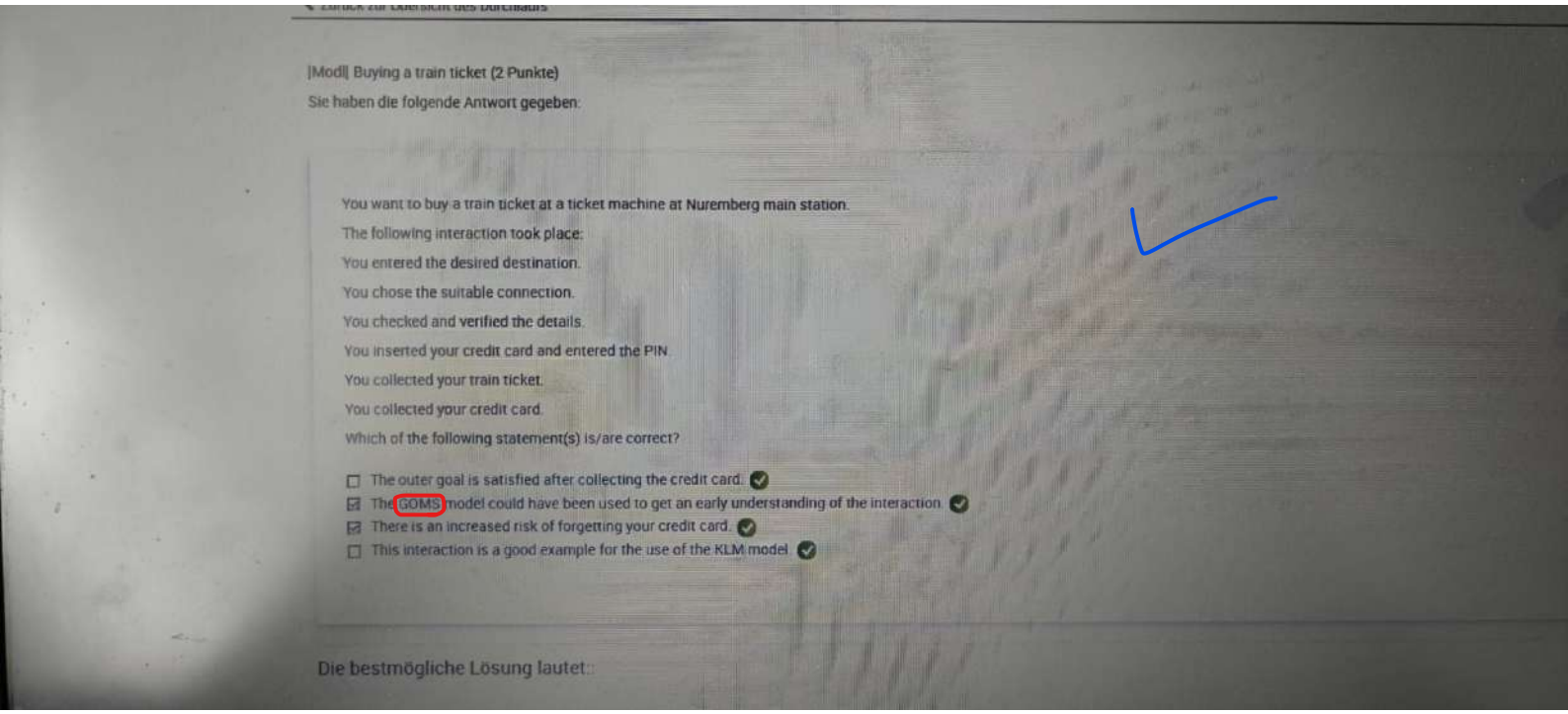
3 

6 

7 

1. Law of similarity
2. Law of proximity
3. Law of continuity
4. Law of closure
5. Law of pragnanz / simplicity / good shape
6. Law of common fate
7. Law of symmetry


