Cookee: Low-fi Testing

Kendall T. | Taylore G. | Tiffany L. | Timi A.

Value Proposition

Making meal time easy and fun for busy people.

Mission Statement

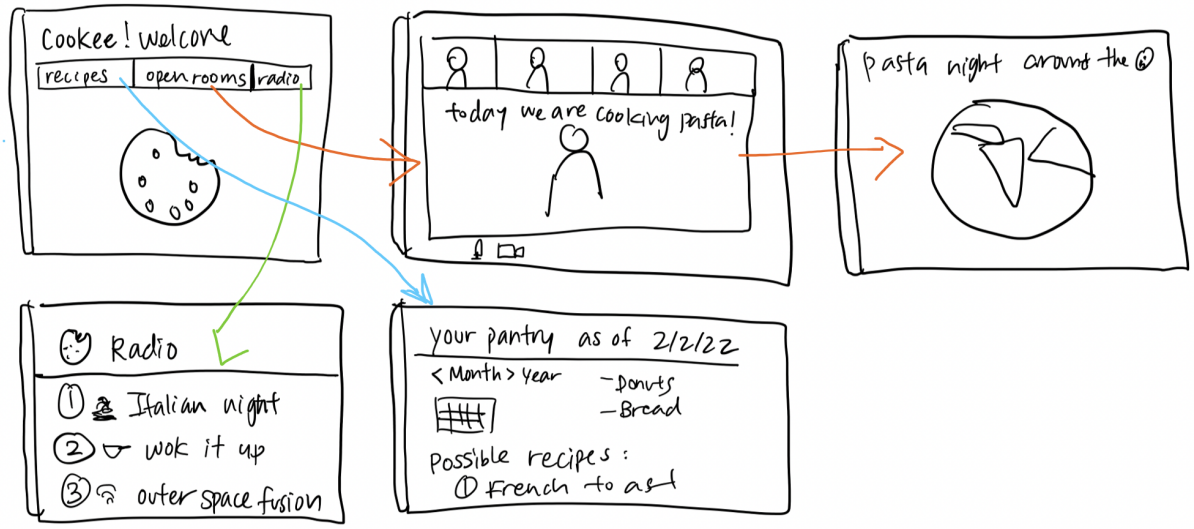
Cookee aims to help working people find more enjoyment and efficiency in their mealtime experiences. By implementing the idea of a one-stop “meal workstream” coupled with opportunities for enhanced cooking experiences, Cookee helps users build healthy & routine habits and elevate the monotonous cooking experience. Cookee believes that productivity includes efficiency and taking care of yourself.

Problem/Solution Overview

Many working individuals de-prioritize mealtimes due to their hectic work schedules. Preparing meals often becomes an afterthought or another annoying task to add to the to-do list. Cookee provides a streamlined platform meant to re-prioritize mealtime in an efficient and enjoyable manner. Users set up their Cookee app to serve them through calendar integrations, notification preferences, saved grocery lists, and even favorite takeout spots! The app also provides meal suggestions based on ingredients in the users' pantry and curated group cooking experiences for every meal. As users customize their mealtime needs with Cookee, we hope they feel like mealtimes are less of a burden.

