SHANGHAITECH UNIVERSITY
School of Information Science and Technology
CS160: Human-Computer Interaction
Spring 2023
Assignment 3: Heuristic Evaluation
Released: Saturday, May 6, 2023
Due: May 31, 2023

Brief

Prototyping is a variation of usability testing where the representative users perform realistic tasks by interacting with a e.g., paper version of the interface that is manipulated by a person "playing computer" who doesn't explain how the interface is intended to work. In this assignment, your group will conduct heuristic evaluations (HEs) of your prototype, and you will individually help out other groups by evaluating theirs. This will complete the prototyping phase of the project, providing you with the feedback you need to begin implementing.

Assignment

The heuristic evaluations will be a way to highlight usability issues in your rapid electronic prototypes. Heuristic evaluations will follow the "How to Conduct a Heuristic Evaluation" and "Ten Usability Heuristics" readings by Jakob Nielsen. Using Nielsen's ten heuristics, you as an evaluator will list any many usability issues as possible. It is less important that the evaluators worry about exactly which heuristic the usability issues occur in. The heuristics are there to help evaluators find a variety of different types of usability issues. For each usability issue found the evaluator should capture a description of the issue written as concisely and as specifically as possible.

Walkthrough

First of all, you need to master the skill of operating your prototype. Don't embarrass yourself in front of your expert evaluators by taking five minutes to find the next bit of the prototype to swap in. The smoother your porotypes runs, the better. All team members need to learn the computer part, so go through a couple practices runs of each of your prototype. Take runs, with one of you being the evaluator and one being the computer. Practice runs like these are called walkthroughs. Walkthroughs will get you comfortable operating the prototype and help you identify problems with it (for example missing pieces or dead ends)

Conduct a Heuristic Evaluation

Now that you have prepared yourself to run the prototype smoothly, you are ready to conduct a HE session. Your whole team should be present for all sessions. To facilitate this, we suggest you try as hard as you can to schedule a block of time for all of your expert evaluators to come in and perform back-to-back evaluations (one at a time). One person from your team will be the facilitator. What's a facilitator? The facilitator should greet the evaluator, explain how the session will work, and give a brief introduction to

your prototypes. One (or more, if necessary) person should be the computer. Any team member who is not currently acting as either of those will observe and take notes/pictures.

Make things easy for your evaluator by printing a sheet of Nielsen's heuristics. Prepare a sheet for them to fill out while evaluating. A good idea is to set up a spreadsheet on a laptop that you and the evaluator can share. (This spreadsheet makes it easy for the evaluator to do his assignment and for you to improve the design.) Remember that the evaluator is the expert. Let them explore and evaluate the interface as they choose, but make sure that they go over each of your proposed prototype.

Be an Expert Evaluator

As an evaluator, keep in mind that you are the expert, and you should go through the interface the way that you would prefer to. Be thorough and write down all problems you can find. Don't try to be "nice" by not reporting problems, everything you find will help the team improve their interface.

Use Nielsen's heuristics as a guide and specify what heuristic(s) each problem is related to. If you come across problems that don't fall neatly into particular heuristics, mark that no heuristics apply. As long as your discussion of the problems clearly shows that you understand and are trying to apply Nielsen's heuristics, you will get full credit in the heuristics category. Getting the problem written down with a severity rating is the more important part. Use Nielsen's Severity Ratings for Usability Problems.

Meet with Other Evaluators

Meet with the other evaluators of the same prototype and (at least) one member of the prototype's design team. Discuss the general characteristics of the UI you evaluated and suggest potential improvements to address major usability problems that you identified. Aggregate your evaluation with the other evaluations for the prototypes. Did you agree on the most severe usability problems with the other evaluators? Come to an agreement on which problems are most important, then brainstorm potential solutions with the team you evaluated.

Finally, with the other evaluators, distill all of this down to one paragraph where you address the major problems you all identified, as well as the potential solutions. Include a sentence or two reflecting on what kinds of things you found heuristic evaluation valuable for, and what kinds of things it's not very useful for. All evaluators of the same prototypes will submit the same paragraph.

Submission

This assignment will be submitted individually.

1. A heuristic evaluation of another group's prototype. This comprises a bulleted list of usability issues you found, along with their severity, for each prototype.
2. A paragraph, written jointly with the other evaluators, addressing the major problems identified with the prototype and potential solutions. Include a sentence or two reflecting on what kinds of things you found heuristic evaluation valuable for, and what kinds of things it's not very useful for. All evaluators of the same prototype will submit this paragraph.

Please note that no more than 5 evalutors should be recruited for a group's prototype. That is, if you want to evaluate a prototype from another group, there should be no more than 5 evaluators on that group at most.