

Dialog Design: Windows, Icons, Menus and Pointers (WIMP)

This material has been developed by Georgia Tech HCI faculty, and continues to evolve. Contributors include Gregory Abowd, Jim Foley, Elizabeth Mynatt, Jeff Pierce, Colin Potts, Chris Shaw, John Stasko, and Bruce Walker. Last update by Valerie Summet, Emory University. Permission is granted to use with acknowledgement for non-profit purposes. Last revision: Feb. 2011.

Dialog Styles

1. Direct Manipulation
2. Command languages
3. WIMP - Window, Icon, Menu, Pointer
4. Speech/Natural language
5. Gesture, pen

Agenda

- Review of dialogue design issues
- WIMP
 - Advantages, disadvantages
 - Design guidelines

General Issues in Choosing Dialogue Style

- Who is in control - user or computer
- Initial training required
- Learning time to become proficient
- Speed of use
- Generality/flexibility/power
- Special skills - typing
- Gulf of evaluation / gulf of execution
- Screen space required
- Computational resources required

WIMP

- Menus, Buttons, Forms, Icons
- Predominant desktop interface paradigm (along with some direct manipulation)

Windows Pros and Cons

- Why are windows good (at least sometimes)? Are there problems with windows?
 - Focus just on windows, not on menus and icons etc



Window Pros

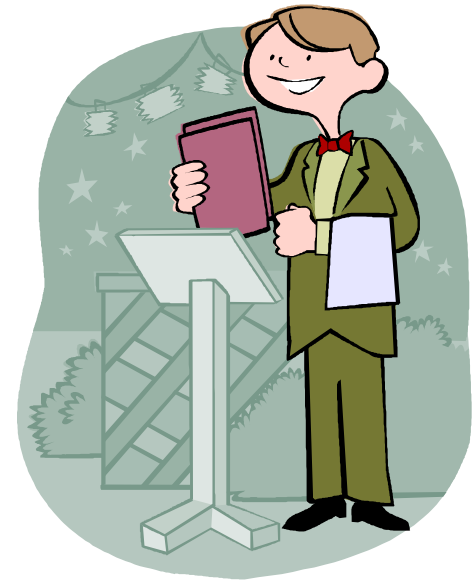
- Facilitate multi-tasking, which many people do.
- Maps well onto overlapping sheets of paper on our desks, so is a familiar concept.
- Makes computer usage easier for most of us.

Window Cons

- Can make concentrating on a single task hard (that incoming mail....)
- An extension of the cluttered desk :)
- May be unnecessary for dedicated-use environments that run a single application

Menus - Many Different Types

- Pop-up
- Pull-down
- Radio buttons
- Pie buttons
- Hierarchical/cascading



Pie Menus



From Sim City

Pop-up Hierarchical

Face
Helvetica →
Times →
Roman →
Modern →

Face	Size
Helvetic	8 →
Times	10 →
Roman	12 →
Modern	14 →

Face	Size	Style
Helvetic	8	Plain
Times	10	Italic
Roman	12	Bold
Modern	14	

Menu Pros and Cons

- What is good about menus?
- What is bad about menus?



Menu Pros

- One keystroke or mouse operation vs. many - no typing!
- No memorization of commands
 - Recognition, not recall
- Limited input set

Menu Cons

- Less direct user control - have to find correct menu / menu item
- Not so readily extensible
- Slower than keyboarding for experienced users, at least without accelerators

Menu Item Ordering

- What rules do Mac, Firefox, Windows, etc, use?
- Make a list



Menu Items

- Create groups of logically similar items
- Cover all possibilities
- Ensure that items are non-overlapping
- Keep wording concise, understandable

Menu Item Order - Some Rules

- One possible methodology (priority order)
 1. Natural order (if exists)
 2. Time
 - e.g. Breakfast, Lunch, Dinner
 1. Numeric ordering
 - e.g. Point sizes for font
 1. Categorical - with visual separation
 2. Frequency of use
 3. Order of use
 4. Alphabetical - esp for long lists
- Don't change dynamically!

A Good Menu Example

- Logical grouping
- Visual separation of groups
- Disabled items “grayed out”
- Shortcuts shown
- ... indicates leads to dialogue
- Be on the lookout for some bad examples!



A Bad Menu Example

- Travel web page links:
 - Flight page
 - 3 Best Itineraries
 - Flights & Prices
 - Timetables
 - Fares



- Which do you choose for reservations?

Key Ideas

- Window Pros and Cons
- Types of Menus
- Menu Pros and Cons
- Guidelines for ordering items in menus