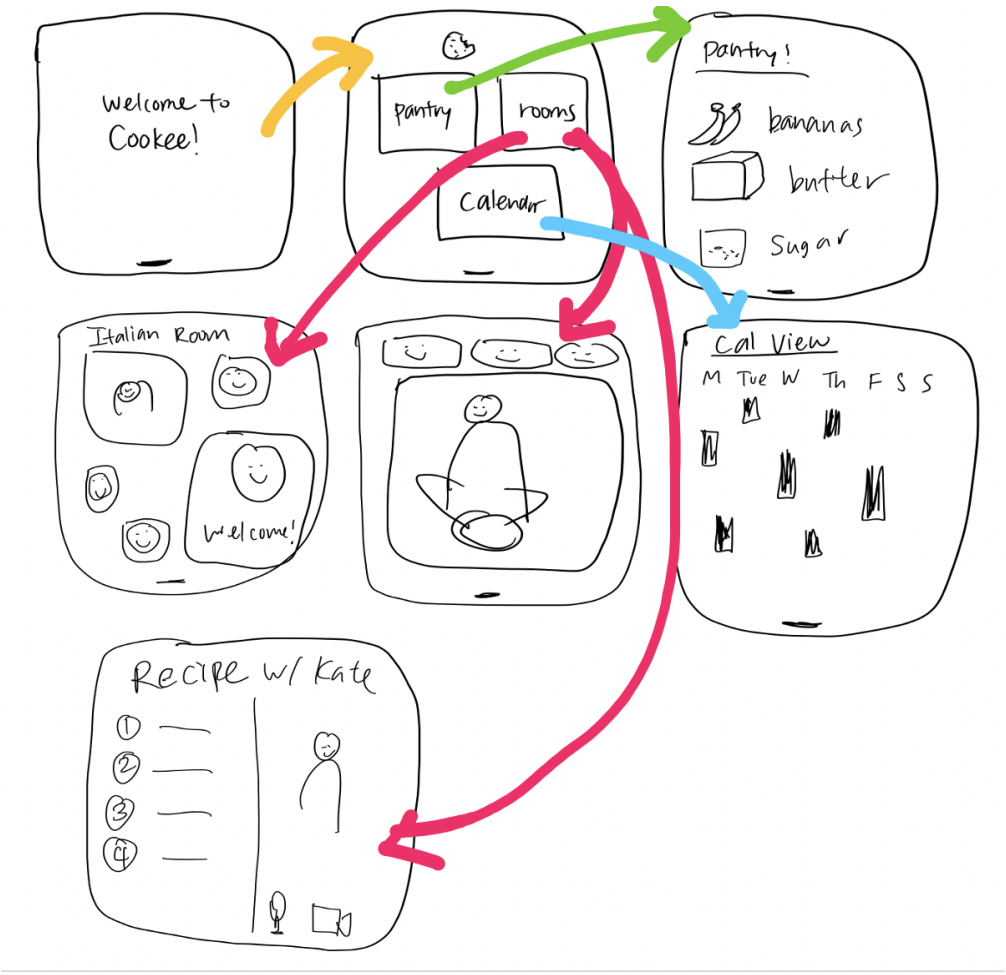
Interface Sketches

Desktop



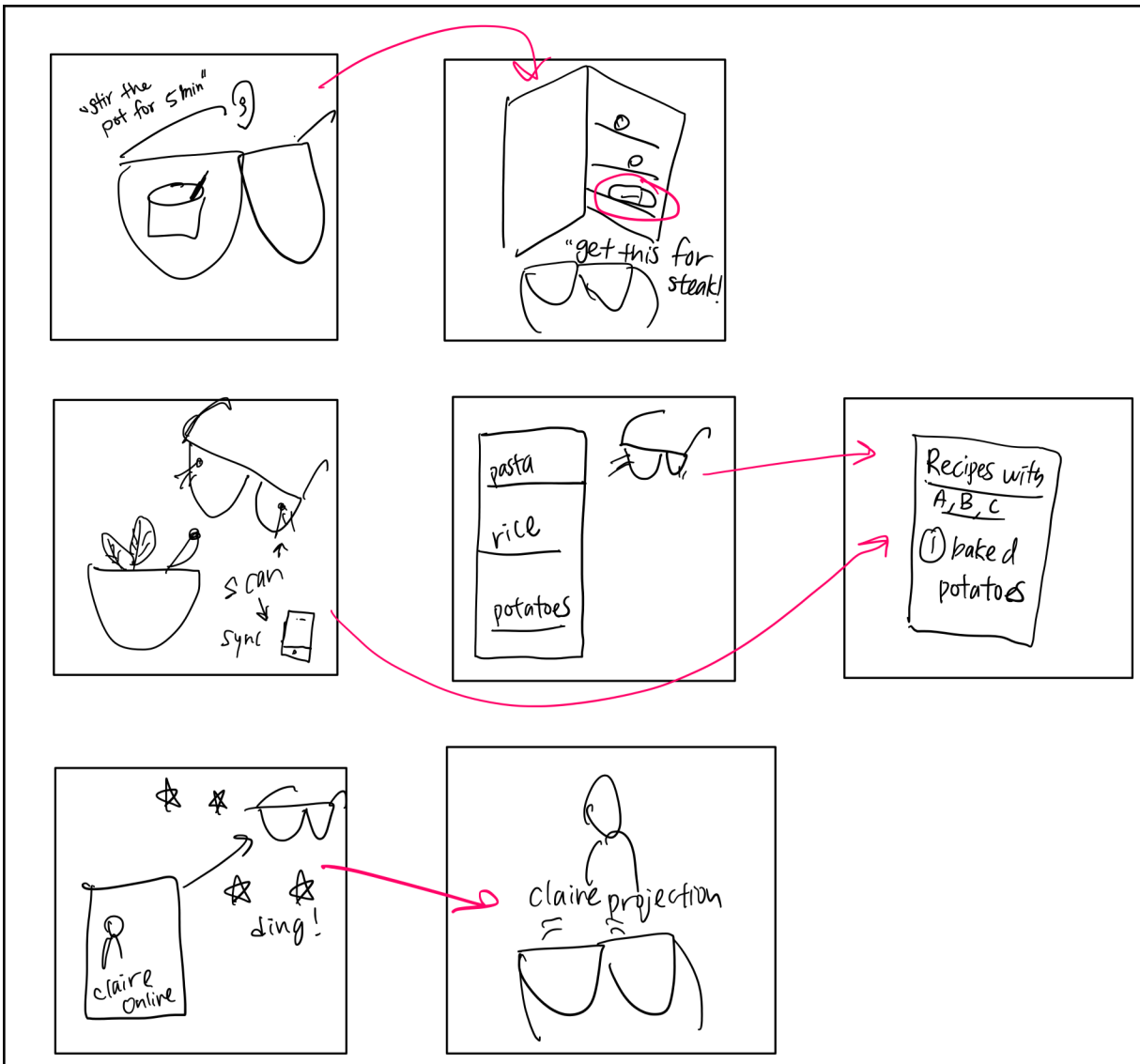
This is the desktop/computer realization with menu bar navigation and map views of all the Cookee users utilizing a cooking room. The larger screen allows for clearer video calls.

