

Interactive (High-fi) Prototype (Group)

Midway Milestone due at the start of your studio (Thur/Fri March 11-12)

Final Prototype due at the start of your studio (Thur/Fri March 18-19)

Write-up due Saturday March 20 at 6 PM PST

Overview

The goal of this assignment is to learn how to build prototypes of user interface ideas using interactive user interface builders, while also dealing with the interface constraints of a target platform. You will **revise your user interface ideas** based on the heuristic evaluation results and then **use interactive tools and code to build a running prototype** of the design. At the midway milestone, you will make an in-studio presentation about this project stage, how you got there, and how you will get to the final deliverable. By the final due date, you will turn in a written **report** describing your quarter-long project and the steps you completed during the entire iterative design process.

Interface Redesign

Use the results of the heuristic evaluation to design a revised UI. You must **modify your project's existing design based on the heuristic evaluation feedback** and other issues you are aware of about the design (from your own knowledge or the feedback of the teaching staff). Develop new/revised task flows (if necessary) for your tasks by storyboarding. For most of you, the tasks that you used in the medium-fi assignment should be sufficient for this. If you are changing your tasks, meet with the teaching staff to present your new tasks, design ideas, and storyboards for discussion.

You received a list of heuristic violations that an “outside” group of evaluators found in your prototype. You will use this list to focus your redesign work. You must **first fix all heuristic violations of severity level 3 or 4 in your design**. You do not need to fix violations you cannot reasonably fix in this short period or those whose severity rankings your group disagrees with the evaluators on, but you **must give a justification for both of these cases** in your report (speak with the teaching staff if you are unsure).

If you are able, please **fix any other violations (level 1 and 2) that are easy to fix**. In addition, if there are other design issues that you are aware of (from your own knowledge or the teaching staff's comments), please list those, fix what you can, and justify what needs to be fixed later.

Quality of Prototype

In addition to fixing major usability problems, you must make sure your prototype will be sufficient to use in a usability test with target participants. This means that **a participant should be able to use your prototype to perform the three tasks** that you outlined in the write-ups from the medium-fidelity prototyping assignment (though you will not actually be performing any formal usability testing for this prototype).

Again, all of the underlying functionality does not have to work – you can fake much of the output, but keep in mind you want to produce a prototype that would be **sufficient to carry out a usability test**. Unlike the last prototype, we want your application to **look and feel like what a final application running on your target platform** (e.g., iPhone/Android/tablet/watch/Glass/smart speaker) **would look, sound, and feel like**. *This interaction is much more important than underlying functionality or back end computation/scalability.*

Note: the tasks should include at least 1 simple task, 1 medium task, and 1 complex task, and the tasks should be real tasks (not partial, incomplete “feature testers”). **If your tasks do not meet these criteria, you must change them** (talk to the teaching staff if you are unsure).

Prototype

You should build a prototype using a tool based on the platform (e.g., for Android one might use droiddraw, ADT, appinventor, the Eclipse plug-in, etc. and for iPhone one might use Interface Builder in Xcode).

Your prototype should implement the three task flows that you developed for your tasks. In addition, the design of the prototype should **properly account for the size, resolution, colors, standard widgets/controls** and other attributes of your target platform. **Apply good visual design principles** to your designs.

The underlying **functionality does not have to be fully implemented**. For example, applications requiring large databases of information or live social networks can instead have a sufficient number of hard-coded data points for supporting the three tasks.

You have a limited period of time to complete this prototype, so you should focus on showing only what is essential and **try to avoid writing code where it is not necessary**. You will likely have to make some difficult choices!

Deliverables

By their respective due dates, all your deliverables should be accessible on **both your website and in your team drive**, in a folder for Assignment 8.

1. **Midway Milestone Presentation:** One person on your team will make a **12-minute presentation** describing how you got to the new design & current prototype implementation status. **At least one of your three tasks should work at this point.**
2. **Prototype:** By the final prototype due date, your prototype **must be accessible from your website**. It must be accompanied by a **README file** that describes any installation requirements and operating instructions, including any limitations in the implementation. The prototype should ideally be executable without installing any additional software. *If this is not possible for your group, you must make arrangements with your CA before your last studio session meets.*

3. **Recorded video demo:** Take a screen recording of your tasks being performed on your high-fi prototype. Narrate with voice or text overlays to make clear what task is being performed and how. Make sure this video is embedded on your website, and include a downloadable version as well (make sure to compress it with Handbrake first!).
4. **Report:** You will submit a report online on your project web site and on Google Drive. This report is cumulative; you will write about the design thinking process and how your project evolved over the quarter.

