

Chapter 5:

Attention and Memory Constraints

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Aims and Objectives

- To show the importance of designing for attentional and memory constraints
- To show meaningful and memorable interfaces
- To show how to apply techniques to structuring interfaces that are attention grabbing and require minimal effort to learn



5.1 Focusing attention



Focusing attention at the interface

- Structuring Information:
- A) requires presenting not too much info., or too little on screen.
- B) data should be grouped and ordered into meaningful parts

Other techniques for guiding attention

- Spatial and temporal cues
- color
- alerting techniques such as flashing and reverse video and auditory warnings

In using the methods it should be noted that:

- important information should be displayed in a prominent place
- less urgent should be allocated to less prominent but specific area of the screen
- information that is not needed very often should not be displayed, but made available upon request

Multitasking and Interruptions

- Systems should provide information about the status of activities, in terms of what has been done and what needs to be carried out

Automatic processing

- Activities that are done without thinking about them
- Relation to interface design: When presented with a different set of commands on a new version of software it can be difficult to unlearn the previous commands



5.2 Memory Constraints



Meaningful interfaces

- Items that need to be remembered at the interface should be as meaningful as possible
- When selecting command names consider contextual, cultural and user characteristics to help reduce user confusion
- When designing icons consider context of use, task for use, surface form of the representation, and nature of underlying concept that is being represented



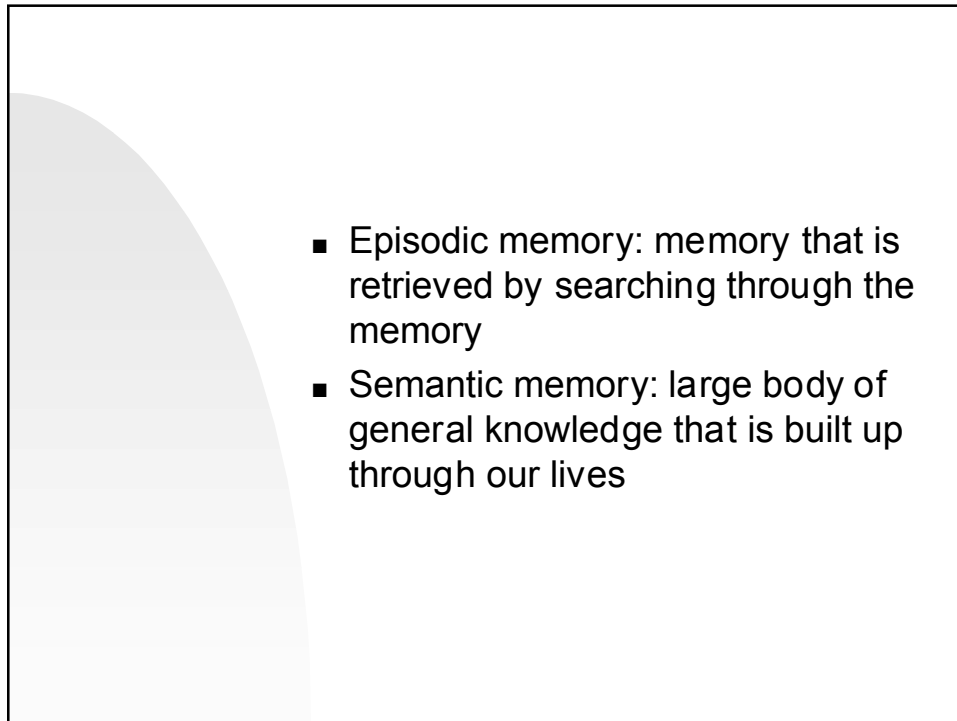
Knowledge in the world and user interfaces

- The use of graphical interfaces has resulted in a substantial reduction in the amount of mental effort required to interact with systems
- Users need primarily to learn how to interact with simulated world of objects



Knowledge in the Head

- how to access and interpret information that is displayed on screen
- knowledge of the information that is not displayed on the screen
- typically in the form of facts, rules images and experiences



- Episodic memory: memory that is retrieved by searching through the memory
- Semantic memory: large body of general knowledge that is built up through our lives