Human-Computer Interaction Overview

Your Name:

1. Which cognitive psychology concept directly underpins the usability principle of "recognition rather than recall" in interface design?

- [ ] A. Short-term (working) memory limitations
- [ ] B. Long-term memory, particularly its retrieval efficiency
- [ ] C. Information processing model, focusing on motor output
- [ ] D. Sensory memory, related to initial data storage

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2. The User-Centered Design (UCD) process typically concludes after the initial design solutions are developed, moving directly to product launch.

- [ ] A. True
- [ ] B. False

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3. Briefly explain the primary goal of Human-Computer Interaction (HCI).

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4. In Nielsen's Usability Heuristics, the principle of "User control and freedom" emphasizes the need for a clearly marked "emergency ....." to allow users to leave unwanted states.

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5. **Match the interaction design paradigm with its defining characteristic:**

1. Augmented reality		A. Seamlessly integrated, invisible environmental devices
2. Batch processing		B. Direct manipulation of graphical objects with a pointing device
3. Graphical User Interface		C. Overlays digital information onto the real world
4. Ubiquitous computing		D. Users submitted jobs and received output later

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6. **Which of the following is an example of a user-based evaluation method?**

- [ ] A. Usability Testing
- [ ] B. Heuristic Evaluation
- [ ] C. Cognitive Walkthrough
- [ ] D. GOMS analysis

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7. **Aesthetic and minimalist design in a user interface suggests including all possible information to prevent users from needing to search for it.**

- [ ] A. True
- [ ] B. False

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8. **What is the primary difference between formative and summative evaluation methods in HCI?**

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9. **Cognitive psychology helps designers reduce the cognitive ..... on users, leading to more intuitive and understandable interfaces.**

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10. **Match the Nielsen's Usability Heuristic with its corresponding description:**

1. Consistency and standards

2. Help users recognize, diagnose, and recover from errors

3. Error prevention

4. Visibility of system status

A. Ensuring similar actions have similar meanings

B. Providing plain language error messages with solutions

C. Designing to stop problems from occurring initially

D. Providing appropriate feedback within reasonable time

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11. **Which aspect of cognitive psychology focuses on how users interpret visual, auditory, and tactile information in an interface?**

- [ ] A. Attention
- [ ] B. Problem-solving
- [ ] C. Memory
- [ ] D. Perception

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12. **The core principle of User-Centered Design (UCD) is that aesthetic appeal should always prioritize user needs.**

- [ ] A. True
- [ ] B. False

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13. **Name two types of user-based evaluation methods.**

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14. **The concept of user ..... refers to how users form an understanding of how a system works, which designers aim to align with for intuition.**

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15. Match the HCI field with its contribution to the discipline:

1. Computer science [ ]
2. Design [ ]
3. Human factors engineering [ ]
4. Cognitive psychology [ ]

A. Shapes the aesthetics and user experience of interfaces

B. Focuses on optimizing human well-being and system performance

C. Provides the technological capabilities and system architecture

D. Offers insights into human mental processes

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16. What is the primary benefit of accelerators, such as keyboard shortcuts, in an interface design?

- [ ] A. They primarily aid in error prevention for novice users.
- [ ] B. They improve consistency with real-world metaphors.
- [ ] C. They enhance flexibility and efficiency for expert users.
- [ ] D. They reduce system status visibility.

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17. According to Nielsen's heuristics, matching the system to the real world means using highly technical, system-oriented terms for accuracy.

- [ ] A. True
- [ ] B. False

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18. What is 'usability' in the context of Human-Computer Interaction?

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19. **A ..... walkthrough is an expert-based evaluation method where experts simulate a user's step-by-step interaction to assess learnability.**

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20. **The user-centered design stage that involves understanding who the users are, their tasks, and the environment is known as which of the following?**

- [ ] A. Summative evaluation
- [ ] B. Requirement specification
- [ ] C. Design solutions
- [ ] D. Context of use analysis
