Design for Usability

» Design examples and discussion on interaction design.

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Why?
Design for usability?

An ordinary user can have problems using a swing door, turn on an automatic faucet, or programming his/her VCR. In most situations the designer aimed for beauty, not utility...

...he probably won a design price!

D. A. Norman in “The Psychology of Everyday Things.”
Delmoment i användarcentrerad systemdesign

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Views on design

- **Craft approach**
  - It focuses on the designer's need for talent, not for methodology.

- **Enhanced software engineering approach**
  - Attempts to introduce HCI techniques into the repertoire of traditional systems engineering.

- **Cognitive engineering approach**
  - Aims at applying theories from cognitive psychology to the problems facing the designer.

- **Technologist approach**
  - Tries to solve the problems of interface design by providing appropriate tools.

For every design rule one can find at least one situation, where following the rule would be sheer madness.

What’s in Design?

1. Design is a process, it is not a state and cannot be adequately represented statically.
2. The design process is non-hierarchical, neither strictly bottom-up nor top-down.
3. The process is radically transformational, involving the development of partial and interim solutions which may ultimately play no role in the final design.
4. Design intrinsically involves the discovery of new goals.

Carroll, Rosson, 1985
Five activities in interaction design

- Understanding
  What’s going on here? What is the underlying problem to be solved? Photographs, videos, sketches, and notes can be used to aid designers in observing and analyzing the information or the problem. Designers talk with people, especially clients and users, and look at information to be communicated.

- Abstracting
  What are the main elements? What kind of information is being conveyed? What do people want to do with it? What is important? What is irrelevant? Lists, sketches, and diagrams are the usual tools here.
Five activities in interaction design

- Structuring
  What are the relationships among the elements? What different ways can the elements be ordered to be useful for users? What are the users interested in? How much can they take in? The designers’ assumptions will be checked with the users and the clients.

- Representing
  How can this structure be represented in visual and auditory form? What representations does the material suggest? What representations might the designer glean from thinking about the users’ world? Should the representation be concrete or abstract? Is metaphor appropriate? Here, the designer typically uses sketches on paper and interactive sketches in computer based tools, which may be evaluated with colleagues or users.
Five activities in interaction design

- Detailing
  Exactly what color should this element be? What style of depiction should be used? How is the picture plane handled? How do elements move? Should an illustrator be hired? Some designers work directly in paint programs e.g. Photoshop. Others start on paper, and move to the computer later.

Understand → Abstract → Structure → Represent → Detail

Fast tap

Demo
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Old school

New school
Past → Present

Framework supporting work activities
Notes on screen design

- Overview and detail at the same time.
- Clear visual orientation, and explicit and straightforward navigation.
- Effective and goal-directed real estate, disposition on the screen.
- Good readability.
- Minimalist design; simple, discrete and effective aesthetics.
- User in control, and informative and constructive feedback.
- Minimize the need for users "controlling", moving around in the system.
- Handle errors and supply multiple help.
- Be consistent, use users terminology.
Microsoft Windows User Experience

“However, adhering to these design guidelines does not guarantee usability. The guidelines are valuable tools, but to be part of an effective software design process, they must be combined with other factors such as design principles, task analysis, prototyping, and usability evaluation.”

www.microsoft.com/usability