Usability Engineering Tools 2

Usability Test

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5 second test

5-Second-Test

Goal: Check the first impression!!

More a design or marketing instrument, than a usability tools

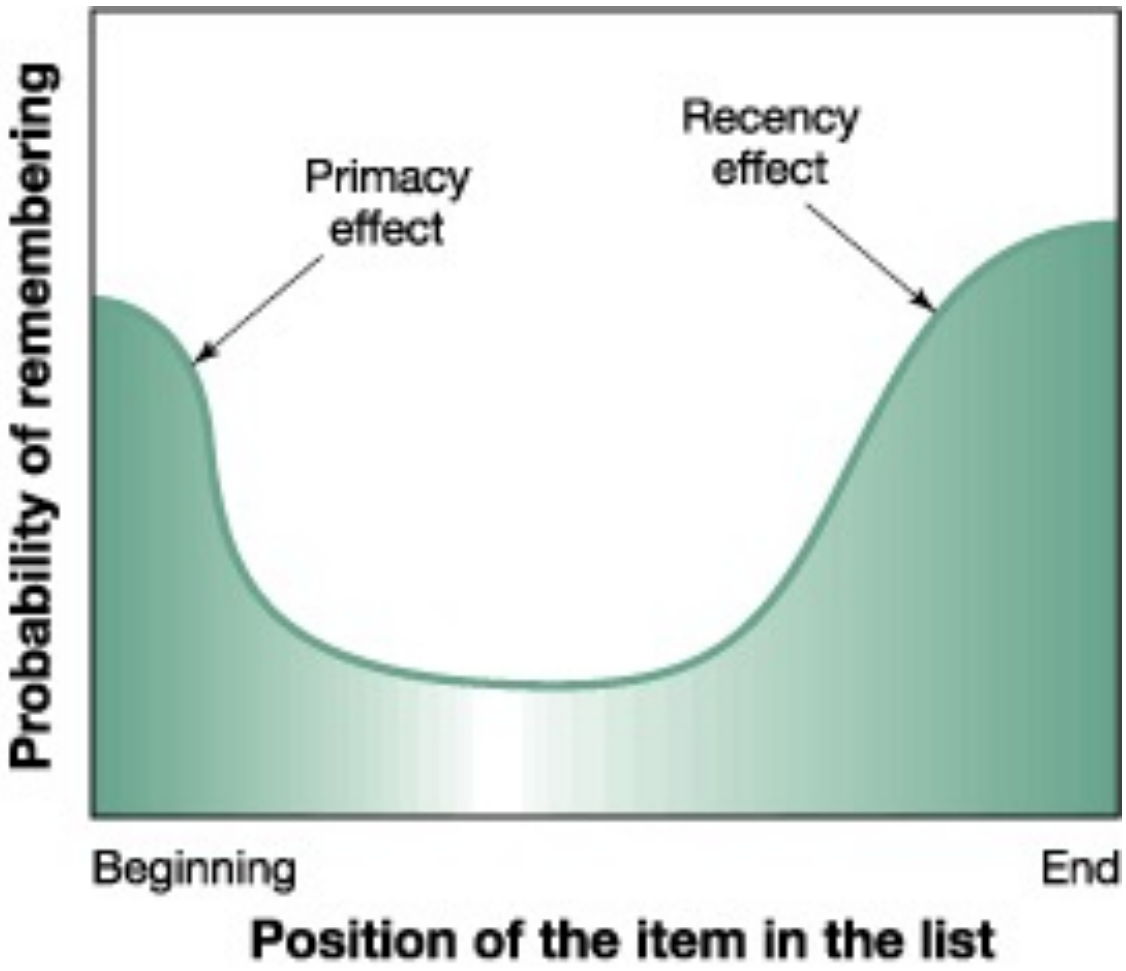
Quick and easy to accomplish

Based mainly upon two effects observed in human communication

- Primacy- (Recency-) effect
- Halo-effect

Those effects work in human<>computer communication as well!!

Primacy & Recency effect



Halo effect

Halo effect

Why 5 seconds?

