

Heuristic Evaluation (Individual)

Due: Start of Thu/Fri studio (Nov 9-10)—no credit if not turned in at start

Goals

Learn how to apply Nielsen's adapted heuristics for evaluating and iterating on a user interface. Understand the tradeoffs compared to usability testing and other methods.

Assignment Overview

You have been hired as a design consultant to provide outside assistance to another team in your studio. Your CA will send you links to your assigned team's relevant materials. You will:

- 1. Read through your assigned team's Assignment 6 (medium-fi prototype) materials.** This should help you get oriented on their project and prepare to evaluate their UI more critically. We recommend looking at their slides and README, and running through the prototype a couple times.
- 2. Conduct a heuristic evaluation of your assigned team's user interface**.** To do this, you will apply [Nielsen's heuristics](#) and the 2 new heuristics we've added. Focus on giving feedback on what is currently implemented rather than pointing out missing features.
- 3. Produce an organized report of the problems you discovered in the interface.** Organize the violations by task flow (e.g., all violations for task 1 grouped together). If the violation occurs across all tasks include these in an "All Tasks" section. If the violation occurs outside of a specific task, include this in a "Extra Violations" section. Please use the heuristics and numbering scheme from our lecture slides, also found at the end of this document. Further instructions below.

***If you're evaluating a speech-based interface, these [heuristics](#) from [this paper](#) may be useful.*

Report Instructions

Part I: Prototype Description

A one-sentence description of the project you are evaluating.

Part II: List of violations

Each violation in your list should be numbered sequentially and include the heuristic violated (number and title), the violation severity, the problem description, the rationale for why it violates that heuristic, and a recommendation to fix the problem. Use the ratings defined in lecture: 0 = not a problem, 1 = cosmetic, 2 = minor, 3 = major, 4 = UI catastrophe. Format the list of violations as follows:

[problem#]. [H#][Heuristic Title] / Severity: [0-4]

Description:

Rationale:

Fix:

For example:

1. H4 Consistency & Standards / Severity: 3
 Task: Specify your dietary preferences
 Description: The interface used the string “Save” on the first screen for saving the user’s information, but used the string “Store” on the second screen.
 Rationale: Users may be confused by this inconsistent terminology for the same function.
 Fix: Use “Save” on all screens.

Part III: Summary

Give the total number of violations found using the table below. Double check your math.

Category	# Violations
H1: Visibility of System Status	
H2: Match b/w System & World	
H3: User Control & Freedom	
H4: Consistency & Standards	
H5: Error Prevention	
H6: Recognition not Recall	
H7: Flexibility & Efficiency of Use	
H8: Aesthetic & Minimalist Design	
H9: Help Users with Errors	
H10: Help & Documentation	
H11: Accessible Design	
H12. Value Alignment & Inclusion	
Total Violations	

Part IV: Overall Recommendations

Close with 1-2 paragraphs covering general impressions, trends identified across the heuristic evaluation, and overall recommendations you have for improving the interface, including any problems you found that didn’t necessarily fit into the heuristics.

Deliverables

You will individually submit a link to your Google Doc report through this [Google form](#). Make sure your CA can view the file and that the general access permissions are set so that anyone at Stanford University with the link can view the document.

1. Individual Report

Please name your file *[YourName]-[ProjectYouEvaluated]-HE*.

Examples

***Note: this assignment spec has undergone some changes, but the quality of the work in this example still stands (we did not require severity ratings or organization by task last year).*

[Example](#)

Grading Criteria

You will be graded on coverage of the issues present in the current user interface design, clarity of your violation descriptions, and quality of your recommendations. Reports that focus excessively on features that are missing will be marked down.

Report (100 pts)

Project Description (5)

___ Accurately and succinctly describes the project

Violations (65)

___ Found a large percentage of the violations

___ Thorough coverage of violations present in each task

___ Heuristic variety in violations found; Non-repetitive violations

___ Found some less obvious violations in addition to the more obvious ones

___ Descriptions of violations clear and easy to understand

___ Rationale for the heuristic used is clear and valid

___ List is organized and violations are in the correct format (by task flow & numbered)

Summary & Recommendations (30)

___ Summary table is free from errors

___ General impressions and trends noticed across violations found

___ Includes feedback and recommendations that don't fit into the violations

12 Usability Heuristics

Adapted from [Nielsen \(2nd version\)](#). These are 12 general principles for user interface design. They are called “heuristics” because they are more in the nature of rules of thumb than specific usability guidelines.

H1. Visibility of system status

The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

H2. Match between system and the real world

The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

H3. User control and freedom

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

H4. Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

H5. Error prevention

Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

H6. Recognition rather than recall

Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable when appropriate.

H7. Flexibility and efficiency of use

Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

H8. Aesthetic and minimalist design

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

H9. Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

H10. Help and documentation

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

H11. Accessible design

Users can interact with the system using alternative input methods. Content is legible with distinguishable contrast and text size. Key information is upfront and not nested for screen readers. Purely visual or auditory content has text-based alternatives for users with low vision and low hearing.

H12. Value alignment and inclusion

The design should encode values that users can understand and relate to. It should make a diverse group of users feel included and respected. The design should prevent the reproduction of preexisting inequities and not create additional burdens for disadvantaged populations.