Zurück zur Übersicht des Durchlaufs
[VR] Stereoscopy (2 Punkte)
Sie haben die folgende Antwort gegeben:
You take part in an HCI-related study in which you have to solve various tasks in a virtual labyrinth. For this, you have to wear a head-mounted display (HMD). Select the correct statement(s).
By presenting exactly the same image to each eye, you can see the labyrinth in three-dimensions through the HMD.
The "illusion of depth" makes it possible to perceive a 3D labyrinth with the HMD.
Stereovision is how each eye may see an object from different angles, but the brain combines these angles to form a 3D image.
A one-eyed person cannot assess the depth of the labyrinth because stereoscopic vision is only possible with two intact eyes.
Die bestmögliche Lösung lautet:
By presenting exactly the same image to each eye, you can see the labyrinth in three-dimensions through the HMD.
The "illusion of depth" makes it possible to perceive a 3D labyrinth with the HMD.
Stereovision is how each eye may see an object from different angles, but the brain combines these angles to form a 3D image.
A one-eyed person cannot assess the depth of the labyrinth because stereoscopic vision is only possible with two intact eyes.
Sie haben 2 von 2 möglichen Punkten erreicht.
16°C Meist sonnig
DEU



[Modl] Buying a train ticket (2 Punkte)

Sie haben die folgende Antwort gegeben:

You want to buy a train ticket at a ticket machine at Nuremberg main station.

The following interaction took place:

You entered the desired destination.

You chose the suitable connection.

You checked and verified the details.

You inserted your credit card and entered the PIN.

You collected your train ticket.

You collected your credit card.

Which of the following statement(s) is/are correct?

- ☐ The outer goal is satisfied after collecting the credit card.
- ☑ The GOMS model could have been used to get an early understanding of the interaction.
- ☑ There is an increased risk of forgetting your credit card.
- ☐ This interaction is a good example for the use of the KLM model.

Die bestmögliche Lösung lautet:

Zurück zur Übersicht des Durchlaufs

[Eval] Median (3 Punkte)

Sie haben die folgende Antwort gegeben:

A study shows an experiment in which the reaction time of goalkeepers is measured. They are asked to press a button as soon as a symbol appears on a white screen. The data, except for a few outliers, are all within a range of 400 - 600 milliseconds. In the study, the median was calculated to evaluate the reaction time.

Why was the median chosen in the study? What disadvantages could the median have?

Choose the correct explanations.

- [x] The median is relatively unaffected by outliers.
- [x] The median is not very stable.
- [ ] The median is resistent to sampling variation.
- [ ] The median consideres every score, therefore it is the most accurate summary of the data.
- [ ] The median is very much affected by outliers.
- [x] The median can be used with numerical data but not with nominal data.

Die bestmögliche Lösung lautet:

16°C Meist sonnig

Zurück zur Übersicht des Durchlaufs

[Proto] Horizontal and vertical prototypes (2.5 Punkte)

Sie haben die folgende Antwort gegeben:

Assign the correct statements to either **horizontal** or **vertical prototypes**.

Horizontal prototype	passt zu	Actual functionalities are not implemented
Horizontal prototype	passt zu	Helps to evaluate/test navigation, feature placement, accessibility, overall user interface concept, and user preferences
Vertical prototype	passt zu	Full functionality and performance of a "slice" or small part of the system
Vertical prototype	passt zu	Details of the function/feature are implemented
Vertical prototype	passt zu	Helps to test the optimal design for a feature and evaluate its usability

Die bestmögliche Lösung lautet:

Horizontal prototype	passt zu	Actual functionalities are not implemented

Zurück zur Übersicht des Durchlaufs

[Princ] Principles to support Usability (by Dix) (3 Punkte)

Sie haben die folgende Antwort gegeben:

Assign the correct descriptions and the respective components to the given **principles to support Usability** by Dix et al.

Learnability	passt zu	The ease with which new users can begin effective interaction and achieve maximal performance
Learnability	passt zu	Predictability, Synthesizability, Familiarity, Generalizability, Consistency
Flexibility	passt zu	The multiplicity of ways the user and system exchange information
Flexibility	passt zu	Dialogue initiative, Multithreading, Task migratability, Substitutivity
Robustness	passt zu	The level of support provided to the user in determining successful achievement and assessment of goal-directed behavior
Robustness	passt zu	Observability, Recoverability, Task conformance, Responsiveness

Die bestmögliche Lösung lautet::

Learnability	passt zu	The ease with which new users can begin effective interaction and achieve maximal performance

Look at the following circular and linear pop up menus. On right clicking the mouse the circular pop up menu opens at the central cross while the linear menu opens at the top element "Ansicht". So the mouse cursor is either on the cross (circular menu) or at "Ansicht" (linear menu). Having Fitts' Law in mind which of the following statement(s) is/are correct?