Examples:

Off: [Midway Presentation](#), [Prototype README](#), [Report](#)

Fluantly: [Midway Presentation](#), [Prototype README](#), [Report](#)

Note: *The written report guidelines this year are different from previous years. Take a look at past example reports to get a sense of what content to include for the high-fi prototype section, but your report should be a more holistic write-up about the entire design process. Make sure it reads like a story, rather than a list. Feel free to ask your TA for feedback while you're writing it!*

Midway Milestone Presentation (due: Thur/Fri March 11-12)

One person on your team who has not presented yet will give the mid-way milestone presentation in studio. (For teams of 3, one person will need to present again. The higher of your 2 presenter grades will be counted in your final grade). You will have **12 minutes** for this presentation, including a demo of your prototype so far, plus up to 6 minutes for questions.

Suggested Talk Outline:

1. Project title, team, & value proposition (1 slide)
2. Introduction to problem & solution (2 slides)
3. Overview of talk (1 slide)
4. Heuristic Evaluation results (2-3 slides)
 - a. Focus on severity 3-4 issues
5. Overview of revised design (2-3 slides)
 - a. With reasoning for changes (can combine with HE results slides)
6. Prototype Implementation Status (5-6 slides)
 - a. Tools being used (e.g. React Native, Xcode)
 - b. Implemented features: what you have done so far
 - c. Unimplemented features & plan
 - i. What has yet to be implemented
 - ii. Plan to finish
 - d. Wizard of Oz Techniques: Any wizard of Oz techniques you plan to use
 - e. Hard-coded data: Any information that you will hard code rather than implement
 - f. Issues/Questions Anything you are unsure of how to do?

7. **Demonstration of prototype (live or recorded if not possible)**
 - a. Demonstration of your prototype in its current running state
 - b. At least one of your three tasks should work at this point**
8. Summary (1 slide)

Report (due: Saturday March 20 at 6 PM PST)

This final written deliverable will be a **cumulative** report, giving you and your team a chance to synthesize and articulate your findings from each stage of the design thinking process and reflect on the evolution of your project throughout the quarter. The goal of this final written report is to produce an engaging and high-quality written piece (that you can add to your professional portfolio!). You can reuse content from previous reports, but unlike previous reports, this one should read more like a piece written for a public audience (e.g., in the style of a Medium article). Make sure the piece is cohesive, engaging, and understandable for someone unfamiliar with your project. For each section, discuss your main takeaways and how they informed the next steps of your project. **Tell it like a story, and include lots of images!**

The write-up should **follow the below outline with separate sections** for the top-level items. The lengths indicated in parentheses are just suggestions. Make sure to also review the rubric below to understand what you will be evaluated on. Like all previous deliverables, be sure to include this report on your website and in your team drive. If you want, you can also embed the content of your report directly onto your website.

Report Outline:

1. **Project name & value proposition**
2. **Team member names** (with roles, e.g., "User Researcher" or "Mobile Developer")
3. **Problem and Solution Overview (2-4 sentences)**
 - The need your team is trying to solve with this application (mission statement).
 - The basic approach of your solution to the above problem.
4. **Needfinding Interviews (~1-2 paragraphs)**
 - Who did you interview? What did you learn?
 - Include images of your empathy map(s)!
5. **POVs & Experience Prototypes (~1 page)**
 - Your final 3 POV statements
 - A sampling of the HMWs that stemmed from each POV
 - Top 3 solutions
 - Brief description of 3 experience prototypes. For each experience prototype, be sure to include the following:
 - The assumption being tested
 - What worked/didn't work

Content from this section can be written out in paragraph form, as a table, as a flowchart/diagram, etc... You can even include screenshots of your Miro board -- whatever format you think will best communicate the content!

