

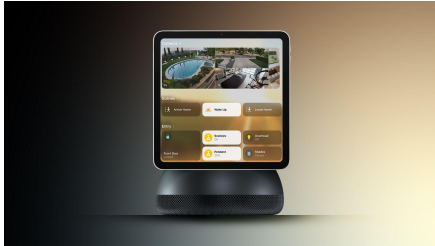
Ambient Intelligence: Prototype

DESIGN 02

The best way to predict the future is to invent it

— Alan Kay, Xerox PARC, 1971

due 25 sept 2026 @ 11:59 pm



Goal

The goal of this assignment is to introduce you to iterative design. That way, during the main course project, the steps of the design process will be more familiar. You will use the insights from your observations to inform your design. One essential part of a designer's role is to frame the problem. There are many different perspectives you might take to change an existing situation for the better with your design. You will use the observation material you produced in DESIGN 01 to inform who you will design for (the parent juggling dinner? the barista mid-rush? the office receptionist? the commuter waiting for a bus?) and how you will improve their lives as well as where the device physically lives (a home, or a public setting, on a kitchen counter, or a bedroom wall, etc.)

See DESIGN 01 assignment for project scoping and domain in detail. It's briefly captured again below to remind you of the framing for this overall two part assignment.

Brief

On the go and throughout the day, we reach for our phones for information, connection, directions, or just to relax. But a lot of the technology industry is now betting on a very different form factor for a subset of those same needs: a stationary, always-on screen that lives in a fixed place rather than in your pocket. For example, Apple is reportedly launching its own AI-powered home hub as soon as October 2026 (that's during our class!). It is envisioned to be a touchscreen for the wall or countertop, deeply tied to a more conversational AI (i.e. Siri-like) joining Amazon's Echo Show/Echo Hub and Google's newly AI-powered smart speaker line. This is not a hypothetical category anymore. It's about to be everywhere.

What's different about this device isn't just that it's stationary. Unlike your phone, it's usually shared by everyone in a household, or by anyone walking past a counter in a waiting room, a store, a lobby, or a coffee shop. It's glanceable from across a room instead of held inches from your face. And it's always facing outward, visible to whoever's nearby, which changes what's appropriate to show, and to whom. The same basic hardware such as a screen, a microphone, sometimes a camera, always-on and always-connected. However, even though this form factor may show up in a kitchen and in a retail kiosk, the design problem is not the same in both places.

Early reviews and research on these devices keep surfacing the same tension. That people want a subset of their phone's capabilities available without picking up the phone, but they're far more sensitive about privacy and appropriateness on a screen other people can see too. Designing well for a shared, glanceable, always-visible

display means rethinking the interaction, not just resizing an app you already know. That's where your role as an HCI Designer comes in.

Prototype and Feedback

Building on your ideas from DESIGN 01 you will now be selecting one idea to detail and prototype. You will also evaluate your design by obtaining feedback from potential target users. You will:

- select one idea from your original brainstorm of ideas from DESIGN 01 and justify why you chose it
- create a low-fidelity prototype of that design in Figma

Document your process and findings and upload to bCourses a single PDF along with a video of your prototype.

Details

Individually, select a single idea from your original list and provide an explanation of what motivated your choice of that idea (~50 words).

Take your selected idea and rapidly prototype it using Figma. You will use Figma to detail the basic interaction of your design showing various screens and interactions you envision with your idea.

You are welcome to start on paper as well. You can sketch it out by hand if you like. Since it's a fixed, stationary display rather than solely a screen app, you will need to detail its form and site of interaction. You are welcome to sketch this, render it with a computer, or make a cardboard prototype and photograph it in its given setting (i.e. on a kitchen counter or at a bus stop kiosk, etc). Use any props you think will effectively convey the look and feel of the experience, but keep it simple. Document your process. If you're using voice, sound, proximity sensing, or other input, think about how you can communicate what can be said or done by the user. You'll need to document this interaction carefully, since you'll receive feedback from your classmates.

You will need to think carefully about composing your video as it needs to stand alone in communicating your design within 2 minutes (max). You will need to voice over your videos. A brief script could be:

- Introduction to selected design, what motivated it, its context of use, and intended demographic (30 sec)
- A typical user's needs and how they would interact with your design to achieve success. Walk through several screens showing the envisioned interaction so we can have details to critique (1 min)
- A followup or additional user needs and interactions your design provides or affords (30 sec)

One thing unique about this assignment is that what you hand in (the PDF document with your selected idea and motivation, as well as the video) should be anonymized. As instructors we can still see you within bCourses and what you handed it so we can grade your assignment. However, what is later distributed to your classmates should not have any names or identifying details. This is because we will be distributing your design to receive peer review from a subset of your classmates. Similarly, you will also be providing feedback to others. This is part of DESIGN 03.



- Did you select one idea and give a clear, specific justification (~50 words) for why you chose it? (5 pts)
- Did you build a prototype in Figma (20 pts)
- Did you include a visual representation of your design, its proposed form, and context of use? This could be a photographed cardboard/paper prototype in its setting or a visual rendering that communicates its form and location. (10 pts)
- Did you document your process, including how any voice, sound, or proximity-based interactions would work? (5 pts)
- Does your video stand alone, stay within 2 minutes, and include narration covering your design's motivation, a walkthrough of the interaction, and any additional affordances it provides? (20 pts)
- Are your PDF and video fully anonymized (i.e. no names, faces, or identifying details) so they can be distributed for peer review in DESIGN 03? (5 pts)
- Did you accurately describe your usage of AI during this assignment? (5 pts)

Report: You will upload a single PDF report detailing your project. Your anonymized report should include:

- cs160 • fall 2026 • uc berkeley