- [x] The circular pop up menu benefits in terms of target distance.
- [ ] The circular pop up menu saves space.
- [x] All elements in the circular pop up menu can be accessed equally well.
- [ ] All elements in the linear menu can be accessed equally well.
- [ ] The linear pop up menu would improve accessibility of the upper items if - on right clicking - the mouse cursor was already at the level of the center.
- [x] At each element of the circular pop up menu another circular menu could open and increase the access speed.

[Hist] Inventions of HCI history (3 Punkte)

Sie haben die folgende Antwort gegeben:

Fill the gaps with the respective inventions of these important inventors in HCI history.

Vannevar Bush: MEMEX

Ivan Sutherland: Sketchpad

Douglas Engelbart: Mouse

Die bestmögliche Lösung lautet:

Zurück zur Übersicht des Durchlaufs

[Any] Task analysis (2 Punkte)

Sie haben die folgende Antwort gegeben:

Check the correct statement(s) about **task analysis**.

- [x] Task analysis is typically used to analyze work processes and interactions.
- [ ] Task analysis is typically used to analyze the preferences of potential user groups.
- [x] The granularity and level of detail should be suitable for the analyzed task.
- [ ] The more granularity and level of detail can be achieved, the better.

Die bestmögliche Lösung lautet:

An interference between two tasks should be calculated by using the Wickens Model. The demand vectors (a) and the conflict matrix (b) of the two tasks are given.

(a)

	V_f	V_a	A_s	A_v	C_s	C_v	R_s	R_v	
Rural curve driving	1	2	0	0	1	0	2	0	1
Auditory IVT	0	0	0	2	0	2	0	2	2

(b)

	V_f	V_a	A_s	A_v	C_s	C_v	R_s	R_v
V_f	0.8	0.6	0.6	0.4	0.7	0.5	0.4	0.2
V_a		0.8	0.4	0.6	0.5	0.7	0.2	0.4
A_s			0.8	0.4	0.7	0.5	0.4	0.2
A_v				0.8	0.5	0.7	0.2	0.4
C_s					0.8	0.6	0.6	0.4
C_v						0.8	0.4	0.6
R_s							0.8	0.6
R_v								1.0

- Give the missing values in the demand vectors (position 1 and 2 in figure a. ***(numbers with decimal point!)***

- Give the missing values in the demand vectors (position *1* and *2* in figure *a*, ***!!numbers with decimal point!!***)
  - 1: 0.75
  - 2: 0.75
- Calculate the total demand (TD) from both vectors (**!!numbers with decimal point!!**)
  - TD = 1.5
- Apply the two demand vectors to the conflict matrix and calculate the total conflict (TC) (**!!numbers with decimal point!!**)
  - TC = 1.1
- Scale the total conflict for a maximum conflict of 20.

  Give the maximum total demand (Max TD), the resulting scaling factor (Scaling) and the scaled total conflict (STC) (**!!numbers with decimal point!!**)
  - Max TD = 6
  - Scaling = 0.3
  - STC = 0.33
- Calculate the total interference (TI) between the two tasks (**!!numbers with decimal point!!**)
  - TI = 1.83

Fitts' Law can be used to predict movement times for pointing devices.

(a) $MT = b + a * log_2(\frac{D}{W})$ (b) $MT = D + W * log_2(\frac{a}{b})$

(c) $MT = D + W * log_2(\frac{b}{a})$ (d) $MT = a + b * log_2(\frac{W}{D})$

(e) $MT = a + b * log_2(\frac{D}{W})$ (f) $MT = D + W * log_2(1 - \frac{a}{b})$

(g) $MT = D - W * log_2(1 + \frac{a}{b})$ (h) $MT = b - a * log_2(1 + \frac{D}{W})$

(i) $MT = a + b * log_2(1 + \frac{D}{W})$ (j) $MT = b - a * log_2(1 - \frac{D}{W})$

$MT = a + b \log_2(1 + \frac{D}{W})$

Choose the correct formula (a - j) describing Fitt's Law.

i ✓

Simply put, Fitts' Law formula says:

The more severe the constraints are, the slower we move ✓

Choose the correct explanation for the term called "ID".

