Interactive Medium-Fi Prototype

Checkpoint: Start of Thu/Fri studio (Oct 29-30)

Due: Mon, Nov 2 @ 5 PM

Objective

Build medium-fidelity, interactive prototypes using a graphical design tool.

Learning Goals

Learn and practice medium-fidelity prototyping. Learn to use graphical design tools like Figma. Understand the tradeoffs between medium-fi and low-fi prototyping.

Role of Assignment for the Project

Implement feedback on low-fidelity prototypes to improve task flow design for usability. Moving to a higher fidelity prototype will help you refine the interface and solidify some design decisions.

Assignment Overview

1. **Sketch revisions of your low-fi task flows based on testing results and CA feedback (to be provided both in-studio and in your studio Slack channel).** Include images of these new sketches in your deliverable. This is also an opportunity to revise or add to your tasks if some were sub tasks or the 3 you chose do not cover your intended functionality. Remember that tasks should represent user goals, not features for achieving the goal. If you want to change your tasks, check in with your CA first.

2. **Choose and define a design system.** We recommend attending the design system workshop to learn more. A design system establishes consistent styling of recurring elements and details across the entire application. Your design system for a mobile app should include (at minimum) a set of theme colors and associated roles, text styling (font and size) for different roles (title, input, etc), and the following elements: button, input, modal, dropdown, and repeating icons (back, send/submit, close). These required elements may not align perfectly with the examples you see in class or the workshop. Also, any other recurring elements should be added to the design system to ensure consistency. Include the design system within whatever graphical design tool you choose for the prototype (see #3).

3. **Create an interactive prototype of your application using a graphical design tool.** We recommend Figma (check out the Figma workshop slides/recording and the upcoming Design Systems workshop on Monday 10/27 for some useful tips!), but you could also use Sketch, Marvel, Invision or some combination of these. You might also require a different tool depending on your modality (e.g., AR/VR). If this is the case for your team, discuss with your CA first for approval before moving forward.

4. **Make sure your work is accessible to an external evaluator.** Other studio members will conduct a heuristic evaluation on your med-fi prototype for A7. Be sure your evaluator is able to access the prototype from your website. In the README, provide adequate context about your app and instructions needed to run and operate your prototype. See the "README Expectations" section below.

5. **Demo at least one fully finished med-fi task flow** to an outside expert during your checkpoint studio.

Prototype Expectations

- Should cover **all relevant task flows** for your application. The task flows should feel complete (i.e., no missing UI elements, no ambiguity) and easy to accomplish. The start and end points of each task should be clear, and the user should be able to tell when they've succeeded.
- Should respect the **target device constraints** (e.g., correct dimensions for device, interactions can all be done within device constraints). UI elements and typography should be appropriately sized. Take a look at font sizes for Apple devices. Include screen elements based on the device type (e.g., iPhone apps include the top and bottom nav).
- Clear emphasis on visual design aspects including appropriate font choice and consistent & strategic usage of color palettes (you must actually follow your design system). Take a look at the Gestalt Principles of Design – scroll to the bottom for great UI examples! For exceptional visual design, consider meeting accessibility standards as discussed in lecture; using consistent margins; properly aligning items; using consistent iconography; and using high-quality imagery.
- Should **address many of the limitations** of your low-fi prototype.
- Underlying functionality does NOT have to be fully implemented. For example, applications requiring large databases of information or social networks can instead have a sufficient number of hard-coded data points and/or Wizard of Oz techniques for supporting the 3 tasks.
- Focus on user **experience, visual, and interaction** design details instead of the completeness of the underlying implementation.
- Should feel like something you could give to an engineer to start developing. In other words, all UI elements should be accounted for and all necessary interactions should be fully designed.