1. Impression
2. Definition
3. Relevance
4. The Hook
5. Action

Test Design

Define context for the user

- A few lines of text max.

Show screenshot of application for 5 seconds

- Screenshot makes sure the user can not do anything
- Not even scrolling

Ask a set of predefined questions (avoid yes/no)

- „What does this website offer?“
- „What company is offering something?“
- „Where is the connection with XYZ?“
- „How can you contact the company?“
- ...

Problems? Restrictions?

Be aware!

5-Second-Tests checks only the first (subjective) impression!!!

It says nothing about

- Effectiveness
- Efficiency
- Satisfaction

- Functionality
- Logic
- Wording
- Interaction

- ...

Simple „Howto“

Choose an application

Setup 5-Second-Test

- https://usabilityhub.com/
- Document decisions (why, which questions, etc.)

Make other groups test

Evaluate results

UI Tests
general approach

Prerequisites for a Test

Goal of the test (What do we wnt to learn from it?)

Material from project
- Target Audience (e.g. as Personas)
- Tasks (e.g. user stories, use cases)

Decide which tasks to test

Create a task description
- realistic
- do not make it a „how to“
- do not use any wording from your application

Example

Scenario:

You are researcher max miller and want to give a presentation at the „NewHotResearch“-Conference, which will be in Los Angeles this year.

Task 1:

You are interested in finding a cheap accomodation. Use the conference website to find a hotel.

Task 2:

You want to take a rental car to drive from the airport to the conference. Use the conference website to find information about parking possibilities.

Task 3:

You want to use the opportunity to meet other researchers and discuss some ideas with them. Find out who else will be there.

The test itself

Welcome the tester and give an introduction

Point out that you are testing the sw, not the tester

Explain the procedure

Tester can interrupt at any time

(motivate to „think aloud“)

Do not intervene during the tasks!! No! Don‘t!

Do not influence the tester

Do not answer questions

When the tasks are done, do interviews or fill questioniares.

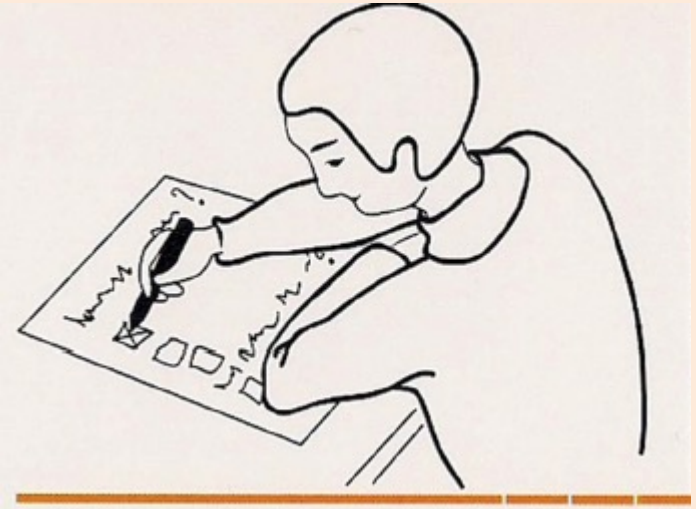
Thank the tester

Some tools and methods „fast forward"

(Online) Questionnaire

- ISONORM
  - ISO 9241 Part 110
  - 5 questions for each design principle (7)
    - Suitability for the task
    - Learning support
    - Error tolerance and so on
  - 7-stage scale (- - -) to (+ + +)
  - Skills / expertise of the respondents
  - Summarizing judgment + free test
  - → General impression of usability
- AttrakDiff
  - Aspect of the joy of use
    - Measure of hedonic quality (Certified Fun)
    - Quantitative comparability
    - Usability / look / attractiveness
    - 23 contrasting pairs of terms, scale 1-7
    - „sympathetic-unsympathetic“