ID is the index of Difficulty and refers to the target distance and width ✓

(i) $MT = a + b * log_2(1 + \frac{D}{W})$ (j) $MT = b - a * log_2(1 - \frac{D}{W})$

Choose the correct formula (a - j) describing Fitt's Law.

i

Simply put, Fitts' Law formula says:

The more severe the constraints are, the slower we move.

Choose the correct explanation for the term called "ID"

ID is the Index of Difficulty and refers to the target distance and width

To make a precise prediction of movement time for a new pointing device (e.g. a new tracking ball) using Fitts' Law you need to experimentally determine the parameters "a" and "b". What do these parameters "a" and "b" stand for?

a is the offset and b is the slope

Choose how a possible experiment to evaluate "a" and "b" could look like? (**The first gap refers to the first step to take**)

First: Build UI with varying distance and width of the target

Second: Measure Movement Time (MT) until target is reached (repeat 100 times for each subject)

Third: Linear regression over all subjects in the ID-MT graph and read a and b

Zurück zur Übersicht des Durchlaufs

[Princ] 8 Golden Rules (2) (2 Punkte)

Sie haben die folgende Antwort gegeben:

Choose the correct statement(s) describing the 8 Golden Rules of Shneiderman.

- [x] Shortcuts: to improve speed for experienced users by providing shortcuts on different levels (e.g. keyboard shortcuts, printer presets)
- [x] Closure: sequences of (non-instantaneous) actions should have a beginning, middle, and end
- [ ] Locus of control: user should feel to be in control of the system, but system should initiate actions
- [ ] Error handling: basically all actions should be reversible, e.g by providing UNDO functions and allowing undo of groups of actions

Permit easy reversable action

Die bestmögliche Lösung lautet:

- [x] Shortcuts: to improve speed for experienced users by providing shortcuts on different levels (e.g. keyboard shortcuts, printer presets)

Sie haben die folgende Antwort gegeben.

Mark the correct statement(s) about **resistive sensing**.

- [ ] Resistive sensing measures force intensity on the metall surface.
- [ ] The physics principle is based on a rigid carbon polymer.
- [ ] The resistive sensing works inductively and is force sensitive.
- [ ] The resistive sensing works conductively and is force sensitive.
- [x] The physics principle is based on a flexible carbon polymer.
- [x] Resistive sensing measures force intensity on the fabric surface.

Die bestmögliche Lösung lautet:

- [ ] Resistive sensing measures force intensity on the metall surface.
- [ ] The physics principle is based on a rigid carbon polymer.
- [ ] The resistive sensing works inductively and is force sensitive.
- [x] The resistive sensing works conductively and is force sensitive.
- [x] The physics principle is based on a flexible carbon polymer.
- [x] Resistive sensing measures force intensity on the fabric surface.

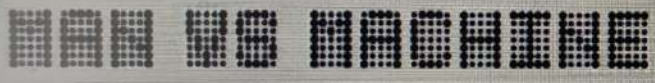
[Hum] Gestalt Laws applied (3 Punkte)

Sie haben die folgende Antwort gegeben:

We as humans can easily recognize and decipher the shown captchas (a and b).

Check the **correct statement(s)** about these captchas.

 (a)

 (b)

- [x] In captcha (a) we can apply Law of Closure because the brain is filling the missing gaps in the characters.
- [x] In captcha (b) we can apply Law of Similarity because the bigger dots are similar and seen as group.
- [ ] For both captchas we can apply Law of Common Fate because they move into the same direction.
- [ ] For both captchas we can apply Law of Pragnanz because we can follow the smoothest path along the characters.
- [ ] For captcha (b) Law of Symmetry can be applied because the words have symmetric distances to each other.
- [ ] Law of Continuity cannot be applied in (a) and (b) because there are no lines.

Sie haben die folgende Antwort gegeben:

Find the correct statements about ANOVA.

- ☐ You can use ANOVA if you want to compare more then two means. ✗
- ☑ If not mYou can use ANOVA if you want to compare only two means. ✗
- ☐ ANOVA is more general than a two sample t-test. ✗
- ☑ ANOVA is less general than a two sample t-test. ✗

! See slides *6_2020_06_03_Evaluation*.

Die bestmögliche Lösung lautet:

- ☑ You can use ANOVA if you want to compare more then two means.
- ☐ If not mYou can use ANOVA if you want to compare only two means.
- ☑ ANOVA is more general than a two sample t-test.
- ☐ ANOVA is less general than a two sample t-test.

