

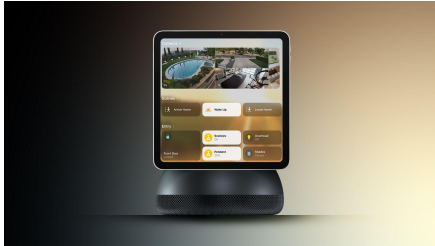
Ambient Intelligence: Ideas

DESIGN 01

due 13 sept 2026 @ 11:59 pm

*The most profound technologies are those that disappear.
They weave themselves into the fabric of everyday life until
they are indistinguishable from it*

— Mark Weiser, "The Computer for the 21st Century," 1991



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 observe and interview users and brainstorm ideas. In DESIGN 02 you will select one of your ideas, prototype it, and get feedback.

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 possibly 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. Recall our first class and our encounter with a semi-public rotary dial phone? This new envisioned technology has links to that engagement in our classroom with the dial phone. What's old is new again!

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.

In this design assignment, you will reach out to people and uncover the potential opportunities and contexts for ambient AI display applications.

Design Prompt

Your task is to learn about and document the difficulties people face when the information or action they want isn't conveniently available on a screen already in front of them. You will also uncover their experiences, if any, with shared or ambient displays.

Interviewing people helps designers learn more about users' needs, goals, desires, abilities, values, and situations.

In this assignment you must talk to at least 2 people who are ideally not college students about their experiences with shared or ambient screens in daily life. For example using a shared kitchen tablet, an Echo Show or Nest Hub, a shared family calendar screen, a smart TV left on for passive information, or a public display or kiosk they interact with regularly (at a gym, a transit stop, a waiting room, a checkout counter). Ask them to recall the last time they wanted a piece of information or wanted to do something quick and their phone wasn't in hand or didn't feel like the right tool for it. Examples could be to check the weather, follow a recipe step, see when the next bus arrives, leave a note for a housemate, check in at an office. Ask where in their life a screen like this would actually make sense (a kitchen? entryway? their workplace? dining commons? a coffee counter?) and, importantly, who else would see or use it there.

Ask them how they'd feel about a screen that other people can see too. Is there anything they'd happily check on their own phone that they'd be uncomfortable seeing appear on a shared or public screen? If they've used a smart display or a public kiosk before, ask about their typical and desired interactions with it. You may need to briefly describe such a device or show an image in case your subjects aren't familiar with these systems. However, you do not want to lead them much in terms of the limitations of such technologies. You could simply ask them to imagine a screen mounted on a wall or counter that's always on and always listening for a wake word, and ask how they'd imagine completing a task using it.

Don't just extrapolate from your own perspective or that of your friends and peers! Designers often have to design for people who are different from them. Please try not to use college students similar to yourself as your interviewees. And don't pick random people, either. First, spend some time thinking about who actually spends time near a shared screen they don't personally control and different users who are likely to have wished for ambient information or hands-free help because of their job, hobby, or daily routine. Examples could be a parent in a kitchen, a barista at a coffee counter, a receptionist, a bus rider waiting at a stop, an older relative, etc. The people you select will influence your design. Typically, an HCI designer would interview dozens if not hundreds of users. We will only get a flavor of this technique with two different people (do more if you can).

Then briefly write up what you learned and provide documentation about who you talked to by creating text artifacts for each interview. This will include describing who you talked to without mentioning names (e.g., "32-year-old barista at a café in Berkeley's Gourmet District"), and providing a summary of the lessons learned from each individual interview. If common patterns emerge across interviews, describe these as well. Such commonalities are excellent opportunities for redesign.