(Online) Questionnaire | **A 6**

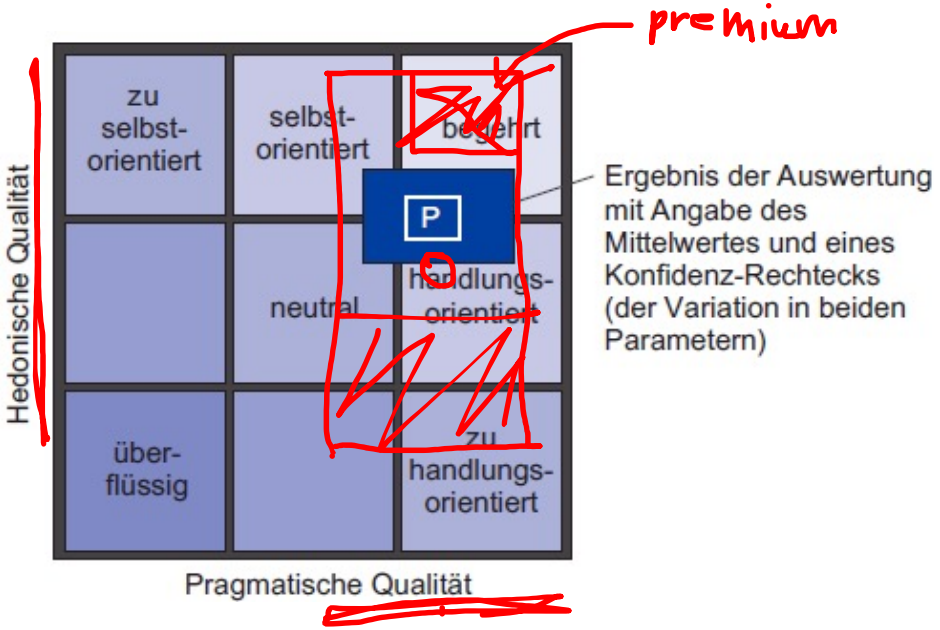


Phase A: Analysis

(Online) Questionnaire: Questionnaires (usually standardized) are used in many ways, e.g. identifying usability problems or to cover the user requirements for an interactive system.

Fun factor: 25%
Experience: Advanced
Participant: per group 200 test persons
Resources: middle

Tools and Methods



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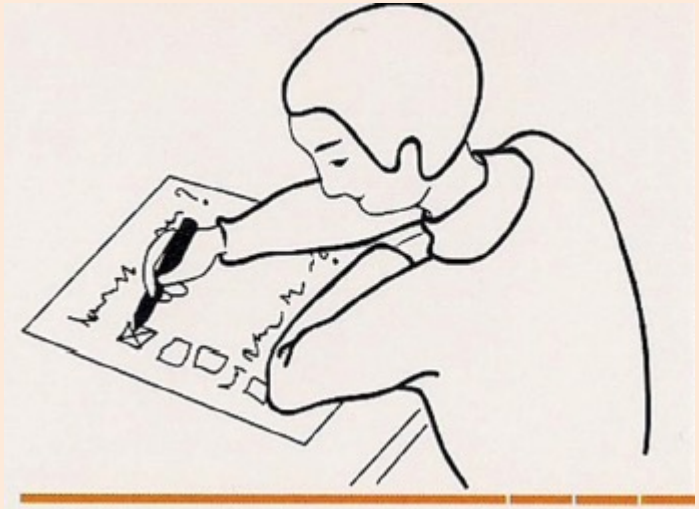

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Tools and Methods

- Experts put themselves in the role of a user and test an interactive system from this point of view!

- Steps to do (summarized)
  - Input:
    - Assumptions about the user
    - Prepare the task to do (goal?)
    - Define the work flow
    - Find the ideal way to reach the goal
  - Execute the task:
    - from the **viewpoint of a user**
    - Find and write down any problems
  - Evaluate the problems
  - Rework the interactive system
    - Solve the problems
- The Assumption has to be right!!!

Cognitive Walkthrough | B 4

Phase B: Concept / Development

Cognitive walkthrough: Inspection method, in which usability experts run through pre-defined action sequences of an interactive system with the lowest cognitive effort (**viewpoint of a user!**).