React Native Tablet



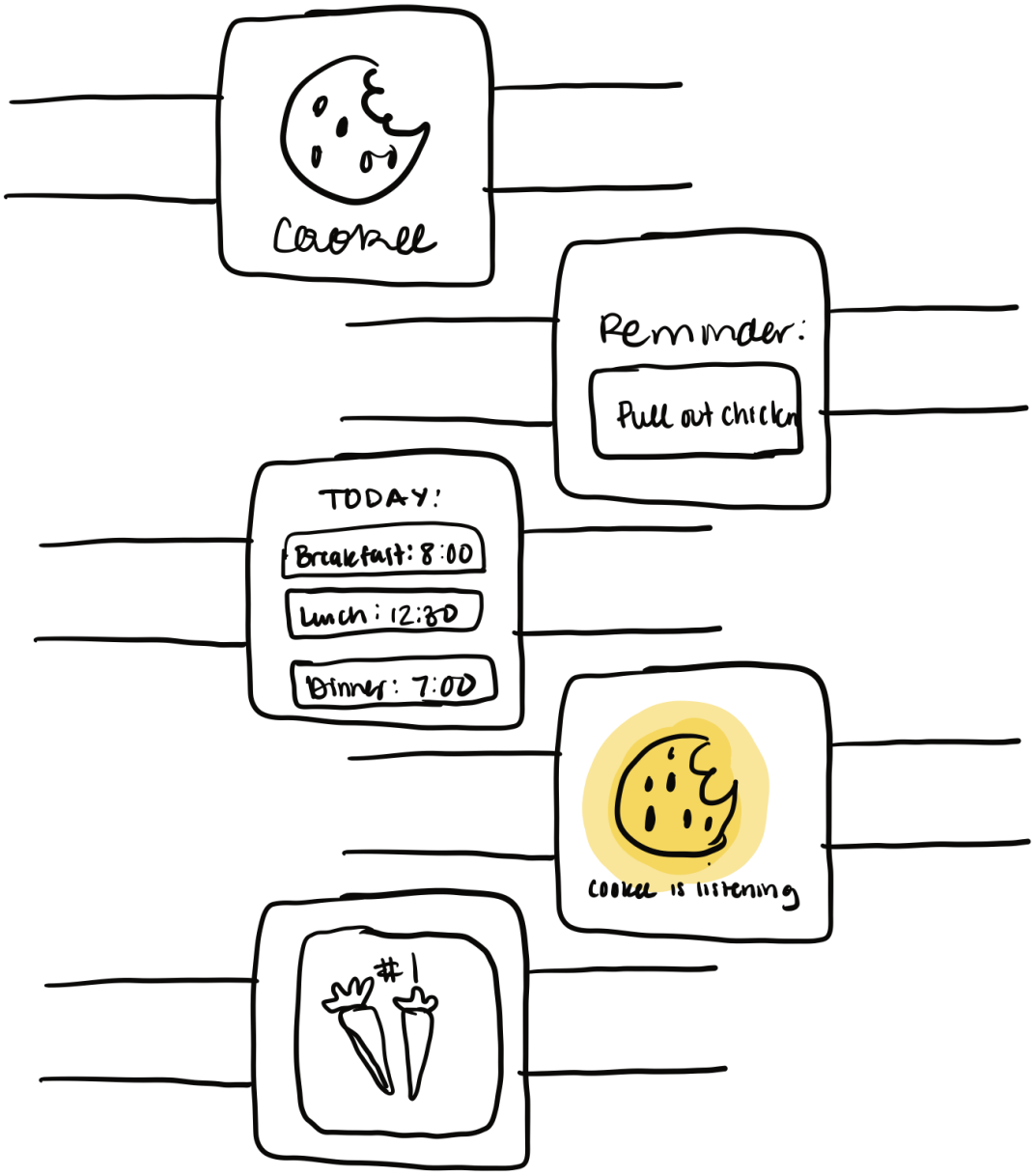
This is the native tablet app realization with a larger visual interface.

