My supplement to Dix ch.1

Vision

Visual design of interfaces needs to take human vision into consideration:

- **Influence of context and prior knowledge** - example:
  
  ![Tae Cat]

  (How many times do "H" and "A" each appear?)

- **Gestalt principles** (perception of figure vs. background is based upon 5 innate principles):
  
  - **Proximity**: things close to each other perceived as group
    
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• **Similarity**: things of the same shape or color are perceived as belonging together

• **Closure**: missing parts of an image are filled in

• **Continuity**: instead of random dots, we see lines

• **Symmetry**: regions bounded by symmetrical borders are perceived as a unit
Also there has been considerable research on effective use of color, e.g.

- **Segmentation**: color can divide display into distinct regions; use same color to show related information

- **Amount of color**: too many colors will be distracting ("color pollution")

- **Redundant encoding**: often effective to combine color encoding with other techniques such as red and blinking to attract user's attention
Individual Differences between Users

In addition to considering basic human abilities and limitations of users, HCI is interested in accommodating needs of different groups of users.

1. Personality

- Attitudes and preferences: ex. fear of computers, dislike violence ("kill program" command), prefer female-sounding vs. male-sounding speech output

2. Cultural/nationality

Examples:

- Language-based conventions: Chinese reader will scan screen differently than English reader

- Different conventions for dates, currency, etc.

- Different politeness conventions (ex. formality, directness)
3. Users with disabilities

Many types of disabilities can be accommodated now: e.g.

- Vision: text-to-speech, braille-output, conversion of GUI to non-visual interface
- Hearing: written IO, visual sign language
- Mobility: speech recognition, eye-gaze controlled mouse

4. Different age-groups

- needs of elderly users
- needs of children