Sie haben 0 von 2 möglichen Punkten erreicht.

Final Exam for the 28th March 2022

« Zurück zur Übersicht des Durchlaufs

[Hum] Hearing threshold (2 Punkte)

Sie haben die folgende Antwort gegeben:

A siren is a loud noise-making device. In previous years, it happened that not everyone could hear the siren. That is why the siren was adapted so that the sound covers a spectrum of frequencies. Select the correct statement(s).

- ☐ The perceived loudness of the siren is independent of the frequency.
- ☑ Older people require higher sound pressure, especially at higher frequencies.
- ☑ Hair cells are irreparable. This contributes to the fact that the threshold of hearing changes in life.
- ☑ The perceived loudness of the siren is dependent of the frequency.

Die bestmögliche Lösung lautet:

- ☐ The perceived loudness of the siren is independent of the frequency

Sie haben die folgende Antwort gegeben:

Select the correct statement(s) about diary studies.

- [x] Users are typically asked to record the date and time of an event, where they are, information about the event of significance, and ratings about how they feel, etc.
- [x] Users are asked to document significant events of problems for example during the use of the system
- [ ] Users are asked to document the interactions with smartphones
- [ ] Diary studies can be used for tasks that are done very quickly or hard to observe
- [ ] Diary studies can be used when a longer time period is investigated
- [ ] The user can also get a tape recorder and a list of questions to avoid using their own smartphones

Die bestmögliche Lösung lautet:

- [x] Users are typically asked to record the date and time of an event, where they are, information about the event of significance, and ratings about how they feel, etc.
- [x] Users are asked to document significant events of problems for example during the use of the system
- [ ] Users are asked to document the interactions with smartphones
- [ ] Diary studies can be used for tasks that are done very quickly or hard to observe
- [x] Diary studies can be used when a longer time period is investigated
- [ ] The user can also get a tape recorder and a list of questions to avoid using their own smartphones

Sie haben 2 von 3 möglichen Punkten erreicht

Final Exam for the 28th March 2022

Zurück zur Übersicht des Durchlaufs

[Hum] Stroop effect (2) (2 Punkte)

Sie haben die folgende Antwort gegeben:

Choose the correct statement(s):

- [x] When performing the Stroop test, the participants are asked to name the font color of a printed color-word and not naming the actual word (e.g. if the word "blue" is written in red font, the correct answer would be "red").
- [ ] When performing the Stroop test, the participants are asked to name the actual meaning of a printed color-word and not naming its font color (e.g. if the word "blue" is written in red font the, correct answer would be "blue").
- [x] If the font color and the actual meaning of the printed color-word do not match, participants take longer to give the correct answer and make more mistakes because naming the font color takes more attention than reading the word.
- [ ] If the font color and the actual meaning of the printed color-word do not match, participants are faster to give the correct answer and make less mistakes because reading the word takes longer than simply naming the font color.

Die bestmögliche Lösung lautet:

Schreibtisch Angebote

An important rule for designing of a User Interface is the strive for consistency. There are three different levels of consistency.
Look at the images below, there you can see two different versions of the Apple operating system from 1980 (a) and 2010 (b).

(a)

(b)

Which of the following statement(s) is/are correct?

- [ ] Lexical Consistency is achieved by placing the Apple Logo always at the top left.
- [x] Syntactic Consistency is achieved by the same ordering of "File Edit View".
- [x] Lexical Consistency is achieved by using the same words like "File Edit View".
- [x] Semantic Consistency is achieved by giving the words the same meaning in terms of interaction. "File" provides options regarding the current file.
- [ ] Syntactic Consistency is achieved by providing a "Help" option.
- [ ] Semantic Consistency is achieved by using red color for closing an application.

16°C Meist sonnig DEU

Sie haben die folgende Antwort gegeben:

During Corona, a group of VR enthusiasts decided to develop a novel VR application to facilitate home office work. Their motivation is parents who need to take care of children while working at home.
Their idea: monitors are projected in the peripheral field of view and can be pulled into the central field of view using eye tracking if needed. The keyboard is completely absent and is replaced with voice commands.
Thus, both hands are free and the employee is not tied to a desk.

They design a business model and present it to various sponsors.