Augmented Reality Glasses



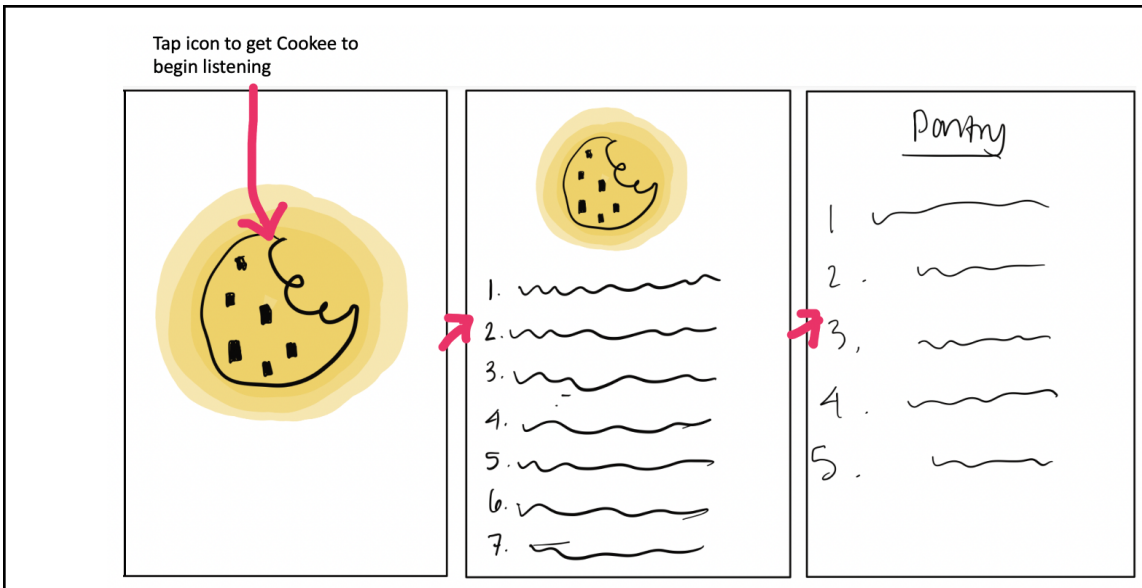
AR glasses visualization where users can visually scan ingredients and upload the scanned ingredients to Cookee. Additionally, users can read recipes and receive auditory instructions from their glasses. Finally, users are able to socialize with a projection of someone while cooking.

