
Emotional Aspects

These are affected by appearance and style and to be effective, they should follow the current trends.

User satisfaction is mostly influenced by *Human factors*:

- Learning curve (task dependent)
- Performance (speed, error rate)
- Subjective satisfaction (user-dependent)

In interaction the context is how the user feels (happiness, anxious etc), and broader context includes behaviour and expression. Aesthetically pleasing devices have a positive effect on people's perception of the usability.

Usability Characteristics

Dynamic icons, animations, spoken messages, sonifications, visuo tactile feedback are all characteristics of usability. To make systems more usable we use techniques like affecting computers → where the system is able to sense and analyse the user's emotions (eg. digital camera with smile shutter) and anthropomorphism → which are human like computers (robots) although they can become creepy after some extent.

Types of Evaluation

Cognitive Walkthrough

Requirements analysis looks at abstract and partial task elements whereas task-centered design focuses on real, complete tasks. It is good for identifying controls that might be missing, inadequate feedback, difficulties with labels etc. It focuses on the first use difficulties (therefore not good for evaluating a system over time).

To run a walkthrough you need:

1. A description of a prototype interface
2. A test description
3. A list of actions for the task (input) → includes getting the analysts, record important information and revising the UI

Who are the users? What will they do? What do they already know? If the user fails to complete one of the tasks then you can either eliminate the action, prompt the user for the action or change other parts to let the user know if they can try that action.

What is cognitive walkthrough good for?

- Assessing learnability of a UI
- Identifying specific problems within the design

H8 - Aesthetic and minimalist design: personalisation screen, draw the user's attention on main tasks and keep information simple

H9 - Recovery from errors: explain errors in plain language, specify the problem and suggest a solution

H10 - Help and documentation: easy to search, contextual help and not too large

In summary Cognitive Walkthrough is **good** because it is:

- Cheap and quick
- Easy to learn
- Finds a lot of problems

But:

- Is not task focused
- Not using actual people (maybe good for cost)
- Not rigorous enough

Empirical Evaluation

User testing → you can't really know how good a UI is until people use it, furthermore evaluators (in heuristics) may know too much about the system to give a realistic feedback. There are a range of techniques used to evaluate a UI with people:

Observational evaluation

If done in the field it:

- Sets realistic settings
- Is difficult to set up
- Brings intrusion on users (which may affect performance and data)

If done in the labs:

- There is less intrusion
- But is not realistic

In Empirical evaluation different protocols are used:

- Concurrent: in this approach users say what they are doing in real time. It is good for knowing exactly what is going on. However the task of talking may interfere with the actual task on the system users are asked to perform.