



# COOKEE

Cook **Efficiently** & Enjoyably

CS 147 | 2022

## Final Report

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# Introduction:

## **Value Proposition**

Making meal time enjoined 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 improving 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.

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# POVs & Experience Prototypes

## POV 1

We met Ella, a software engineer turned stay-at-home mom. We were surprised to notice that she lives a routine and monotonous life. We wonder if this means having autonomy/variability in life is at odds with being a mother. It would be game-changing to empower mothers of young kids to have ownership of their own time and interests.

*HMW* Make toddlers more independent. *HMW* automate mundane tasks for mothers. *HMW* we capitalize on simple moments to make mothers feel in control. *HMW* help increase or improve their support system.

## POV 2

We met Grace, a recent college grad now working full time as a project engineer at Stanford while living in San Francisco. We were surprised to notice that in transitioning to living in her own apartment, she spends many hours of her day cleaning and cooking, leaving only a couple of hours of free time on weeknights. We wonder if this means that the structure of a stable living environment stifles personal growth. It would be game-changing to make mealtimes and meal preparation less like a basic need and more like an opportunity for personal growth. Make mealtimes and meal preparation less like a basic need and more like an opportunity for personal enjoyment.

*HMW* make meal prep easier/faster. *HMW* ensure meal prep isn't forgotten. *HMW* we encourage healthy eating habits.

## POV 3

We met Tamara, a Sacramento salon owner, hairstylist, and single mother of three. We were surprised to notice she likes to read self-help books in her free time. We wonder if this means she likes being exposed to positive content and maintaining a positive mindset. It would be game-changing to help improve and increase her exposure to positive content.

*HMW* make positive content ubiquitous. *HMW* turn self-help books into movies. *HMW* Optimize algorithms for positive content on content apps that exist.

## Solution 1: Virtual Shared Journal

### Virtual Shared Journal

**Assumption: Virtual journaling is enjoyable, people empathize through reading others feelings**

Participants (friends) shared a virtual journal and made comments/talked about each others their entries

**Idea**– A social shared journal between friends/spouses to better connect and communicate.

**Assumption**– virtual journaling is enjoyable; people empathize through reading others' feelings.

**Experience Prototype**– Participants (friends) shared a virtual journal and made comments/talked about each other's entries.

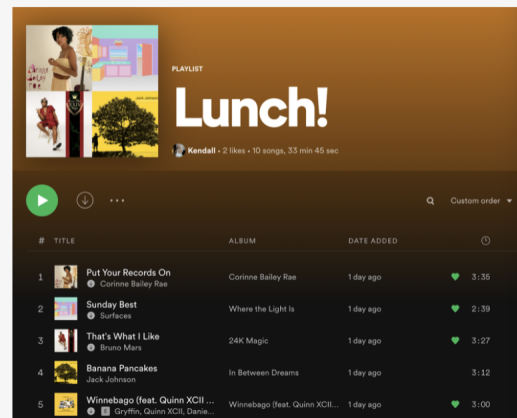
**Results**– One person liked virtual but not sharing; the other liked sharing but not virtual. Overall, Sharing journals helped them connect intimately.

## Solution 2

### Music as a Meal Mood Booster

**Assumption:** Listening to music would make meal time more enjoyable.

Participants listened to an upbeat playlist while eating and reported their mood before & after the meal



*Idea*– Create a social platform that incorporates shared listening experiences during mealtime.

*Assumption*– listening to music would make mealtime more enjoyable.

*Experience Prototype*– Participants listened to an upbeat playlist while eating and reported their mood before and after the meal.

*Results*– People had worse pre-meal mood at lunch than at breakfast; curated music could boost moods higher, people preferred music at lunch; we should have compared the same meal across all participants.

## Solution 3

### Household Task Delegation

**Assumption: parents want help with household/family tasks**

Participant (father of a toddler) filled out Google Form asking about home/family tasks and if they're willing to delegate tasks

Role in family (mother, aunt, father, etc.)?  
1 response

Father

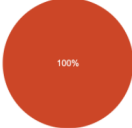
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List several daily or weekly home/family related tasks you complete often? Rank each task with importance of (1 not very important to 5 very important to get done)  
1 response

5. Bill Payment; 4. Grocery Shopping; 3. Dog Care; 2. Trash/Recycling; 1. Odd Jobs/Maintenance

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Would you want to delegate any of these tasks?  
1 response



100%

● Yes  
● No

*Idea*– Build an app to help caretakers delegate tasks and help children/dependents perform tasks.