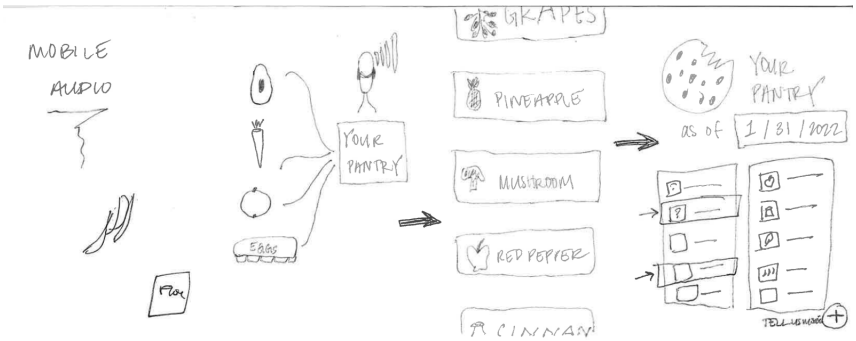
Watch

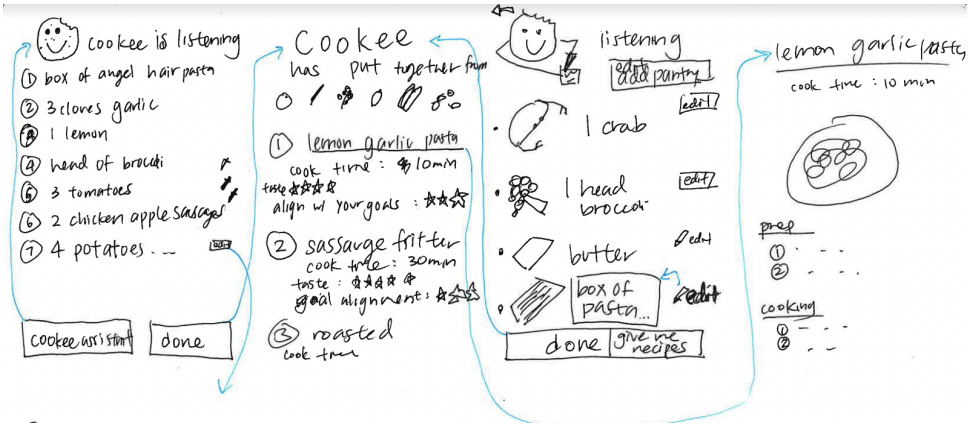


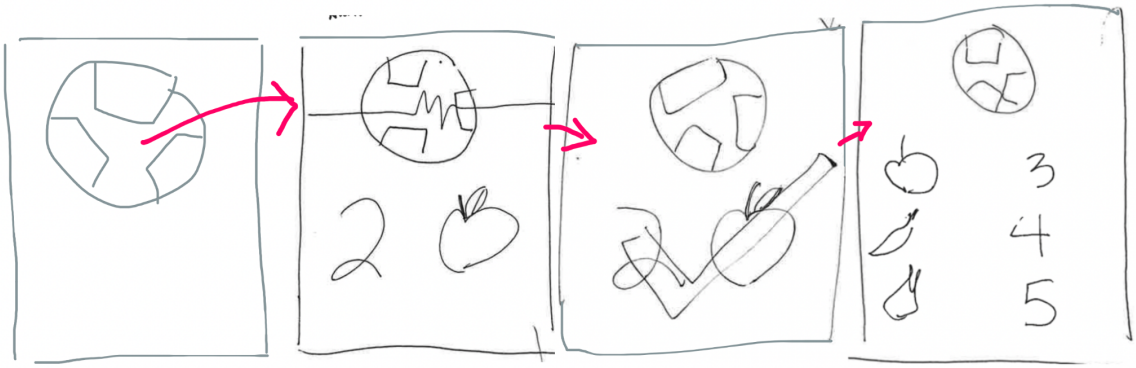
For ease of use, the user can interact with Cookee on their watch by listing ingredients with their voice to the watch, receiving reminders, and checking their mealtime schedule.

Mobile Interface Sketches


Tap icon to get Cookee to begin listening
Pantry
1.
2.
3.
4.
5.
6.
7.


MOBILE
AUDIO
YOUR PANTRY
EGGS
GRAPES
PINEAPPLE
MUSHROOM
RED PEPPER
CINNAN
YOUR PANTRY
as of 1/31/2022


cookee is listening
1 box of angel hair pasta
2 3 cloves garlic
3 1 lemon
4 head of broccoli
5 3 tomatoes
6 2 chicken apple sausages
7 4 potatoes
cookee assistant
done
Cookee has put together from
1 lemon garlic pasta
cook time: 10mm
taste
align w/ your goals
2 sausage fritter
cook time: 30mm
taste
goal alignment
3 roasted
cook time
listening
add pantry
1 crab
1 head broccoli
butter
box of pasta...
done
give me recipes
lemon garlic pasta
cook time: 10 min
prep
cooking



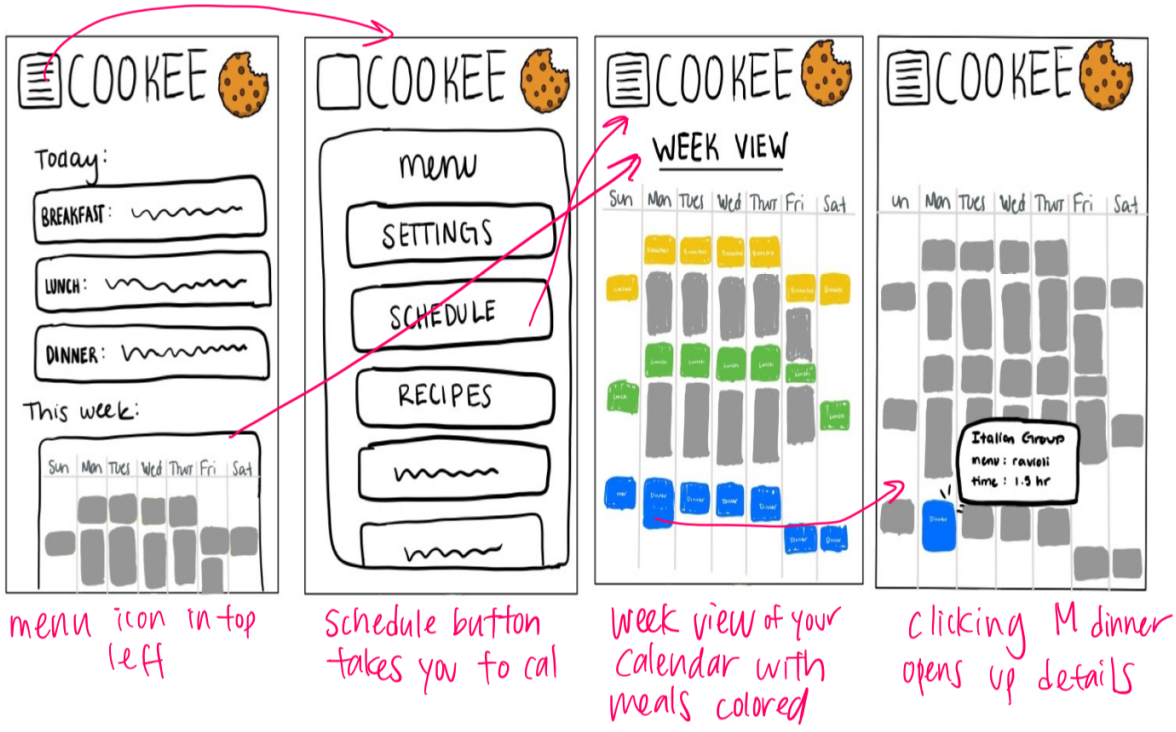
Each sketch is a different visualization of how a user could list their available ingredients to Cookee and how Cookee would then generate an ingredients list and a recipe based on the available ingredients. The top three mobile visualizations are graphic based with a significant amount of text or icons and the last visualization features minimal text.

