



Heuristic Review

» Quote Lorem Ipsum.«

Contents



- I. Introduction
 - I. Goal
- II. Instructions
 - I. Phase 1
 - II. Phase 2
 - III. Phase 3
 - IV. Phase 4
- IV. Strengths & Weaknesses
- V. Links
- VI. Contact

Introduction

- In 1990 Jacob Nielsen & Rolf Molich developed the Heuristic Review as a cheaper and faster usability analysis
- It is a analytical method, where a group of experts examines user interfaces for usability problems
- A List of proven principles is used
 - 10 Heuristics (Nielsen & Molich)
 - 7 Heuristics (DIN EN ISO 9241-110)
- Efficiency improves with number of experts

Design Phases





Introduction – Goal

- Detect as many usability problems as possible with as little effort as possible
- Prioritization of problems to determine an order of correction them
- Detect & fix as many "obvious" problems as possible before user tests are conducted
- This way less real users are "consumed" in total

Instructions

Planning



- Find about 5 evaluators. These can be:
 - Developer
 - Software ergonomists without area-specific knowledge (simple specialists)
 - Software ergonomists with area-specific knowledge (double experts)
 - User (only in extreme emergency)
- Prepare a room with different devices
 - Laptop, PC; Smartphone, with different resolution/performance
 - Writing materials

Instructions

Phase 1 – Pre-Evaluation Training



- Introduction to Method & Heuristics
 - Common understanding of which heuristics are used & how they are understood
- Awareness of application area
- Overview-like explanation to the knowledge domain of the application & underlying problem
- If possible, workplace inspection
- Description of typical scenario/tasks from daily work of the User
- Description of typical users & their goals

Instructions

Phase 2 – Evaluation Rounds



- Each evaluator runs independently through the system at least twice, using heuristics
 - Finding & analyzing problems are independent processes that should not be forced into one pass
- Evaluators do not interact with each other, because:
 - this would result in a loss of time
 - no mutual influence & joint concentration on individual problems
- Duration of evaluation depending on complexity system & budget (maximal 3 hours)
- 1. round: enable working through the scenario & getting used to the system and identification of possible problem areas
- 2. round: supports the most complete & analytical recording of individual problems & their causes
- Procedure during evaluation itself dependent on working methods evaluators dependent

Instructions

Phase 2 – Evaluation Rounds



- Record the problem & its location
- A heuristic is assigned to the problem
- The goal of evaluation is not to only note down problems for which evaluators can think of a good solution
 - The aim is not to develop proposals for solutions
- Very complex systems should be divided into individual evaluations so that all evaluators always look at the same pages
- A test supervisor instructs evaluators & helps with questions
 - If systems are still in an early stage of development: must be able to intervene in case of technical problems
 - Must have sufficient knowledge of application domain to help with scenario questions & understanding problems

Instructions

Phase 2 – Evaluation Rounds



Designation	Location	Description	Expected Effect	Heuristic
Function "Fit print size to paper" hard to find	In menuFile/Print/Settings	The partly very large graphics must be adapted to the print size DIN-A4 . At first there are no hints for this. The necessary settings must be made in a hidden submenu .	No effect on data security or system stability, but with unexperienced users needless delay of the processing with accordingly negative effects on the acceptance as well as waste of material by misprints to be expected.	Suitability of the task

Example table with problems.

Instructions

Phase 3 – Analysis of the Usability Problems

- Each evaluator develops a list of problems
- Test manager now turns all lists into a complete list
- The test manager decides on the granularity of the problem list
 - Granularity: level of abstraction/generalality of the problem descriptions
- For complex applications is a low granularity recommended
- Prefer high granularity for low complexity, because problems are captured more completely
- Screenshots facilitate evaluation significantly

Instructions

Phase 4 – Evaluation & Categorisation of all Fount Hints



- Evaluation severity of problems by evaluators
- 4 factors playing a role:
 - Frequency of occurrence (one-time to continuous)
 - Influence on workflows
 - Persistence of occurrence (random to regular occurrence)
 - Market influence (overall negative impression should be avoided)
- On the basis of these factors the evaluation is made by scale

Scale Value	Description
0	I think it is not a problem.
1	Cosmetic Problem: Does not need to be fixed, unless there is time left.
2	Minor Usability Problem: Fixing has subordinate priority.
3	Major Usability Problem: High priority of fixing.
4	Usability Disaster: Problem must be solved.