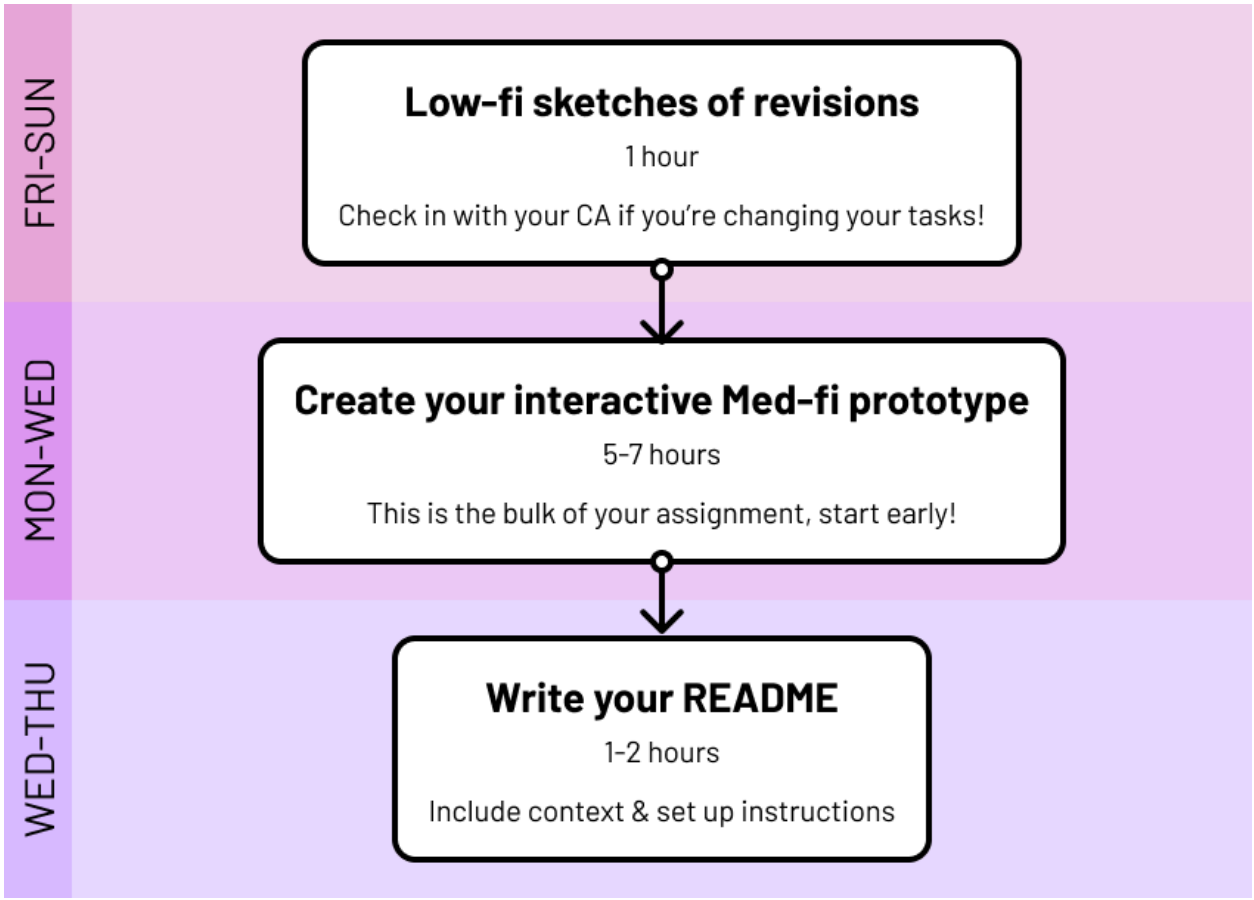
README File Expectations

The README file should include:

- How to access & set up the prototype for testing
- The type of device the prototype should be run on
- Context for the prototype: when is the app used? What should a user be able to accomplish?
- How to run/operate the prototype

- Description of the tools used to build the prototype
- Summary of limitations with an explanation of why these limitations were necessary
    - Description of all the Wizard of Oz techniques used
    - Description of all the hard coded items
- Images as needed to explain the setup or other important aspects of the prototype

Suggested Timeline



Presentation Guidelines

In the studio checkpoint, one team member will present parts 1-4 of the content *below* as well as demoing at least one full task flow. There will be 5 minutes for the presentation and 10 minutes for questions and feedback from outside experts. This presentation **will not** count towards an individual presentation grade.

By Monday, upload your full slide deck with all expected content. Make sure to include clarifications as needed in the slide notes. You can also create an appendix of extra slides with additional information; however, the total number of slides should not exceed 40.