Selected Interface Design

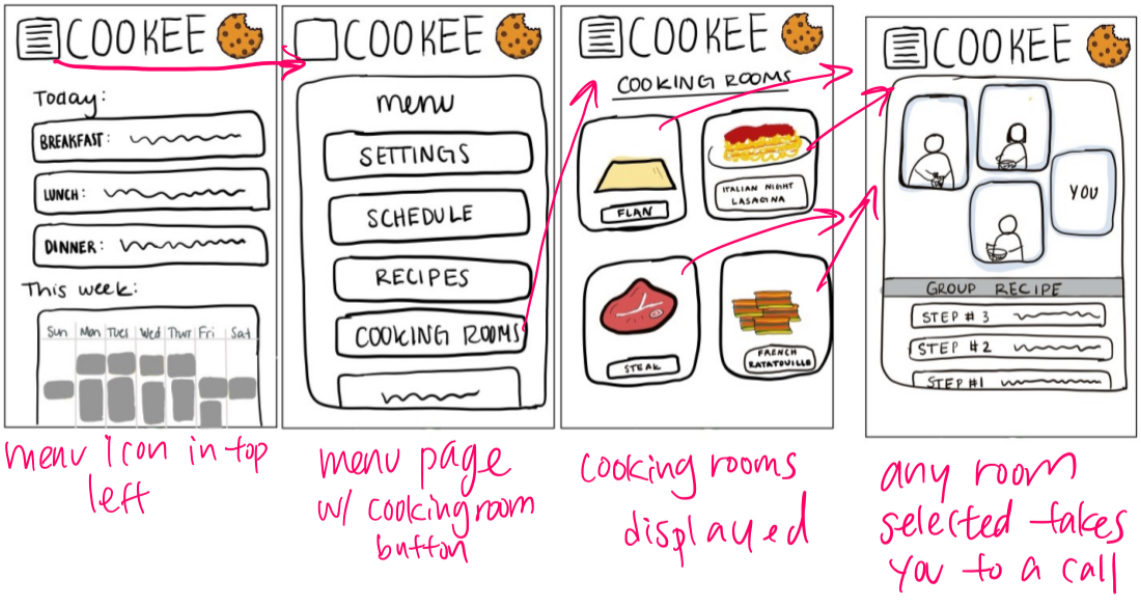
Our team selected to implement our idea through a mobile application. One of the key pillars of this idea is efficiency. From all of our needfinding conversations with mothers and working women, we learned that their phones are their most used form of technology. We want to create a product/experience that blends into the users' workstream with ease. Cookee's ability to tailor mealtime experiences for each individual/family is especially shown through customizable notifications.

We also considered an AR glasses interface but decided that starting with a mobile app is more feasible and would be more readily adopted by our users. Enabling shared cooking experiences through video calls and clearer calendar views made the mobile app implementation much more exciting. While the AR glasses would have been a great option for visually scanning ingredients at home and then uploading them to an ingredient list in the app, AR glasses aren't the best interface for doing video calls with someone else or displaying a calendar type interface which are two features we want to enable in our design.

