Study List

History

Sketchpad

Star

Human information processor

Overview

Human interaction loop

Key components

Perceptual processor

Translation speed
Percept fusion
Causality
Decay

Working memory

Capacity
Decay

Long term memory

Capacity
Read/write speed
Decay

Cognitive processor

Cycle time
Locus of attention
Driving and speaking

Motor processor

Motor program

Fitt's law

Hick's law

GOMS

Description

Applications

Limitations

KLM

Rules
Examples
Pro and cons

Skill acquisition

Different stages

Power law of learning

Implication for design

Confirmation dialog box
Dynamic menus

Input/Output devices

DOF

Isotonic/isometric

Relative/absolute

Direct/indirect

Card's analysis

Design process

7 stages

Relation to product design timeline

User centered

Contrast with system centered

Different way to collect users experience

Interview
Diary
Direct observation
Difficulties

Different way to explain your design to users

Storyboarding
Low fidelity
Wizard of Oz
Medium fidelity prototype

Conceptual models

Gulfs of evaluation and execution

Examples

Affordances

Examples

Interface metaphor

Pro and cons

Direct manipulation

Key aspects
Grammar structure
Pro and cons

Brainstorming

Key aspects

Graphical design

Components of a visual language

Parsing visual input

Gestalt principles
Structure
Grouping
Hierarchy
Relationship
Balance
Tools
Symmetry
Alignment
Negative space
Occam's razor

Consistency

Information visualization

- Explanation vs. Exploration
- Tufte's classification
  - **Micro/Macro reading**
  - **Layering and separation**
  - **Small multiples**
  - **Color**
  - **Narration of space and time**
- Importance of interactive exploration

User Evaluation

- Managing subjects
- Conducting an experiment
- Statistical versus design significance
- Questioning measurements

Qualitative evaluation

- Methods
  - **Introspection**
  - **Direct observation**
  - **Interviews and questionnaires**
- Outcomes
- Pros and cons

Quantitative evaluation

- Methods
  - **Users events collection**
  - **Controlled experiment**
    - *Design steps*
- Outcomes
- Pros and cons

Design heuristics

- Pros and Cons
- Neilsen's methods (examples for each heuristic)
  - **Simple and natural dialog**
  - **Speak the users' language**
  - **Minimize user memory load**
  - **Consistency**
  - **Feedback**
  - **Clearly marked exits**
  - **Shortcuts**
  - **Prevent errors**
    - *Forcing functions*
  - **Good error messages**
  - **Provide help and documentation**

Technology Customers and Product development

- Need-satisfaction curve
  - **Examples**
- Adopter categories
  - **Examples**
- 3 legs of product development
  - **Examples**