CS 147 Autumn 2026: Assignment 8
Instructor: James Landay

Interactive High-fi Prototype

Checkpoint: Start of Thu/Fri Week 9 studio (Nov 19-20)

Final: Start of Thu/Fri Week 10 studio (Dec 3-4)

Objective

Build high-fidelity, interactive prototypes with code.

Learning Goals:

Practice coding an application starting from a medium-fidelity prototype (e.g., Figma). Understand the tradeoffs and platform constraints compared to low-fi and med-fi prototyping.

Role of Assignment for the Project:

This is the final realization of your project for the class! While the app might not have every functionality that a deployed app would, this deliverable should implement your vision of the solution that you have been working on throughout the quarter.

Assignment Overview

At the checkpoint, you will present your high-fi prototype progress and plans. By the final due date, your prototype should operate to feel realistic to a usability test participant. You will:

1. **Use the results of the heuristic evaluation to revise your UI.** First, fix all major heuristic violations *severity level 3 or 4*. If your team disagrees with the evaluators and wishes to disregard a violation, justify why. Also address any other level 1 and 2 violations that are easy to fix. If necessary, you can develop new task flows, but Slack your CA first to discuss such changes. Larger revisions to the design should be iterated on in your med-fi tool first while smaller changes can go straight into code in your high-fi.
2. **Develop your prototype to be sufficient for a usability test.** The underlying functionality does not have to work completely, but a participant should be able to independently complete all your tasks. Unlike your med-fi prototype, we want your high-fi to look and feel like a real app. Simulating a realistic experience is more important than full backend computation/scalability.

Expectations for AI Use

AI use is acceptable during this assignment to help *implement* your high-fidelity prototype. Please make sure to test generated code to ensure the functionality works as intended. You are also expected to produce an explanation of your AI use for this assignment.
Your UI revision designs/plan and corresponding reflections should be produced **without** AI assistance.

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

Checkpoint Presentation Guidelines

One team member who has not yet presented will present the checkpoint in studio. For teams of 3, someone will present a second time and the higher of their 2 grades will be counted. There will be 10 minutes for the presentation and 6 minutes for questions and feedback. The time spent on the demo will not count toward the 10 minute limit; however, it should be brief (e.g., ~1 minute).

Expected Content

1. Project title & value prop
2. Team
3. Problem/solution overview
4. Presentation outline
5. Heuristic evaluation results
    a. High-level summary of results: total violations, severity breakdown, most common violations, total number of UI revisions needed to be made based on the major severity 3 & 4 violations as well as any severity 1 & 2 violations deemed necessary
        i. Consider communicating your results through a visual representation of these statistics and reflecting on how these high-level trends informed your approach to addressing the violations.
    b. Discuss and justify changes to address all severity 3 and 4 violations
        i. Violations should be clearly connected to the changes made in part 6. Consider using visuals to explain specific issues.
6. All major UI and product revisions
    a. Before and after shots
    b. Rationale for changes
    c. **Progress towards *each* usability goal** made by the revised designs. Discuss the impact of the progress made on design values, project next steps, and/or overall success metrics.
7. Prototype implementation status – ***we expect at least 1 task to be implemented***
    a. Framework/tools being used and what each is being used for
        i. This is where your AI use should be documented and discussed
    b. (if applicable) How AI was used in implementation and visual design: explain exactly where AI was used with justification of why
    c. Implemented features
    d. Unimplemented features & ***plans to finish with an estimated timeline***
    e. Wizard of Oz techniques (& justify why Wizard of Oz was necessary)
    f. Hard-coded aspects (& justify why hard coding was necessary)
    g. Issues/Questions: Anything you are unsure of how to do?
    h. Discussion on plan for finishing
        i. Consider including a discussion of how your team will prioritize the remaining work and who will be responsible for what
8. Demo of prototype so far (live or recorded)

Final Prototype Expectations

See the class resources document for helpful tips, tricks, and tools. If you are using **React Native**, information on how to share your final prototype will be updated soon. If you are implementing a native **iOS app,** make sure to let Alan know.