6. **Design Evolution (a few pages, including lots of images)**
 - Describe the final solution you came up with, with rationale based on findings from your experience prototypes.
 - List and describe your 3 (or more) tasks, labelled by complexity. Describe why you chose each of them.
 - Show screenshots of the major steps in your project from initial low-fi sketches to the med-fi prototype to the high-fi prototype.
 - **For your high-fi prototype, present a storyboard walkthrough of each task using images of the final interface. Include annotations between screens.**
 - Explain the reasoning/evidence behind major design changes from low-fi to med-fi to high-fi (i.e., evaluation technique, what was found at each stage, & how you changed in response)
 - For changes from the med-fi to high-fi, discuss each severity 3 or 4 heuristic violation pointed out by your evaluators, along with the fix or the reason for not fixing.
 - Reference your sketches/screenshots in descriptions
 - List any other changes you made and the reasoning behind it
7. **Final Prototype Implementation (~1-2 paragraphs)**
 - Tools used (how you built the prototype)
 - How the tools helped
 - How the tools did not help (limitations)
 - Any wizard of oz techniques required to make your prototype work
 - Any usage of hard-coded data
8. **Summary & Next Steps (~1 paragraph)**
 - What were your main learnings from this quarter about the design thinking process, your studio theme, and your own project?
 - If you had more time, what might you add in the future?

Grading Criteria

Mid-Way Presentation (100 pts) *due by beginning of studio March 11-12*

The presentation grading will be broken into two components: the individual grade of the presenter and a group grade for the presentation content. The grades for each of these components are explained in more detail below.

Mid-Way Presentation Individual Presenter Grade (100 pts)

- ___ Use well-designed and visually pleasing slides. Visual aids are aesthetic, effectively prepared, and properly employed. (30 points)
- ___ Slides are well-functioning and convey the content effectively and clearly. (25 points)
- ___ Presentation is well-rehearsed, with good pacing and minimal filler words. (25 points)
- ___ Cover the required scope within the 12 minute time period (not including time for questions/feedback). Practice and time your presentation in advance, as we will cut you off if you go over. You will be unable to gain points for uncovered material. (20 points)

Mid-Way Presentation Content Grade (100 pts)

Heuristic Evaluation Results (25 pts)

- ___ Did they present all of the important results and takeaways? (10 points)
- ___ Did they discuss which violations were addressed and which were not? (10 points)
- ___ Were the results clearly explained? (5 points)

Revised UI Design (25 pts)

- ___ Did the design changes follow from sound reasoning and HE results? (20 points)
- ___ Was the interface novel and different from other known products? (5 points)

Prototype (50 pts)

- ___ Were the tools used explained? (5 points)
- ___ Was it clear what has been implemented so far? (5 points)
- ___ Is there a sufficient plan to implement what is missing? (5 points)
- ___ Was the prototype visually appealing & does it follow standards for the platform? (15 points)
- ___ Was enough demonstrated to give confidence it will be done at the end of the quarter? (at least one of three tasks completely implemented at this point) (20 points)

Prototype (100 pts) due by beginning of studio March 18-19

- Is the prototype **accessible and working?** (40 pts)
 - Can the user **easily accomplish the 3 tasks?** (20 points)
 - Is the prototype interface **aesthetically pleasing?** (15 points)
 - Were **appropriate trade-offs** made between implementing functionality and design completeness (prefer more of the later)? (5 points)
- Does the README file summarize any limitations and other details needed to run it? (10 pts)
- Tasks (10 pts)
 - Are the tasks **complete tasks** rather than fragmented?
 - Do the tasks **fit real user needs?**
 - Do the tasks altogether **form a compelling story** for the project?
- Changes based on HE (15 pts)
 - Were **appropriate changes made** to address the key problems discovered in the HE?
- Transition from medium fidelity prototype to high-fi prototype (15 pts)
 - Were the **limitations** of the medium-fi prototype addressed?
 - Were appropriate **constraints** from the final target platform considered?
 - Does the design **fit the final target platform** & its UI style?
- Overall subjective quality (10 pts)

Note: Remember to also record a video demo of your prototype to include on your website!

Report (100 pts) due by Saturday March 20

- Coverage of topics (60 pts)
 - Overall, how well does your report cover all the sections described in the outline? Is each step of the process adequately discussed? (40 pts)
 - How well does your report discuss your high-fi prototype? Is there a complete set of screenshots of your high-fi task flows? Were the changes from the heuristic evaluation discussed and justified? (20 pts)
- Writing quality (30 pts)
 - How well does your write-up flow? Is the writing cohesive and well-organized, with appropriate headings and transitions between different sections? Does it read like a story? (25 pts)
 - Is the writing grammatically correct and easy to understand? (5 pts)
- Aesthetics & readability (10 pts)
 - Is your report pleasing to read? (Use appropriate font sizes for headers and text, high-quality images, good balance of images and text, appropriate spacing and margins)