Overview

Heuristic Evaluations are an “introspective” method that, along with design heuristics, can be used to inspect an interface for usability problems.

The heuristics are also good to keep in mind when trying to avoid common design pitfalls…
Design principles and usability heuristics (I)

The design principles represent a broad set of general rules based on research and experience that also describe features of “usable” systems.

- broad usability statements that guide a developer’s design efforts
- derived by evaluating common design problems across many systems

Heuristic evaluation

- Take these same principles and use them to “evaluate” a system for usability problems.
- Reasonably popular approach since actual user involvement is not required (cheaper and logistically easier) and it end up catching many design flaws.
- Is considered an “expert review” technique.

Why a “discount usability engineering” approach?

Relative to user-observational studies, this can be cheap and fast and relatively easy for trained practitioners, which can be critical in today’s product cycle…

- There are no special labs or equipment needed.
  - For many things, likely able to run it on your own machine in your office
  - Interesting bonus: can even be used on paper prototypes

- Doing this type of evaluation can be done on the order of one day where other usability testing could take weeks.

- Once the approach is understood by a team it can be used in many scenarios with little additional learning and the more careful you are, the better the results get.
Heuristic Evaluation Process

Evaluators go through UI several times
- inspects various dialogue elements
- compares with list of usability principles
- consider other principles/results that come to mind

Usability principles
- Nielsen’s “heuristics”
  - there are several slightly different sets (we will see one) of heuristics
- supplementary list of category-specific heuristics
  - competitive analysis & user testing of existing products

Use violations to redesign/fix problems

Phases of Heuristic Evaluation

1) Pre-evaluation training
   - give evaluators needed domain knowledge and information on the overall scenario/context

2) Evaluation
   - individuals on the evaluation team review the design of the prototype or system and then come together to aggregate their results

3) Severity rating
   - individually and then as a group determine how severe each problem is (priority)

4) Debriefing
   - discuss the outcome of the evaluation with design team
Design Principles and Usability Heuristics

1: Simple and natural dialogue
2: Speak the users’ language
3: Minimize user’s memory load
4: Be consistent
5: Provide feedback
6: Provide clearly marked exits
7: Provide shortcuts
8: Deal with errors in a positive and helpful manner
9: Provide help

Note: This is not the only list teams use, but it’s the one on which we will focus.

Severity Rating

- Used to allocate resources to fix problems.
- Estimates the need for more usability efforts.
- Each rating is a combination of
  - frequency
  - impact
  - persistence (one time or repeating)

Should be done independently by all evaluators and then aggregated to a final calculation after all evaluations are in.
Nielsen’s Example Ratings List

0 = I don’t agree that this is a usability problem at all.
1 = Cosmetic problem only (need not be fixed unless extra time is available on project).
2 = Minor usability problem (fixing this should be given low priority)
3 = Major usability problem (important to fix, so should be given high priority).
4 = Usability catastrophe (imperative to fix this before product can be released).

Some comments on the above...
  • Although Nielsen provides a “0” rating, it is unclear where it would be used
    - perhaps on a “second opinion” evaluation
  • It is possible for a cosmetic problem to be a usability catastrophe
    - imagine a green checkmark meaning “bad/danger”