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NPTEL

Courses » **Multimodal Interaction**

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Unit 11 - Week 4: Virtual Environments

Course outline

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the portal**

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Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this **Due on 2019-03-27, 23:59 IST.**
assignment.

1) Which statement describes the usage of a Wizard-of-Oz approach **1 point**
for iterative design correctly?

○ The wizard selects from the possible system actions one after another, until the user
signalizes his satisfaction

○ In the beginning the wizard replaces much functionality and over several trials the
system functionality is extended

○ The user tries to reach his goal with the (simulated) system, until he found the correct
way to use the system

No, the answer is incorrect.
Score: 0

Accepted Answers:
*In the beginning the wizard replaces much functionality and over several trials the system
functionality is extended*

2) Which system functionalities can be replaced by trained human in a **1 point**
Wizard-of-Oz testing of a multimodal system?

☐ Automatic speech recognition (i.e. the wizard types in the text uttered by the user)

☐ Distance measurement (i.e. the wizard types in the distance between the eyes of the user

☐ Emotion recognition (the wizard selects the current basic emotion of the user on the
basis of his face and voice)

☐ The wizard copies and pastes automatically recognized text to search appropriate results
in a database

No, the answer is incorrect.
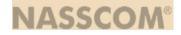**Score: 0**

Accepted Answers:
Automatic speech recognition (i.e. the wizard types in the text uttered by the user)
Emotion recognition (the wizard selects the current basic emotion of the user on the basis of his fac

○ Hybrid approaches

○ ACT-R

○ None of those

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of those

4) Which is the correct order of different stages in the Reality-Virtually **1 point** Continuum?

○ Real Environment, Augmented Reality, Augmented Virtuality, Virtual Environment

○ Virtual Environment, Augmented Reality, Augmented Virtuality, Real Environment

○ Real Environment, Augmented Virtuality, Augmented Reality, Virtual Environment

○ Augmented Virtuality, Augmented Reality, Real Environment, Virtual Environment

No, the answer is incorrect.
Score: 0

Accepted Answers:
Real Environment, Augmented Reality, Augmented Virtuality, Virtual Environment

5) Based on Reality-Virtuality Continuum, select the terms that can be **1 point** considered as part of Mixed Reality

☐ Real Environment

☐ Augmented Reality

☐ Augmented Virtuality

☐ Virtual Environment

No, the answer is incorrect.
Score: 0

Accepted Answers:
Augmented Reality
Augmented Virtuality

6) Select the correct statement about immersion in virtual **1 point** environments

○ Immersion can be mental and physical

○ Immersion can be only mental

○ Immersion can be only physical

No, the answer is incorrect.
Score: 0

Accepted Answers:
Immersion can be mental and physical

7) What is a haptic example of augmented Virtuality? **1 point**

○ Inserting a real video stream (e.g., video conferencing) into a virtual environment

○ Directing the smell of coffee grounds to a user when s/he passes near a virtual coffee maker in the virtual environment

○ Turning on a fan in front of the user when s/he approaches a spot in the virtual environment that is exposed to wind

No, the answer is incorrect.
Score: 0

Accepted Answers:
Turning on a fan in front of the user when s/he approaches a spot in the virtual environment that is exposed to wind

8) A sound source is left from a person. What does that mean for the interaural time difference (ITD)?   **1 point**

○ The ITD is zero

○ The ITD is greater than zero

○ The ITD is less than zero

No, the answer is incorrect.
Score: 0

Accepted Answers:
The ITD is greater than zero

9) Which statements about dummy heads are true?   **1 point**

☐ Dummy heads mimic human anthropometry

☐ Dummy heads are used to measure head-related transfer functions

☐ One advantage of dummy heads is that the need only one microphone

☐ Recordings with dummy heads are can be realized with one loudspeaker

No, the answer is incorrect.
Score: 0

Accepted Answers:
Dummy heads mimic human anthropometry
Dummy heads are used to measure head-related transfer functions
Recordings with dummy heads are can be realized with one loudspeaker

10) Which statement about the ventriloquist effect is true?   **1 point**

○ Appropriate visual perceptions can compensate individual deviations of head-related transfer functions

○ The ventriloquist effect describes effects of temporally slightly different audio and video signals

○ If a sound source moves, the perceived sound depends on whether a person can see the source or not

No, the answer is incorrect.
Score: 0

Accepted Answers:
Appropriate visual perceptions can compensate individual deviations of head-related transfer functions

11) Where can the phantom source be placed in sterophony?   **1 point**

○ Between the left and right loudspeaker

○ Up to 30° left/right from the left/right loudspeaker

○ Up to 30° left or right from the center between the two loudspeakers

No, the answer is incorrect.
Score: 0

Accepted Answers:
Between the left and right loudspeaker

12) Which statement about the wave field synthesis is correct?   **1 point**

○ It works for one user and one virtual sound source

○ It works for multiple users and multiple virtual sound sources

○ It works for multiple users and one virtual sound source

No, the answer is incorrect.
Score: 0

Accepted Answers:
It works for multiple users and multiple virtual sound sources

13) What is the main problem with virtual environments using projection walls and loudspeaker systems?   *1 point*

○ Sound that is reflected by the projection walls

○ The ventriloquist effect does not work

○ At least 12 loudspeakers are necessary

No, the answer is incorrect.
Score: 0

Accepted Answers:
Sound that is reflected by the projection walls

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