

Human-Computer Interaction





Overview



Objectives

Here is what you should be able to do upon completion of this module:

- Discuss the history and purpose of user interfaces
- Identify Usability and User Experience goals
- Perform Usability Analysis
- Perform Usability Design
- Discuss advantages and disadvantages of four types of user interaction mechanisms
- Discuss techniques for handling user errors
- Develop a UI prototype and document screen flows and layouts
- Apply HCI guidelines and heuristics

Outline

- Human-Computer Interaction
- Usability engineering
- Usability analysis
- Usability design
- User interface mechanisms
- Error handling
- Prototyping
- HCI guidelines, principles and heuristics

History of User Interfaces

- 1940s Plug boards to provide function. Card or punched tape input and output. Printer or teletype output
- 1950s Stored Program entered via punched cards or paper tape
- 1960s Large general-purpose multiprogrammed computers (mainframes) introduced. Batch operating system

- 1970s CRT user interface (e.g., 3270, VT100). Mostly CLI (command line interface). Microprocessor invented
- 1980s PCs introduced. CLI at first; then WIMP interfaces)
- 1990s Worldwide Web, HTML, Java
- 2000s Pervasive Computing
- 2010s Cloud Computing, BYOD, "Internet of things"



Purpose of the UI



- Information
- Available functions
- Status



- Function invocation
- Information



Next

Usability Engineering

