Usability Guidelines

Guidelines are widely used in interface design.

Traditionally, guidelines were very detailed and comprehensive, often running to several printed volumes.

More recently, the trend has been towards brevity. Most modern guidelines:

- are concise - a set of guidelines can usually be printed on a single sheet of paper.
- provide an overview of what is considered important in interaction design
- are designed to *remind* designers about important issues rather than provide detailed guidance.

Guidelines are often pinned above a designer's desk so that they can be consulted easily and kept constantly in mind.

Guidelines allow knowledge and experience about interfaces (or a particular type of interface) to be condensed into a short text that is easily remembered and applied.

However, condensing extensive knowledge and experience into such a short space inevitably requires considerable generalisation.

Hence guidelines must be interpreted carefully.

Some companies use both general guidelines and their own, more detailed guidelines, both for general application and for particular product ranges.

Shneiderman's Eight Golden Rules

Ben Shneiderman's Golden Rules for Interface Design are widely-used general-purpose guidelines.

They first appeared in his book *Designing the User Interface*, published in 1986, and have been revised a number of times since.

The current set of rules can be found at:

http://www.cs.umd.edu/~ben/goldenrules.html.

1. Strive for consistency

- Consistent sequence of actions should be required in similar situations
- Identical terminology should be used in menus, prompts etc.
- Consistent colour, layout, capitalisation, fonts, etc., should be employed throughout.
- If exceptions have to be made (e.g., no echoing of passwords), they should be comprehensible and limited in number.

2. Cater for universal usability

- Recognise the needs of diverse users (range of ages, levels of expertise, special needs, etc.), e.g.:
  - explanations for novices
  - shortcuts for experts
- Design for *plasticity*, facilitating transformation of content.

3. Offer informative feedback

- for every user action there should be system feedback, tailored to the action:
    - modest feedback for frequent and/or modest actions
    - more substantial feedback for infrequent and/or major actions
- Visual presentation of the objects of interest, showing the results of actions

4. Design dialogs to yield closure

- sequences of actions should be organized into groups with a beginning, middle, and end.
- Feedback on completion of a sequence gives users a sense of accomplishment and allows them to erase contingency plans from their minds.

5. Prevent Errors

- As far as possible, design systems so that users cannot make errors, e.g.:
    - gray-out inappropriate menu-items
    - do not allow typing of alphabetic characters into numeric fields
- Where possible, systems should detect errors and offer simple, specific and effective instructions for recovery

6. Permit easy reversal of actions

- Where possible, actions should be reversible
- This relieves anxiety since the user knows that errors can be undone, and thus encourages exploration
- The reversible units may be single actions or groups of actions (e.g., entry of an address)

7. Support internal locus of control.

- Operators want to feel they are in charge of a system

    Anything that undermines this feeling reduces satisfaction and creates anxiety, e.g.:
    - unexpected changes in the interface state
    - tedious sequences of data entry
    - difficulty obtaining information

8. Reduce short-term memory load

- Human short-term memory can hold 7 ± 2 'chunks' of information.

    Try to avoid overloading memory, e.g.:
    - Keep displays simple.
    - Consolidate multi-page displays
    - Minimise window changes
    - Where appropriate, provide access to lists of essential codes, abbreviations, etc.