*Assumption*– Parents want help with household/family tasks.

*Experience Prototype*– Participant filled out a Google Form asking about home/family tasks and if they're willing to delegate tasks.

*Results*– Participant had no desire to delegate; child dependents may struggle to do many tasks the participant outlined, learned about the types of family/home tasks; we should have asked participant why they would/wouldn't want to delegate tasks.

# Design Evolution

## Problem/Solution Overview

Through our interviews, we learned that 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.

From our “Music as a Meal Booster” experience prototype we learned that there are ways to enhance the mealtime experience. While we did not move forward with that specific method of enhancing mealtime enjoyment, we did continue with a solution in the cooking productivity space—Cookee.

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.

## Application Tasks

**Simple:** Establish healthy and consistent eating habits by syncing Cookee meal planning calendar with your everyday work calendar (Google, Apple, Outlook).

We chose this task because we noticed that working individuals tend to de-prioritize meal plans due to their hectic work schedules. We wanted to create a space for people to intentionally plan their meals (as a forethought); then sync that calendar with calendar platforms already in their workstream to simplify their lives.

**Moderate:** Bring community into the kitchen by creating daily interactive livestream cooking experiences with chefs.

We chose this task to help re-prioritize enjoyment in the kitchen with ease. The Cookee team carefully curates recipes to introduce people to new cuisines from home.

**Complex:** Make nutritious meals from available ingredients by creating a Cookee pantry feature that keeps track of ingredients in users' pantries and allows them to easily update their pantries with new ingredients.

We chose this task because we wanted to optimize the meal planning and cooking experience for users. This task flow allows users to keep track of what they already have, use our speech to text feature to tell Cookee the ingredients they have at home, and populate recipes based on said ingredients.

Initial Sketches

### Mobile Interface Sketches

Tap icon to get Cookee to begin listening

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.

Low-Fi

menu icon in top left

Schedule button takes you to cal

week view of your calendar with meals colored

clicking M dinner opens up details

**Simple Task: Check your Monday dinner plans**

menu icon in top left

menu page w/ cooking room button

cooking rooms displayed

any room selected takes you to a call

**Moderate Task: Join the Italian cooking room**

pulses like Siri

START LISTENING

listens to what you list

tap stops listening

**Complex Task: Tell Cookee what is in your pantry**

# Med-Fi

Cookee home page opens with Today's day view. Click on the calendar buttons to go to another day

Click on Saturday day view to see Dinner plans. or...

Click on the menu button to navigate to calendar

Calendar highlights the current date

Hover over Saturday dinner block to see pop up window

**Simple Task: Check your Monday dinner plans**

Cookee menu page to navigate to the rooms

Page for Cookee room availabilities

Cookee menu page to navigate to the rooms

Inside the video chat room

**Moderate Task: Join the Italian cooking room**

Create nutritious meals from available ingredients (voice to Recipe)

Tap the Cookee so it can start recording

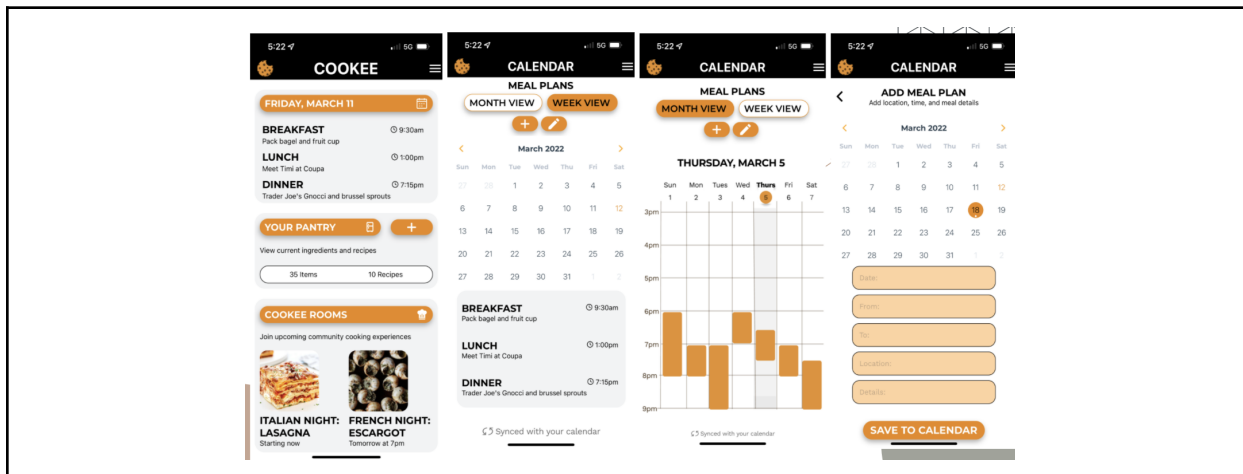
The Cookee pulses as it records the ingredients in your pantry

