MC750: Human-Computer Interface Construction

Prerequisite: MC504 / EA876 / MC436

Description:

Introduction to Human-computer Interfaces. Human aspects. Technological aspects. Design methods and techniques. Support tools . Evaluation.

Programme:

1. Introduction
a. What is HCI?
b. HCI components
2. Human aspects
a. Perception and representation
      i. Visual perception
      ii. Graphical representations on the interface
b. Attention and memory
      i. Focusing attention
      ii. Memory restrictions
c. Knowledge and mental models
      i. Knowledge representation and organization
      ii. Mental models
      iii. The usefulness of mental models in HCI
d. Metaphors and conceptual models
      i. Verbal metaphors
      ii. Virtual metaphors
      iii. Interface metaphors classification for applications
      iv. Conceptual models
3. Technological aspects
a. Input
b. Output
c. Interaction styles
d. Design of window systems
e. Online information for user support
f. Design for cooperative work and virtual environments
4. Design of interaction: methods and techniques
a. Principles and methods of user-centered design
b. Requirements gathering/elicitation
c. Tasks analysis
d. Structured design
5. Support tools for design
a. Guidelines
b. Standards and metrics

c. IBIS (Issue-based information system)

d. Prototyping

e. Support software

6. Evaluation

a. The role of evaluation

b. Evaluation methods

c. Interpretative and predictive evaluation

d. Comparison of evaluation methods

Recommended Literature:

I. Preece, J. and others. *Human-Computer Interaction*. Addison-Wesley, 1996

II. Hix, D. and Hartson, H. R. *Developing User Interfaces: Ensuring Usability Through Product and Process*. New York: John Wiley, 1993