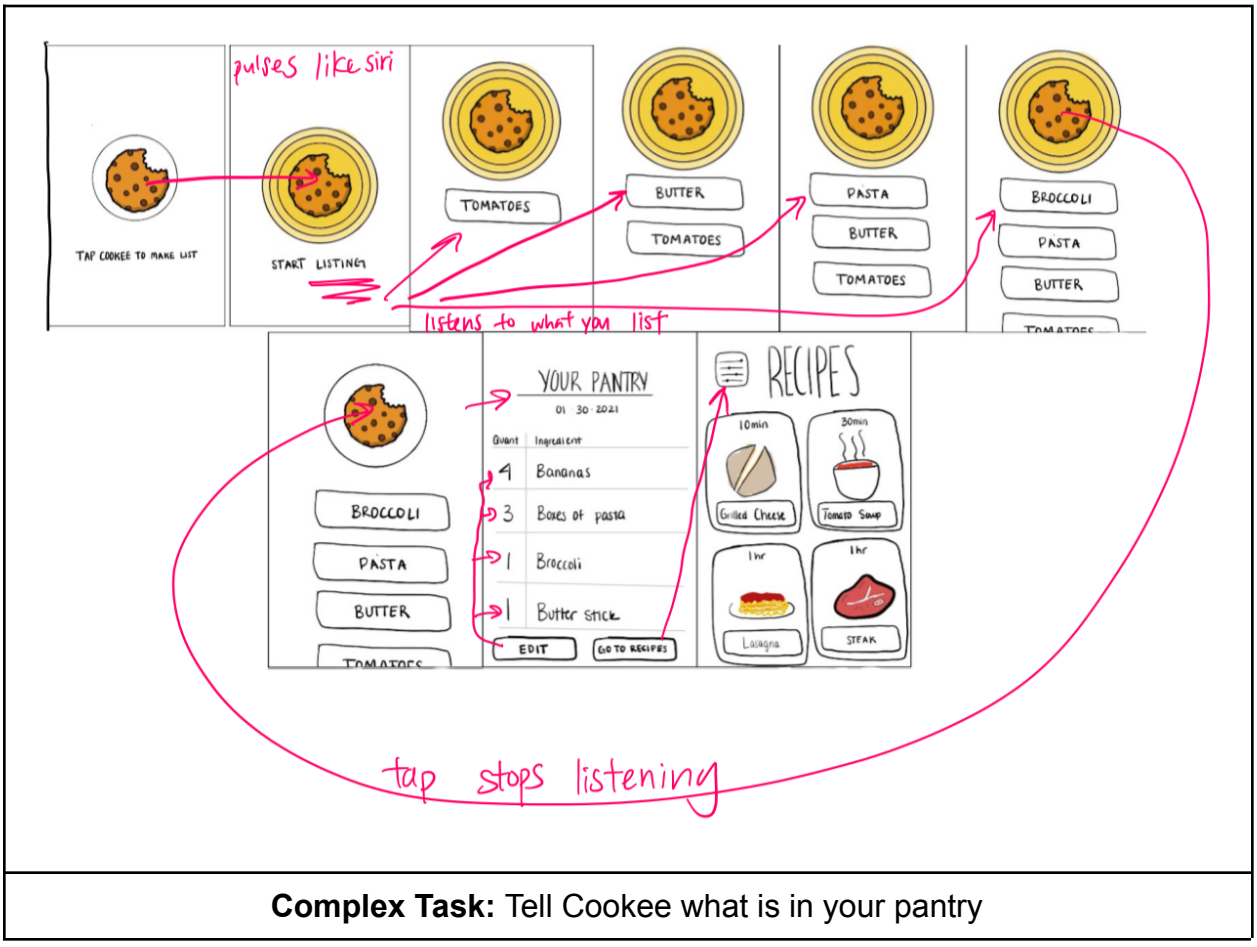
<u>UI Task Flows and Lo Fi Prototype</u>



Simple Task: Check your Monday dinner plans



Moderate Task: Join the Italian cooking room



Complex Task: Tell Cookee what is in your pantry

Prototype Description:

We created a paper prototype that our users interacted with by tapping paper buttons while our Facilitator (see next section) executed transitions between screens. One of the tasks involved the user speaking aloud as they interacted with the paper screen as well. The core pieces of functionality were the home screen featured in the simple and moderate tasks and the Cookee voice recognition screen denoted by the yellow logo in the complex task.

Testing Methodology

Participants & Environment

We recruited women of different ages as our testing participants to expand off of our needfinding interview participants. We interviewed two young professionals, one living nearby in Menlo Park and the other in Mountain View. In addition, we interviewed a Stanford administrative employee living in Palo Alto and a current coterm student living in EVGR. We conducted all of our tests in person outside of Tresidder Union and at Coho.

Tasks

Simple – “Join the Italian cooking room.”
Moderate – “Find your dinner plans for Monday night.”
Complex – “Tell the Cookee app what ingredients are in your pantry, so it can find a meal for you to make.”

Usability Goals & Measurements

Our two usability goals were whether users were able to navigate the app efficiently and whether their experience was pleasing. We were able to measure efficiency based on the ratio of correct clicks to incorrect clicks and by recording the time it took each user to complete a given task. We also recorded each participant's review of their experience with the prototype on a scale of 1-4 to measure user satisfaction.

Procedure

First, we approached the participant, introduced ourselves as students in a group project and explained that we were running tests for an app prototype. We then shared the consent form for them to read over and sign it.

After a participant agreed to partake, the facilitator would then introduce their role and the note taker & observers. The facilitator introduced each task, following our script, for the participant to execute the task and talk aloud their approach, making sure to voice their feedback or frustrations as they stepped through each step.

The recorder filmed the user's hands interacting with the prototype, and the note-taker took notes on the comments said and how the user interacted with the prototype.

After completing each task, the facilitator asked the user for feedback, more specifically what was natural, what was confusing, and what they liked and disliked about the process. After the facilitator collected all additional feedback, they asked the participant if they had any additional questions.

