

6 Lecture - CS408

Important Subjective

What are cognitive frameworks in Human-Computer Interaction (HCI)?

Answer: Cognitive frameworks in HCI refer to theoretical models and concepts that explain how humans perceive, process, and interpret information, and how they interact with technology.

How does the Information Processing Model explain human cognition in the context of HCI?

Answer: The Information Processing Model suggests that humans process information in stages, including perception, attention, memory, and decision-making, which influences how users interact with interfaces, make decisions, and remember and retrieve information from computer systems.

What is the significance of the Mental Models theory in HCI?

Answer: The Mental Models theory suggests that users develop mental representations or models of how a system works based on their prior knowledge and experiences, which influences their understanding and prediction of system behavior. Understanding users' mental models is crucial in designing user-friendly interfaces.

What are the Gulf of Execution and Gulf of Evaluation in HCI?

Answer: The Gulf of Execution refers to the gap between users' intentions and the actions they need to take to achieve those intentions, while the Gulf of Evaluation refers to the gap between the system's feedback or response and the users' ability to interpret and understand that feedback. These concepts highlight the importance of designing interfaces that minimize these gaps for better usability.

How does the Theory of Visual Attention contribute to HCI?

Answer: The Theory of Visual Attention studies how humans allocate attention to different visual stimuli, providing insights into how users perceive and interpret visual information presented on computer screens, which can be used to design interfaces that align with users' attentional processes.

What does the Dual-Coding Theory explain in HCI?

Answer: The Dual-Coding Theory explains how humans process and store visual and verbal information, which can be used to design interfaces that optimize the use of both visual and verbal elements for better user understanding and retention of information.

How do cognitive frameworks contribute to the overall user experience in HCI?

Answer: Cognitive frameworks provide insights into how users perceive, process, and interpret information, and how they interact with technology. By incorporating these frameworks into the design and evaluation of user interfaces, HCI professionals can create more effective and usable computer systems that align with users' cognitive processes, enhancing the overall user experience.

Why is understanding users' mental models important in HCI?

Answer: Understanding users' mental models is crucial in designing user-friendly interfaces that align with users' expectations and prior knowledge. If interfaces do not align with users' mental models, it can cause confusion and difficulties in interaction.

How can the Gulf of Execution and Gulf of Evaluation be minimized in HCI?

Answer: Designing interfaces that provide clear feedback, have intuitive navigation, and align with users' expectations can minimize the Gulf of Execution and Gulf of Evaluation, making computer systems more usable and effective.

How can cognitive frameworks be applied in the design of user interfaces in HCI?

Answer: Cognitive frameworks can be applied in the design of user interfaces by considering factors such as perception, attention, memory, decision-making, and mental models of users. Designing interfaces that align with these cognitive processes can lead to more effective and usable computer systems.