Grading Criteria

- ## SUBMISSION

- Your name and berkeley email address
- A title for your project
- Details of your interviews as detailed in the grading criteria
- Your synthesis of the interviews you conducted (see grading criteria)
- Your 12 ideas with short descriptions
- AI Usage Disclosure
 - In a short paragraph (~100-250 words), describe how you used AI tools while completing this assignment. **We're not asking whether you used AI. We're asking you to be a designer and computer scientist who can explain and defend every decision in your work, regardless of where the first draft of it came from.** In this paragraph you should address:
 - Which tool(s) you used (e.g., Claude, ChatGPT, GitHub Copilot, Figma AI features, Midjourney) and for what part of the work. In this case it will mostly be focused on writing code and debugging but for others it may be brainstorming ideas, or generating images, editing text, etc.
 - What you kept, changed, or threw out from what the AI gave you, and why. This is the part that shows you were directing the tool rather than the other way around.
 - One thing you did entirely without AI, and one moment (if any) where the tool got something wrong, misled you, or wasn't useful. Designers and engineers both learn a lot from a tool's failure modes so calling that out explicitly is important to bring into your overall process of working with AI.
 - If you didn't use any AI tools for this assignment, say so directly. That's also a completely acceptable answer, and it counts the same as a thoughtful disclosure.

DRAFT INTERVIEW FORMAT AND QUESTIONS

Below is a rough outline of how you may wish to approach your interviews with individuals. This is by no means an exact guide and only meant to serve to help you get started. Please customize and individualize this script. Don't read this like a survey. Ask the questions, then follow whatever's interesting as you interview. The exact wording matters less than staying curious and not leading them toward "smart displays are great" or "smart displays are creepy." Let their answer sit for a second before you jump to the next question. The best material often comes after a pause. Don't correct or defend the idea of ambient displays if the person is skeptical. That skepticism is data, not an objection to overcome. Remember to take notes and write down their actual words both during and right after the interview, while it's fresh.

1. Warm-up (1–2 min)

Thanks for taking a few minutes to chat with me. I'm a student working on a class project at UC Berkeley about how people get information or get quick things done day-to-day using various technologies. All of your answers will be anonymous and will not be publicly shared beyond myself and the course instructor. There are no right or wrong answers, I'm just interested in your actual experience. Is it OK if I take some notes?

Ask a couple of easy, real-life questions to get them talking: *Can you walk me through a typical morning or evening at [home/work]?* *What's usually going on around you?* You may also want to focus on their interactions in public like at a gym, cafe, or public transportation.

2. The critical incident (this is the core of the interview)

Think back to a recent time you wanted to know something or wanted to do something quick such as check the weather; follow a recipe, see when a bus was coming, leave a note for someone, check in somewhere and your phone wasn't in your hand, or just didn't feel like the right tool for it. Can you tell me about that experience?

If they're stuck, offer a couple of prompts, but only after they've tried to think of their own: *What about something like checking a recipe while cooking, or glancing at a calendar on your way out the door?*

Follow-ups once they describe something:

What did you end up doing instead?

Was anyone else around at the time?

How long did that whole interaction take you, roughly?

3. Shared and ambient screens in real life

Do you have anything like this in your life already. For example, maybe a shared tablet in the kitchen, an Echo Show or Nest Hub, a shared family calendar on a screen, a TV that's just left on for information, or a screen you use regularly somewhere out in public such as at a gym, a bus stop, a waiting room, a checkout counter?

If yes: *Tell me about how you actually use it. What do you like about it? What's annoying about it?*

If no: move to question 4 and describe one briefly, without much detail to help with the framing such as, "some people have a screen mounted on a wall or counter that's always on, sometimes always listening for a voice command". Then go straight to their reaction, not a feature pitch.

4. Who else sees it (privacy and visibility)

How would you feel about a screen that other people nearby could also see ... not just you?

Is there anything you'd happily check on your own phone that you'd feel weird seeing pop up on a screen other people could glance at? What would feel ok or appropriate to have shared in this way?

5. Location and Context

If a screen like this existed in your life, where would it actually make sense? If they don't have a response you can start the list with a few to get them started. What about a kitchen, entryway, your workplace, somewhere else? And who else would be around it there?

6. Imagining the interaction (only if they have no real experience with one)

Imagine a screen mounted on a wall or counter, always on, maybe always listening for a wake word. If you wanted to [use their own earlier example if they mentioned one, otherwise offer one such as check the weather, leave a note, whatever they mentioned], how would you imagine actually doing that with it?

7. Wrap-up

Is there anything about this that we haven't talked about that seems important?

Thanks again — this was really helpful. Provide them with your contact information if they would like to followup at any point.