Tap the Cookee to stop pulsing/recording and see pantry when done

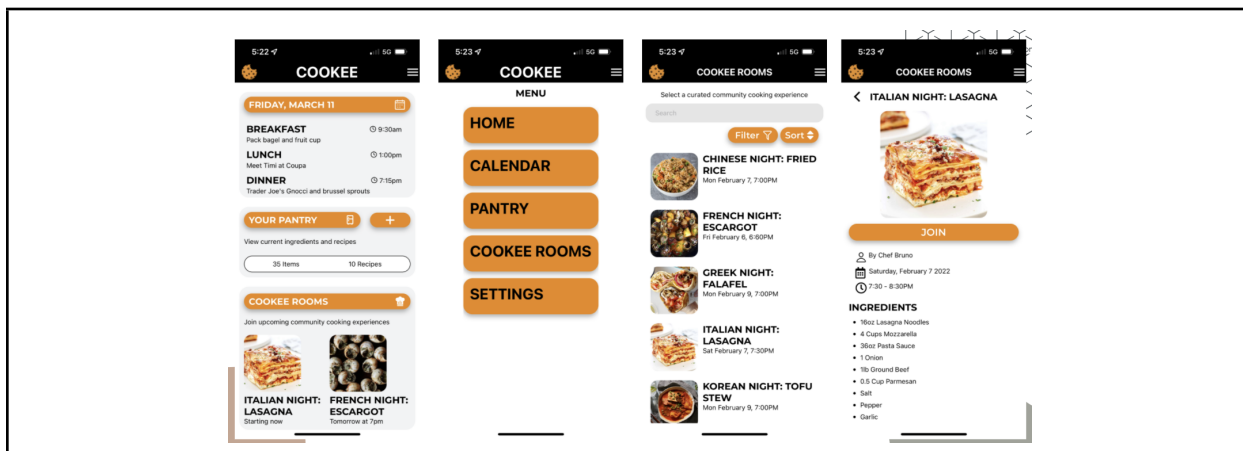
Return to the pantry home and see the new recipes

