

Chapter 14

Designing Windowing Systems

Objectives:

- Be able to identify the key elements of windowing systems.
- Be able to assess the technical trade-offs in the design of windowing systems.
- Be aware of the range of technical decisions required for HCI design.

Overview

- **Windows** are areas of a visual display, usually rectangular, which divide the physical display area into several virtual displays.

General issues

- **Usage**
 - very useful to users using a single display to work with more than one document at a time
 - to analyze the organizational overhead placed on users in managing windows the idea of a **window working set** is used
 - Rooms model- enables users to handle about three times as many windows

General issues cont.

- **Software issues:**
 - **Imaging model**- a scheme for displaying graphical images via the windows.
 - **Bitmap**- a way of describing an image as a bit pattern or series of numbers that gives the shade of each pixel.
 - **Mathematical descriptions of curves**- graphical objects to be displayed are described internally by mathematical formula.

Basic window components

- Windows
- Menus
- Controls and control panels
- Dialogue boxes
- Cursors

Common tasks in windowing systems

- **Managing input**
 - mouse actions
 - modifier keys
- **Changing window focus**
 - click to focus
 - mouse focus

Common tasks cont.

- **Managing single windows**
 - moving, scrolling, resizing
- **Managing multiple windows**
 - iconification
 - tiling
 - overlapping

Issues in windowing systems for CSCW

- New issues emerging
- Consider support for shared windows
 - A situation in which two people are each using their own workstation to communicate with each other via a shared voice channel and desktop window.
 - Coordination issues arise.