Team Member Roles

Facilitator: prompted the participant for each task (Timi)
Recorder: recorded/timed the participant executing each task (Tiffany)
Note-taker: took notes on each participant executing each task (Kendall)

Results

Every participant's test left us with incredibly valuable feedback about what aspects of the prototype were confusing and could be improved:

Simple Task

- Once participants navigated to the menu page it was simple to find the Italian room
- Two participants tried to access the room through their calendar page rather than the main menu page
- One participant wished there had been more information before joining the Italian cooking room

Moderate Task

- Two of our participants felt that navigating to the week view was very intuitive

- Three of our participants searched for a day view after navigating to the week view
- Participant #1 cautioned that the week view was “overwhelming”

Complex Task

- All four participants were confused that they needed to speak the ingredients aloud to the app
- All four participants incorrectly tried to use audio cues to tell Cookee to stop listening
- Once participants saw the pantry list, it was intuitive how to navigate to the recipes

Discussion

Running our tests in person with a physical prototype allowed us to glean clear insights about how users would interact with the app given no instruction. We discovered several issues with the design, particularly for our complex task, and additional areas of improvement for both the simple and moderate tasks as well.

It was immediately apparent that the audio interface for adding ingredients to your pantry list was confusing. Participants felt it was unclear what the app wanted them to do and even after they began speaking they were unsure of how to signal they were finished. Participants tried to use various audio cues such as “Stop!”, “Finished!”, and even “Terminado” before recognizing we intended for them to click to stop. We received helpful feedback that clear on screen instructions like “begin speaking” and “tap to stop” would have been helpful. That said, we did receive positive feedback that it was clear how to access recipes once users reached the pantry list page.

Our participants also encountered minor hiccups in both the simple and moderate tasks. For the simple task, most users found the process easy to navigate. However, one participant mentioned that she was “surprised to join the room immediately after clicking,” and would have liked to see more detailed information and an additional confirmation for joining. Additionally, a different user first tried to join the cooking room by navigating to her calendar rather than to the menu. This was informative because we recognized that many users would prefer to find rooms by date & time rather than by content.

Another key takeaway from the prototypes came from the moderate task. Although all participants easily navigated to the week view of their schedule, once there, instead of immediately clicking on the event, almost all of them tried to click “Mon” in order to see

a day view of the calendar. One participant even commented that “the week view is too overwhelming for me.” This was very helpful insight and we will apply the feedback by adding daily views as an option for the calendar feature.

Overall, our lofi prototype testing process yielded positive aesthetic reviews and also provided us with many ideas of how to improve our app for the next iteration.

Appendices

Critical Log Incident
Severity of incidents scale: 0 (success) - 4 (required facilitator assistance)

Participant #1

Incident	**Severity (0-4)**
“OK, I’ll go to menu”	0
Navigated to cooking room as we expected	0
“Oh wow I’m in already!” after entering cooking room	2
Clicked week view to get to monday	0
Clicked menu after getting to week view instead of the dinner event	3
Clicked “Mon” in hope of day view	3
Did not recognize needed to start speaking to app	4
Tried to say “stop” when finished	4

Participant #2

Incident	**Severity (0-4)**
Clicked on cookee but did not read “start listing”	2
Read the ingredients on the page instead of speaking random ingredients “in the pantry”	4

Clicked “Go to recipes”	0
Clicked “Week view” from the home page instead of going to the menu first	0
Clicked “Monday @ Dinner” to get their monday dinner plans	0
Wanted to scroll for italian cooking room but couldn't	3
Clicked on the calendar to try and find the italian cooking room	2

Participant #3

Incident	**Severity (0-4)**
Clicked lunch to find cooking room	3
Clicked schedule to find cooking room	3
Clicked menu to find cooking room	0
Clicked dinner to check schedule	2
Clicked Mon to find dinner	3
“Let’s see the day view”	3
Clicked dinner event on Mon from week view	0
Tried to say “stop” “donzo” “off” to have it stop listening	4
“Ooohh it wants me to tap it!”	0

Participant #4

Incident	**Severity (0-4)**
Clicked breakfast to find the cooking room	3
Clicked lunch to find the cooking room	3
“I don’t know what I’m doing”	3

Clicked menu to find the cooking room	0
Clicked Mon to find dinner plans	2
“I want to see Monday”	2
“I don’t know what to say”	4
“Tell me where the closest supermarket is”	3
“Done, stop, TERMINADO, finished!”	4

Consent Form

This student team is interviewing and observing as part of the coursework for Computer Science course CS 147 at Stanford University. Participants provide data that is used to understand the possible opportunities of the design. Data may be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers Tiffany Lee, Timi Adeniyi, Taylore GIvens, Kendall Titus or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at cs.stanford.edu

Participant anonymity will be maintained by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the research and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to Kendall, Timi, Tiffany, and Taylore's research. I also give permission for images or audio/video recordings of me being interviewed to be used in presentations or publications, as long as I am not personally identifiable in the images/video. I understand that I may withdraw my permission at any time.

Name _____

Participant Number _____

Date _____

Signature_____

Witness name _____

Witness signature_____