**Complex Task: Tell Cookee what is in your pantry**

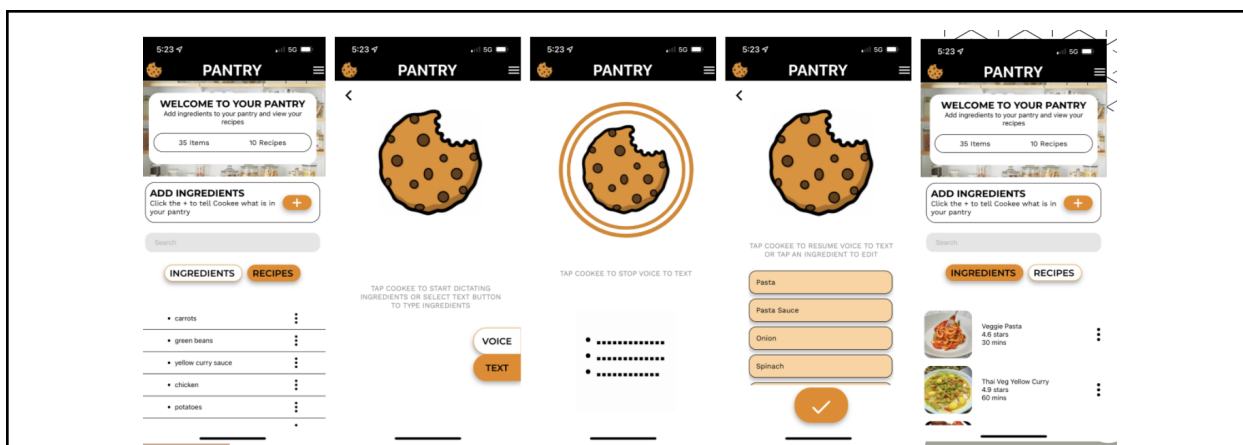
# High-Fi



**Simple Task: Check your Monday dinner plans**



**Moderate Task: Join the Italian cooking room**



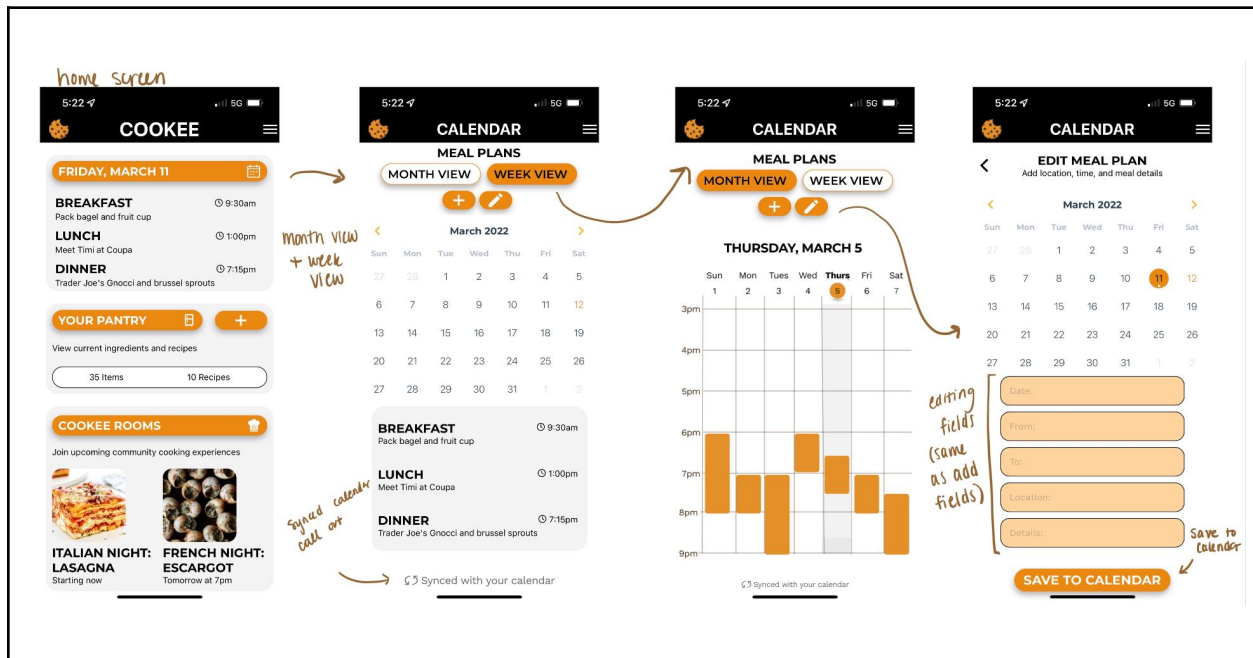
**Complex Task: Tell Cookee what is in your pantry**

# High-Fi Prototype

## High-fi Walkthrough



## Major Design Changes



### Simple Task: Check your Monday dinner plans

Low-Fi → Medium-Fi

Evaluation technique: group review and section review (basic intuition)

Primarily cosmetic changes between low-fi and medium-fi including the addition of color and reformatting of the header bar.

Medium-Fi → High-Fi

Evaluation technique: Heuristic individual and group evaluation

1. H3 Severity 4: inability to add new meal plans directly to the calendar. Fix: added the plus button on the calendar pages and the add a page that prompts users to add meal information.
2. H3 Severity 4: hover feature will not work on a mobile app the way it does on a laptop/desktop. Fix: made the hover feature into a tap pop-up.
3. H3 Severity 3: inability to edit meal plans from the calendar page. Fix: added the edit button on the calendar pages and the edit page that prompts users to edit meal information.