Instructions

Phase 4 – Evaluation & Categorisation of all Fount Hints



- Severity analysis provides information on prioritization of fixes
 - Less important problems can be postponed
 - Offers decision support for optimization
- The more evaluators involved in severity evaluation, the more reliable the evaluation is
 - All evaluators should participate
- This evaluation should be done in a group
 - If not possible: single entry & then calculate the average
 - But it is less meaningful, because there is no discussion

Instructions

Phase 5 – Debriefing Session (not mandatory)



- Possibility to extend processes by systematic solution finding in a discussion group
- Goal: Discussion of all found usability problems with regard to their concrete solution
- Participants: evaluators, test manager, members of system development, user representatives
- Test manager presents results of the evaluation at the beginning
- Then the group try to find a solution

Instructions

Heuristics DIN EN ISO 9241-110



1. Suitability of the task

- The dialogue should be suitable for the user's task and should not over-demand the competences of the user
- Example: Task-appropriate presetting of default values in input fields

2. Self-descriptiveness

- The dialogue should make it clear for the user what to do next. The dialogue should use consistent terminology

- Example: When is an input expected, in which format, and what are the next steps or with which function can these be accomplished?

3. Conformity with user expectations

- A dialog is conform with user expectations when it fits to the users' attributes, e.g. their knowledge from the work field, their skills and conform with general conventions.
- Example: Labels of functions and key assignments are used consistently in all masks and menus.

Instructions

Heuristics DIN EN ISO 9241-110



4. Controllability

- The user should be able to control the pace and sequence of the interaction; different ways of control should be supported
- Example: In each input field there is a possibility to undo the last input. The user can leave the dialog at any time and resume it at a later time.

5. Error tolerance

- The dialogue should be forgiving; Error messages should be informative and contain help
- Example: An input field automatically detects an incorrect input and informs the user. Nevertheless the user can continue his work for the time being.

6. Suitability for learning

- The dialogue should support learning; Different learning strategies should be supported
- Example: A consistent concept is used for structuring dialogs, e.g. only two additional levels are needed below the horizontal menu level. The first letter is always used for shortcuts with the Ctrl key.

7. Suitability for Individualization

- The dialogue should be able to be customized to suit the user
- Example: Menus, toolbars can be displayed and set up individually.



Strengths:

Low cost and time saving with less equipment needed. Can uncover problems users may not even notice. Does not require much experience.

Weaknesses:

Tends to only identify minor problems. Quality of results depends on participant's expertise. Reviewers aren't real users! So there still might be problems uncovered.

Links

e-pixler NEW MEDIA GmbH. (n.d.). Was ist Heuristische Evaluation?. Retrieved from <https://www.e-pixler.de/glossar/usability/heuristische-evaluation.html>

Heuristische Evaluation. Retrieved from https://de.ryte.com/wiki/Heuristische_Evaluation

Moser, C. (2012). User Experience Design. Mit erlebniszentrierter Softwareentwicklung zu Produkten, die begeistern. Heidelberg: Springer Vieweg

msg systems ag. (n.d.). Heuristische Evaluation. Retrieved from <https://www.user-experience-methods.com/evaluation/heuristic-evaluation.html>

Sarodnick, F. & Brau, H. (2016). Methoden der Usability Evaluation: Wissenschaftliche Grundlagen und praktische Anwendung. 3., unveränderte Auflage. Bern: Verlag Hans Huber, Hogrefe AG

Schneider, W. (2018). Grundsätze der Dialoggestaltung nach DIN EN ISO 9241-110. Retrieved from <https://www.ergo-online.de/ergonomie-und-gesundheit/software/dialoggestaltung/artikel/grundsaeetze-der-dialoggestaltung-nach-din-en-iso-9241-110/grundsaeetze-der-dialoggestaltung-nach-din-en-iso-9241-110/>



Contact

usability-siegen.de

fablab-siegen.de