Which of the following statement(s) might they have been told:

- [x] VR is not suitable for this kind of application. ✓
- [ ] To this day there are wireless VR devices. So you would not be limited in space. ✗
- [ ] AV would do the trick. Then you could even think of driving the car and collecting the kids from school while having the headset on. ✓
- [x] VR can enhance the experience by also adding the real world to your view. ✗

Die bestmögliche Lösung lautet:

- [x] VR is not suitable for this kind of application.
- [x] To this day there are wireless VR devices. So you would not be limited in space.
- [ ] AV would do the trick. Then you could even think of driving the car and collecting the kids from school while having the headset on.
- [ ] VR can enhance the experience by also adding the real world to your view.

[Intro] Utility, Usability & Likeability (3 Punkte)

Sie haben die folgende Antwort gegeben:

Choose the correct statement(s):

- [ ] Usability describes if a product can be used to reach a certain goal or to perform a certain task.
- [x] Usability relates to how well a product supports the user to reach a certain goal or perform a certain task.
- [x] Usability relates to the quality and efficiency of a product.
- [ ] Likeability relates to how much people like using a product. This is never related to a product's usability.
- [ ] Likeability relates to how well a product supports the user to reach a certain goal or to perform a certain task. This is always related to a product's usability.
- [x] Utility is essential.

Die bestmögliche Lösung lautet:

- [ ] Usability describes if a product can be used to reach a certain goal or to perform a certain task.

STUDON — Schreibtisch — Angebote

(Figure 1)

Assume a scenario in which ten multi-digit numbers are added using the keyboards shown in Figure 1. The last digit of all numbers is always 0.

1. Which of the two interfaces (A, B) is faster according to Fitts's Law?

B

2. Give two reasons why the layout is faster.

Distance between 0 and + ist smaller

0 and + buttons are larger

Die bestmögliche Lösung lautet

2. Give two reasons why the layout is faster.

Distance between 0 and + ist smaller

0 and + buttons are larger

Die bestmögliche Lösung lautet

1. Which of the two interfaces (A, B) is faster according to Fitts's Law?

B

2. Give two reasons why the layout is faster.

distance between 0 and + is smaller oder 0 and + buttons are larger

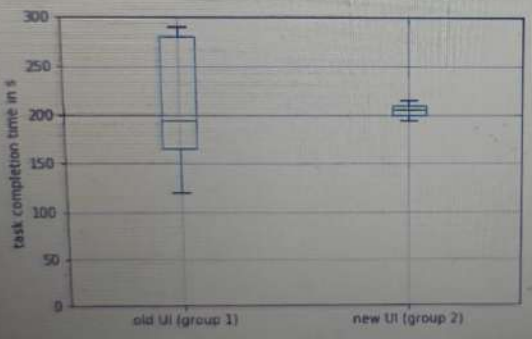
distance between 0 and + is smaller oder 0 and + buttons are larger

Sie haben 3 von 3 möglichen Punkten erreicht

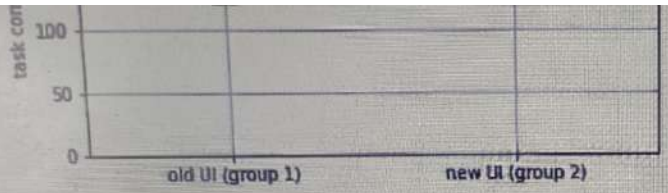
Imagine you are the boss of a small company and, of course, you want your employees to work as efficiently as possible. Therefore, you conducted a study in which all employees were asked to try a new UI for a frequently used program. Half of them performed some specified tasks with the old UI (group 1) and the other half with the new UI (group 2). The respective task completion time was measured.

Below is a boxplot of the results.

Mark the correct conclusions you can draw from the results shown.



