## Shneidermans Eight Golden Rules

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.