Expected Content

1. Title, value prop
2. Problem/solution overview
3. Values in design
    a. Define at least one value you intend to encode in your product, including a clear definition of what this value means in-context
    b. Which design features or decisions express these values? How does the feature/decision express this value? There should be at least 1 corresponding design feature per value.
    c. Do any value tensions arise as a consequence of your design decisions? How can these tensions be addressed?
4. Tasks
    a. Labeled simple, moderate, or complex with justification
    b. Note any changes you made from the tasks in Assignment 5
5. Usability goals & key measurements
    a. Progress against the 2 usability goals and 2 key measurements identified in Assignment 5 given the sketched revisions. Include relevant data/evidence.
    b. What changes need to be made to better hit these goals? Justify how these changes will better hit key goals and measurements.
6. Revised interface sketches (note: sketched revisions are separate from med-fi)
    a. Major changes – 3 biggest changes between original and revised sketches
    b. How will these changes aid in progressing forward with your usability goals?
    c. Explain how the changes address issues identified from low-fi testing results, studio feedback, user needs, etc. Include evidence to back up the changes made.
    d. Before and after comparisons with annotations and labels as needed
    e. If you have more than 3 changes you want to show, add the rest to the appendix
7. Design system
    a. Required elements
    b. Additional elements that recur across your prototype.
    c. Explanation for your visual design choices (e.g., why these colors and fonts - symbolic meaning, contrast, visibility, etc.)
8. Medium-fi task flows
    a. 1 task flow per task
    b. Annotated screenshots from your medium-fi prototype (arrows indicating transitions, labeling each screen and other relevant UI elements, overlays, state changes, captioning, etc.). Make sure the task flows represent how the flow should go when testing it in real life, not how it's implemented in Figma.
9. Prototype implementation
    a. Tools: What did you use? Pros and cons of using this tool(s)?
    b. Why the pros/cons tradeoff was acceptable for your implementation
    c. Limitations of the prototype: What was left out? Why?
    d. Hard-coded and Wizard-of-Oz features
    e. What was the impact of these limitations on the user experience?

10. Appendix / Link to Figma

Deliverables

In addition to uploading these deliverables to a subdirectory titled “Assignment 6” in your team’s Google Drive folder, they must also each be made available publicly on your project website as other studio members will need to access your work for Assignment 7.

1. **Checkpoint 5-min Presentation (due Thu/Fri Studio 10/29 - 30)**
   Present items 1-4 above on the presentation outline as well as one full task flow.
2. **Med-fi Prototype (due Mon 11/2 @ 5 PM)**
   Link to an executable version of your prototype in Figma, etc.
3. **README file (due Mon 11/2 @ 5 PM)**
   PDF linked on website. Google Doc in your team’s Google Drive folder.
4. **Slide Deck (due Mon 11/2 @ 5 PM)**
   Google Slides deck and PDF linked on website. Google Slides version in folder. This deck will not be presented, and is just used for grading purposes.

Examples

Note: this assignment has been modified, so these examples are not perfect mappings to the deliverables; however, much of the quality of the work stands.

superbloom: Medium-Fi Prototype, Slides, README
Lunar: Medium-Fi Prototype, Slides, README
MindCompass: Medium-Fi Prototype, Slides, README
ambi: Medium-Fi Prototype, Slides, README
house: Medium-Fi Prototype, Slides, README
DOHO: Medium-Fi Prototype, Slides, README
Collide: Medium-Fi Prototype, Slides, README
noms: Medium-Fi Prototype, Slides, README
Sprout: Medium-Fi Prototype, Slides, README
Envio: Medium-Fi Prototype, Slides, README

Grading Criteria

Grading is broken into 2 components: 1) a grade for the design system, prototype, and the corresponding README file and 2) a grade for the slide deck content explaining your process.

Prototype (100 pts)
Checkpoint (20)
___ At least 1 task flow fully implemented by the deadline

CS 147 Autumn 2025: Assignment 6
Instructor: James Landay

Design System (5)

____ Includes all required elements
____ Accompanied by justification of styling decisions
____ Includes any additional recurring elements

Quality of UI (60)

____ Prototype is of proper fidelity and detail
____ User can accomplish the 3 tasks easily
____ Fits the constraints of the target platform
____ Strong and consistent visual design (uses the design system)

Exceed expectations with:

____ Additional features
____ Well-organized Figma (or other tool) file
____ Tasks avoid ambiguity
____ Accessible

README (15)

____ Includes details and context needed to run and operate your prototype
____ Describes tools used to build the prototype
____ Outlines limitations, Wizard of Oz techniques, and hard-coded items explaining why those techniques and choices were necessary and appropriate

Exceed expectations with:

____ Good visuals or explanations for clarity

Slides (100 pts)

Representative tasks (20)

____ Provide complete coverage of the product functionality
____ Real, complete tasks; any changes since the prior assignment are explained clearly

Revised interface design (30)

____ Sketched UI revisions are clear; adequately compares old and new designs
____ Assesses how well the design hits the 2 key goals and 2 key measurements and identifies changes that need to be made to further progress
____ Changes clearly address feedback from testing, studio, CA, etc.

Medium-fi task flows (20)

____ Complete and logical flows to accomplish each task
____ Screens and transitions are properly labeled, captioned, annotated, etc.

Values encoded (15)

____ Values encoded are precisely defined

CS 147 Autumn 2026 website
https://hci.stanford.edu/courses/cs147/2026/au/

____ Design features that express these values are clearly identified
____ Explains any conflicts that may arise between values

Tools used (15)

____ Appropriate tools used & explained
____ Pros and cons of tool(s) are discussed
____ Limitations, Wizard of Oz, and hard coded items are clearly explained