- [x] You have used a between-group design for your study
- [ ] You have used a within-group design for your study
- [x] You chose to use the new design (group 2) from now on because the median of the task completion time may be longer but the variance is much smaller

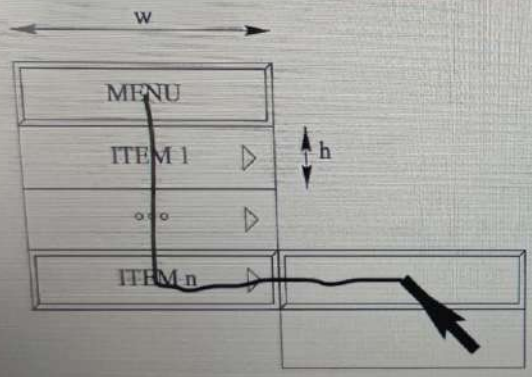


- [x] You have used a between-group design for your study.
- [ ] You have used a within-group design for your study.
- [x] You chose to use the new design (group 2) from now on because the median of the task completion time may be longer but the variance is much smaller.
- [ ] You chose to stay with the old design (group 1) because the median of the task completion time is smaller, which means that all of your employees work faster with the old design.
- [ ] The green line in the boxplot shows the average task completion time.
- [x] The green line of the boxplot shows the middle value of the data.

Die bestmögliche Lösung lautet:

- [x] You have used a between-group design for your study.
- [ ] You have used a within-group design for your study.
- [x] You chose to use the new design (group 2) from now on because the median of the task completion time may be longer but the variance is much smaller.

Steering Law can cope with more complex trajectories than Fitts' Law and also considers boundaries like a tunnel that must not be left. When interacting with current GUIs, one often implicitly performs various path steering tasks. One example is menu selection, such as the one shown in the Figure below.



This path is composed of a vertical and a horizontal steering task. The vertical task consists of n elements each of height h. The respective tunnel width is w. After passing element n, the horizontal task is traveling the distance w through the tunnel of width h.

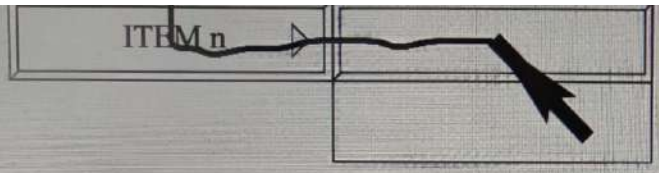
Formulate the Movement Time MT based on the given interaction.

!!Please avoid whitespaces!!

!!Possible mathematical operators: +, -, *, /, sqrt(), ^,%

MT = a+b*(n*h/w)+a+b*(w/h)

From this equation, we can deduce a rule of thumb to improve the Movement Time that is dependent on the number of items n in the menu.



This path is composed of a vertical and a horizontal steering task. The vertical task consists of n elements each of height h. The respective tunnel width is w. After passing element n, the horizontal task is traveling the distance w through the tunnel of width h.

Formulate the Movement Time MT based on the given interaction.

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!!Possible mathematical operators: +, -, *, /, sqrt(), ^,%

MT = a+b*(n*h/w)+a+b*(w/h)

From this equation, we can deduce a rule of thumb to improve the Movement Time that is dependent on the number of items n in the menu.

So MT is minimal when

w = sqrt(n)*h

Die bestmögliche Lösung lautet:

[Modl] GOMS Model - Strength & Weakness (3 Punkte)

Sie haben die folgende Antwort gegeben:

Mark the correct statement(s) about the **strengths and weaknesses of the GOMS model**.

- [x] Difficult to model novel interactions
- [ ] Easy to model novel interactions
- [x] Good treatment of learning effects
- [x] Good to identify bottlenecks
- [ ] Learning effects are not modeled
- [ ] High costs regarding time and money investment

Die bestmögliche Lösung lautet:

Zurück zur Übersicht des Durchlaufs

[Hum] Behavioral constraints (2) (2 Punkte)

Sie haben die folgende Antwort gegeben:

In the exercise we discussed the paper "Affordance, Conventions and Design" by Donald Norman with the specific definition of behavior of users and the possible limitations.

Choose the correct statement(s).

- [x] Not being able to move a cursor outside a screen is a physical constraint.
- [x] Being able to move the mouse to the scroll bar and drag it downwards by holding a mouse button in order to see objects located below the currently visible set is a cultural constraint.
- [ ] Not being able to move a cursor outside a screen is a logical constraint.
- [ ] Being able to move the mouse to the scroll bar and drag it downwards by holding a mouse button in order to see objects located below the currently visible set is a physical constraint.

Die bestmögliche Lösung lautet:

- [x] Not being able to move a cursor outside a screen is a physical constraint.

Use the input device taxonomy defined by Card to classify the depicted smartphone (2 keys on the right side, touch surface).

Mark the correct one of the given options.