Fun factor: 50%
Experience: Expert
Participant: several experts
Resources: low

Test procedure – Hallway-Testing

- Find the next best colleague, get her/him to your workplace and let her/him test the interactive system
- Process:
  - Brief explanation what to do
  - Give her/him a simple task
  - Don't give any clues for the solution
  - Ask the colleague to think aloud
- Repeat this process for several times
  - But with different colleagues ☺
- If it is only a newer version of the system
  - Choose colleagues without previous knowledge
- But…
  - Colleagues aren't experts nor users

Think loud | B 6

Phase B: Concept / Development

Think loud: Method in which the user verbalizes all his thoughts loud while completing tasks with the interactive system.

Fun factor: 75%
Experience: Beginner
Participant: each method 10 test persons
Resources: low

Tools and Methods

Prototyping

- Exemplary embodiments of the user interface to be validated
- Important part of an iterative process
- Goal: practical integration of the user
- Prototype realizes some parts of the interactive system
  - Complete work process
- Some users work with the prototype
  - Deliver Tasks and Scenarios
  - Feedback about experience by the user
- Paper-Prototypes
- Disposal -Prototypes

Paper prototyping | **B 7**

Phase B: Concept / Development

Paper prototyping: For the first evaluation of graphical user interfaces (GUI) the elements of the GUI will be drawn and presented to the test person in a specific scenario.

Fun factor: 100%
Experience: Advanced
Participant: min. 8 to 10 test persons
Resources: low

Tools and Methods

Prototyping

- Exemplary embodiments of the user interface to be validated
  - Low-Fidelity-Prototypes (Disposable Prototypes):
    - Sketchy design
    - Not on target platform
    - Rudimentary, without functionality
    - For early development phases
  - High-Fidelity-Prototypes: (include functionality)
    - Platform-specific implementation
    - Ready for interactions
  - Allows comparison of the advantages and disadvantages of several solutions

Paper prototyping | **B 7**

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Experience: Advanced
Participant: min. 8 to 10 test persons
Resources: low

Tools and Methods

- Links to create paper prototypes:
  - http://builds.balsamiq.com/b/mockups-web-demo/
    - Online Demo mockup software
  - Of course there are several other tools, but this one above has not to be installed and is self-explanatory

Paper prototyping | B 7

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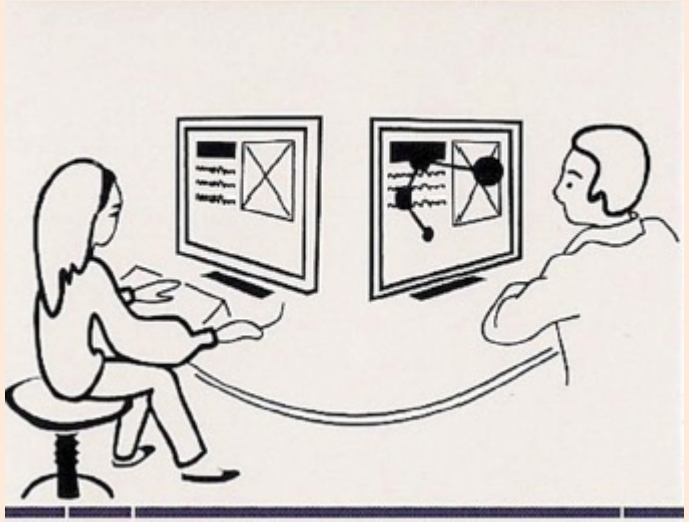
Fun factor: 100%
Experience: Advanced
Participant: min. 8 to 10 test persons
Resources: low

Tools and Methods

- Question:
  - Where does the user look at and how much time is spent for it?
- Scope:
  - Optimization of frequently used screens
  - Used in usability laboratory
- Be careful:
  - Influence is possible because of the environment of the laboratory
  - Devices are very expensive

Eye tracking C 1



Phase C: Implementation

Eye tracking: Measurement of eye movements and time spent on each item when using an interactive system.

Fun factor: 100%
Experience: Expert
Participant: 10 to 15 test persons
Resources: very high