

## Guidelines Principles and Rules

- Principles and rules
- Where do guidelines come from
- Evaluating guidelines
- An example of applying conflicting guidelines

## Principles and rules

- Know the user population
  - be sympathetic to different user needs
  - allow users to perform task in multiple ways
- Reduce cognitive load
  - design for little user memory
- Engineer for errors
  - make it difficult to make errors
  - good error messages
  - reversible actions

## Principles and rules continued

- Maintain consistency
  - standard operations
  - appropriate metaphors that provide help the user build a mental model.
- Maintain clarity
  - designer need good information about users.

## Principles and rules continued

- A design rule should not be mistaken for a design principle.
  - This is common because of the desire for ‘cookbook-style’ HCI design.
  - A design rule is an instruction that can be obeyed with minimum filling out and little interpretation by the designer.
  - High level principles must be interpreted and translated into strategy.

## Principles and rules continued

- Some pitfalls of guidelines
  - they can distort and simplify psychological theory.
    - $7 \pm 2$  rule has been interpreted that only seven items should be displayed on the screen at a time.
    - Used to determine the number of colors also.
  - Provide examples of how to use guidelines as well as exceptions and the psychological data the rules are derived from.

## Where do guidelines come from? (question 24.1)

- The two main origins are psychological theory and practical experience.(answer to 24.1)
  - Practical experience are often based on years of practitioner practice.
    - Apply with care
  - Pay attention to the context in which they are applied
    - one example of this is that a guideline may be acceptable on a cognitive level but unacceptable on a political level.

## Where do guidelines come from?

- There are no good or bad design guidelines, only decisions.
  - i.e “An application should be visually, conceptually, and linguistically clear”(Microsoft, 1992).
    - No deliberate attempt would be made to violate this, but it often happens.

## Where do guidelines come from?

- Published guidelines
  - can be found in professional, trade, and academic journal articles, house style guidelines and general handbooks.
  - Provide a good source of current practice and experience.
  - Draw on application or designer-specific experiences, but provide general purpose advise.

## Where do guidelines come from?

- House style guides
  - A set of guidelines produced by machine manufactures and software developers.
  - Usually mandatory or strongly recommended.
  - Cover low level detail.
  - Aim to provide similar ‘look and feel.’

## Evaluating guidelines

- Guidelines often contain overlapping and contradictory advice.
  - Constraints imposed by the characteristics of the users, their work, and the environment will often eliminate the need to choose.
  - There are no mechanical techniques.
  - Data on what the guidelines are based upon must be looked at.

## Evaluating guidelines

- Guidelines often contain overlapping and contradictory advice.
  - For guidelines based on deduction, specialist knowledge may be the basis.
  - If no argument is given, it is easy to reject.
  - A false argument may be given due to improper application or the wrong evidence may be used.

## Evaluating guidelines

- Evaluating guidelines requires expertise.
  - Short answer is to become an expert.
  - Draw from public knowledge and private experience.
  - Watch users interact and observe the results, paying particular attention to the context.

## Example of applying conflicting guidelines.

- Guidelines for designing a scrolling menu.
  - optimize use of output media
  - preserve some context between displays
  - maximize display inertia.
  - design for predictability.
  - Design reversible operations.

## Example of applying conflicting guidelines.

- There are many exceptions to these rules.
  - Preserving context can be abandoned in the interest of optimizing scrolling systems.
  - Optimized scrolling system do are not used on most command or key driven applications.
  - It is difficult to reverse.

## Example of applying conflicting guidelines.

- Resulting trade-offs.
  - Adequate menu detail versus fast response time.
  - Adequate menu detail versus adequate work space.
  - Ease of learning versus speed of execution.

## Conclusions

- Principles are high level and widely applicable; design rules are low level instructions.
- Principles must be interpreted and applied in relation to the particular application.
- Guidelines may be based on psychological theory or practical experience.

## Conclusions

- Published guidelines can be found in journals, house style guides and general handbooks.
- Trade-offs often have to be taken into account and conflicts between guidelines need to be resolved by taking account of the context of the application.