Task-Related Organization

“The primary goal for menu, form-fillin, and dialog-box designers is to create a sensible, comprehensible, memorable, and convenient organization relevant to the user's task.”

Content Organization

• Problem: How do we create menu groupings (categories) that enhance usability
Content Organization

• Task-related grouping in tree organization
  – Create groups of logically similar items
  – Example: File menu and Edit menu
  – Form groups that cover all possibilities
  – Make sure that items are non-overlapping
  – Use familiar terminology, but ensure that items are distinct from one another

Example: Major Menu Categories in WORD

Content Organization (cont.)

• Item Presentation Sequence within a menu
  – Order of items is important, and should take natural sequence into account when possible:
    • Time
    • Numeric ordering
    • Physical properties
  – When cases have no task-related orderings, the designer must choose from such possibilities as:
    • Alphabetic sequence of terms
    • Grouping of related items
    • Most frequently used items first
    • Most important items first.
Content Organization (cont.)

Menu layout guidelines

- Use task semantics to organize menus (single, linear sequence, tree structure, acyclic and cyclic networks)
- Prefer broad-shallow to narrow-deep
- Show position by graphics, numbers, or titles
- Use items as titles for submenus
- Group items meaningfully
- Use brief items, begin with the keyword
- Use consistent grammar, layout, terminology
- Allow type-ahead, jump ahead, or other shortcuts
- Enable jumps to previous and main menu
- Consider online help, novel selection mechanisms, and optimal response time, display rate, screen size

Content Organization (cont.)

Menu layout (cont.)

- Titles
  - For single menus, use a simple descriptive “familiar” title.
  - For tree-structured menus, use the exact same words in the higher-level menu items as in the titles for the next lower-level menu.
    - E.g. if a menu item is called Business and Financial Services, the next screen should have that phrase as its title.
Content Organization (cont.)

- Menu layout (cont.)
  - Phrasing of menu items
    - Use familiar and consistent terminology
    - Ensure that items are distinct from one another
    - Use consistent and concise phrasing
    - Bring the keyword to the left

Content Organization (cont.)

- Menu layout (cont.)
  - Graphic layout and design
    - Constraints
      - Screen width and length
      - Display rate
      - Character set
      - Highlighting techniques
      - UI widget look & feel

Content Organization (cont.)

- Menu layout (cont.)
  - Establish guidelines for consistency of at least these menu components:
    - Titles
    - Item placement
    - Instructions
    - Error messages
    - Status reports
  - Be consistent with the UI (Windows, Mac, X Window)
Content Organization (cont.)

• Menu layout (cont.)
  – Techniques to help users know where they are in a menu
    • Indentation
    • Upper/lower case characters
    • Symbols such as * or - to create separators or outlines
    • Position markers
    • Cascading or walking menus
    • Magic lens (transparent menus)

Fast Movement Through Menus

• Keyboard shortcuts
  – Supports expert use
  – Can make translation to a foreign language more difficult
  – Bookmarks in browsers
  – User configured toolbars

Data Entry with Form Fillin

• Form Fillin
  – Appropriate when many fields of data must be entered:
    • Full complement of information is visible to user.
    • Display resembles familiar paper forms.
    • Few instructions are required for many types of entries.
  – Users must be familiar with:
    • Keyboards
    • Use of TAB key or mouse to move the cursor
    • Error correction methods
    • Field-label meanings
    • Permissible field contents
    • Use of the ENTER and/or RETURN key.
Data Entry with Form Fillin

- **Form-Fillin Design Guidelines**
  - Meaningful title
  - Comprehensible instructions
  - Logical grouping and sequencing of fields
  - Visually appealing layout of the form
  - Familiar field labels
  - Consistent terminology and abbreviations
  - Visible space and boundaries for data-entry fields
  - Convenient cursor movement
  - Error correction for individual characters and entire fields
  - Error prevention
  - Error messages for unacceptable values
  - Optional fields clearly marked
  - Explanatory messages for fields
  - Completion signal

- **Format-specific field**
  - **Coded fields**
    - Show users the format
      - Telephone numbers
      - Social-security numbers
      - Times
      - Dates
      - Dollar amounts (or other currency)
Data Entry with Form Fillin

Data Entry with Dialog Boxes

- Dialog Boxes
  - Combination of menu and form-fillin techniques.
  - Internal layout guidelines:
    - Meaningful title, consistent style
    - Top-left to bottom-right sequencing
    - Clustering and emphasis
    - Consistent layouts (margins, grid, white space, lines, boxes)
    - Consistent terminology, fonts, capitalization, justification
    - Standard buttons (OK, Cancel)
    - Error prevention by direct manipulation

Dialog Box Example
Data Entry with Dialog Boxes

- **Dialog Boxes (cont.)**
  - External Relationship guidelines
    - Smooth appearance and disappearance
    - Distinguishable but small boundary
    - Size small enough to reduce overlap problems
    - Display close to appropriate items
    - No overlap of required items
    - Easy to make disappear
    - Clear how to complete/cancel

Dialog Box Example

Audio Menus and Menus for Small Displays

- Menu systems in small displays and situations where hands and eyes are busy are a challenge.

- **Audio menus**
  - Verbal prompts and option descriptions
  - Input is normally verbal or keypad
  - Not persistent, like a visual display, so memorization is required.
  - Help users avoid listening to all options
    - Accept or reject each option as read
    - Allow users to select an item while list is being read
Audio Menus and Menus for Small Displays (cont.)

- Menu for small displays
  - E.g., entertainment, communication services
  - Learnability is a key issue
  - Hardware buttons
    - Navigation, select
    - Expect interactions
    - Tap interface
  - GPS and radio frequency identification provides same automatic input