Prototype should:

- Implement the task flows that you devised
- Properly account for the size, resolution, colors, standard widgets/controls, and other attributes of your target platform
- Apply good and consistent visual design principles
- Be ***far more functional*** than your med-fi in Assignment 6
- Simulate the real experience; however, underlying functionality does not have to be fully implemented. For example, applications requiring large databases of information, live social networks, or complex AI can instead have a sufficient amount of hard-coded data/wizard of oz behavior
- Focus on developing only what is essential to simulate a realistic user experience

README Guidelines

Brief document accompanying the final prototype. Provide helpful context for anyone (including those outside of Stanford) to understand the purpose/use cases of the prototype. The following components should be included in your README:

1. How to set up the prototype for testing
2. Context for the prototype: when is the app used? What should a user be able to accomplish? Be sure to include the **tasks** represented in your hi-fi prototype
3. Summary of limitations
4. Summary of accessibility considerations & limitations

Deliverables

Upload deliverables to a subdirectory titled “Assignment 8” in your team’s Google Drive folder. You should also add relevant links to your website.

1. **Checkpoint presentation**
   Google Slides deck presented by 1 team member during studio week 8. At least one of your tasks should be implemented by this point.

2. **Final prototype**
   Must be accessible from your website and ideally executable without installing any additional software. If this is not possible for your group, make arrangements with your CA before your last studio session.

3. **README file**
   PDF linked on website. Google Doc in your team's Google Drive folder.

Examples

***Note: this assignment spec has undergone some changes, but much of the quality of the work in these examples still stands. The demo videos attached below are the teams' finalized demo videos submitted for A10. The videos demonstrate the fidelity we are looking for.*

superbloom (au25): Checkpoint Presentation, README, Demo Video
FitCast (au23): Checkpoint Presentation, README, Demo Video
Coco (wi23): Checkpoint Presentation, README, Demo Video
Arbor (au23) : Checkpoint Presentation, README, Demo Video
Nurture (wi22): Checkpoint Presentation, README, Demo Video
Sprout (wi21): Checkpoint Presentation, README, Demo Video
Reclaim (wi21): Checkpoint Presentation, README, Demo Video

Grading Criteria

Grading will be broken into 3 components: 1) the individual grade of the presenter, 2) a group grade for the checkpoint presentation content, and 3) a group grade for the final prototype.

Individual Presenter Grade (100 pts)

____ Well-designed slides; visual aids are aesthetic and effective
____ Cover required scope (pre-demo) within 10 minutes
____ Engages with the audience and isn't reading from a script
____ Projects voice well and communicates clearly

Group Presentation Grade (100 pts)

Heuristic evaluation results (20)

____ Summarizes high-level results and key takeaways
____ Details which major violations were addressed, which were not, and why

Exceed expectations with:
____ Thoughtful reflection on distribution of violations
____ Thoughtful justification of approach to addressing the violations
____ Good visualizations

Revised UI design (30)

____ Changes are explained clearly and follow from sound reasoning and HE results
____ Changes make the design better
____ Interface has portions that are novel/different from other known products

Exceed expectations with:
____ Changes are clearly grounded in violations

____ Creative and thoughtful design choices
____ Thoughtful consideration of implications, tradeoffs, values

Prototype (50)
____ Outlines tools/framework, AI use, Wizard of Oz items, and hard-coded aspects
____ Implemented task is visually appealing and follows standards for the platform
____ Clear what has been implemented so far; sufficient plan to implement what is missing
____ On track to be done by the end of the quarter

Exceed expectations with:
____ Excellent and thorough explanations of implementation decisions
____ Impressive implementation progress
____ Exceptional quality of implementation
____ Clear and thorough plan to finish implementation

Final Prototype Grade (100 pts)
Prototype (90)
____ Implemented fixes from heuristic evaluation results outlined in A8 checkpoint
____ User can easily accomplish the tasks
____ Limitations of the med-fi are addressed; feels realistic for a usability test
____ Appropriate trade-offs made between functionality and design completeness
____ Constraints and styles from the target platform are considered
____ Prototype exhibits strong visual and interaction design

Exceed expectations with:
____ Impressive functionality
____ Additional useful features beyond tasks
____ High quality and finishing details

README (10)
____ Includes necessary details and context for prototype setup and operation
____ Outlines limitations, Wizard of Oz items to operate, and accessibility considerations

Exceed expectations with:
____ Well-organized and clear but concise
____ Strong consideration of limitations and accessibility