Levels of Training/Documentation

Inside search

Opportunistic suggestion to use advanced feature

To find pages that include either of two search terms, add an uppercase OR between the terms.

For example, here’s how to search for a vacation in either London or Paris:

Documentation of advanced feature
Levels of Training/Documentation

Search help and advanced search are in pull-down menu

Search help:
Several levels of indirection are needed to learn about "OR"

Advanced search:
Documentation of "OR"

Search help:
Type OR between all the words you want: miniature OR standard

Advanced search:
Documentation of "OR"

Find pages with:
- OR
- Find pages that might use one of several words.
  Example: marathon OR race

Find pages with...
- all these words
- this exact word or phrase
- any of these words
- numbers ranging from

Type OR between all the words you want: miniature OR standard
Levels of Training/Documentation

Search help and advanced search are in pull-down menu

Search help: Several levels of indirection are needed to learn about "OR"

Advanced search: Documentation of "OR" won't appear if window and text size are too small

Levels of UI Functionality

Selective enabling of operations
Levels of UI Functionality

Simple vs. advanced UI

Wizard vs. regular UI

Identify the Tasks

- “Common tasks should be easy. Uncommon tasks should be possible.”
  — ?

- Determine mapping to lexical level based on frequency of use:
  - Special keys
  - Modifier key combinations
  - Top-level menu item/icon
  - Menu navigation/form fill-in

What's wrong with this approach?
Determine the Interaction Styles

- Command language
- Form fill-in
- Menu selection
- Direct manipulation
- “Natural” interaction
  - Speech
  - Touch, Gesture: 2D, 3D, multitouch,…
  - Body sensing

Determine the Interaction Styles

An example of progression toward more direct manipulation: less recall/more recognition, fewer keystrokes/fewer clicks, less capability to make errors, and more visible context.

A. Command line
B. Form fill-in to reduce typing
C. Improved form fill-in to clarify and reduce errors
D. Pull-down menus offer meaningful names and eliminate invalid values
E. 2-D menus to provide context, show valid dates, and enable rapid single selection

Box 3.2: Spectrum of directness, Shneiderman et al., DTUI
Ten Usability Heuristics J. Nielsen
https://www.nngroup.com/articles/ten-usability-heuristics/

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation
Ten Usability Heuristics J. Nielsen
https://www.nngroup.com/articles/ten-usability-heuristics/

Consistency and standards
Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

Error prevention
Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

Recognition rather than recall
Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

Ten Usability Heuristics J. Nielsen
https://www.nngroup.com/articles/ten-usability-heuristics/

Flexibility and efficiency of use
Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Aesthetic and minimalist design
Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

Help users recognize, diagnose, and recover from errors
Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
Ten Usability Heuristics  J. Nielsen
https://www.nngroup.com/articles/ten-usability-heuristics/

Help and documentation
Even though it is better if the system can be used without documentation, it may be
necessary to provide help and documentation. Any such information should be easy to
search, focused on the user’s task, list concrete steps to be carried out, and not be too
large.

Golden Rules of UI Design:
1. Consistency
   ▪ Action language / grammar
   ▪ Terminology
   ▪ Look and feel
     ▪ Layout
     ▪ Color palette
     ▪ Shapes, typography
     ▪ Behavior during interaction
   ▪ But, note need for exceptions
     ▪ Confirmation of irreversible actions
Golden Rules of UI Design:
1. Consistency

- Confirmation received when requesting the CU libraries to order a book for reserve, 2014

Golden Rules of UI Design:
2. Universal Usability

- Diversity, diversity, diversity
  - Experience, ability, technology,…
- E.g., support for shortcuts
  - Increase speed for frequent users/cmds
  - Accommodate/encourage increasing expertise
    - Abbreviations, key accelerators
    - Macro facilities
Golden Rules of UI Design:
2. Universal Usability

- Accessibility

Golden Rules of UI Design:
3. Feedback

- Minimize the “Gulf of Evaluation”
- Discrete ↔ Continuous Feedback
  - Highlighting selected object
  - Displaying object/cursor tracking finger/mouse
Golden Rules of UI Design:
4. Closure

- Group actions to provide frequent “milestones”
- Give sense of accomplishment when (part of) a task has been finished
- Minimize feeling of suspense

Golden Rules of UI Design:
5. Error Prevention/Handling

- Prevent errors
- Minimize consequences
Golden Rules of UI Design:
6. Easy Reversal of Actions

- **Undo**
  - One level
  - Multi-level
  - Across sessions

Golden Rules of UI Design:
7. User in Control

- User in charge; system responds