### Moderate Task: Join the Italian cooking room

Low-Fi → Medium-Fi

Evaluation technique: group review and section review (basic intuition)

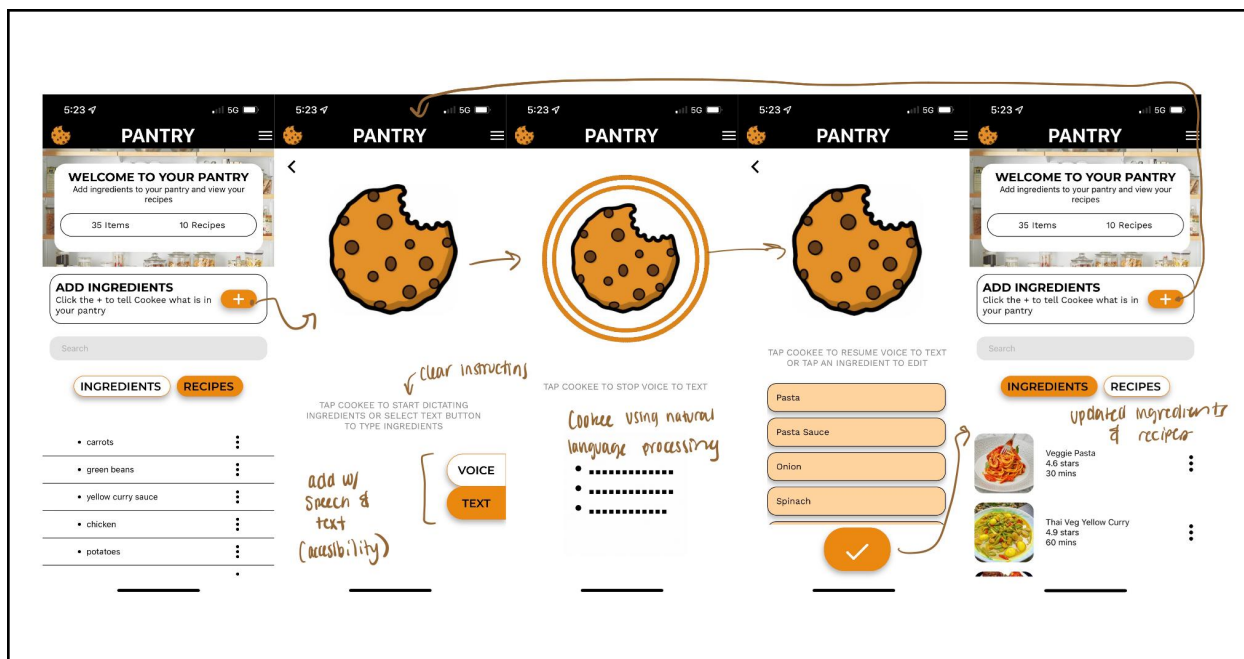
Primarily cosmetic changes between low-fi and medium-fi including the addition of color and reformatting of the header bar.

Additionally, we added a page with full Cookee Room details (dish, time, etc.) and a "join" button to avoid abruptly joining a Cookee Room.

Medium-Fi → High-Fi

Evaluation technique: Heuristic individual and group evaluation

- H7 Severity 3: Cookee Rooms are not searchable Fix: added a search bar
- H1 Severity 3: While inside the Cookee Room there is no way to indicate what step of the recipe you and your friends are on. Fix: Changed the Cookee Room experience to livestreams with professional chefs which eliminated this problem.
- H2 Severity 3: The concept of a Cookee room is not intuitive to users Fix: We added the cookee rooms to the home screen and added a clear call to action "join upcoming community cooking experience". We also added more information to the page before users join the room, like chef names and listed ingredients.



### Complex Task: Tell Cookee what is in your pantry

Low-Fi → Medium-Fi

Evaluation technique: group review and section review (basic intuition)

Primarily cosmetic changes between low-fi and medium-fi including the addition of color and reformatting of the header bar.

Medium-Fi → High-Fi

Evaluation technique: Heuristic individual and group evaluation

7. H11 Severity 4: Users that cannot speak can't add things to their pantry. Fix: Added a typing feature in addition to the speech feature.
8. H3 Severity 3: No way to edit or delete added ingredients. Fix: We added the following call to action when Cookee presents the ingredient list: "tap cookee to resume speech to text or tap an ingredient to edit".
9. H5 Severity 3: There aren't any instructions while adding pantry ingredients by a voice that make it easier for when the program is being used to parse it and split it into a list of ingredients. Fix: Implementing natural language processing and parsing was beyond the scope of this sage of our application. Our idea is to add in key food words and have the program return any words that match. We want the process of speaking to the app to be as natural as possible.

### Values in Design

Cookee has two primary values: efficiency and enjoyment. Embracing the juxtaposition of productivity and wellness eliminates the need to pick one or the other. Cookee aims to make cooking more efficient without sacrificing joy. All of our features either focus on making mealtimes more efficient, enjoyable or both.

Firstly, we wanted to bring joy and intention back to the meal planning process, so we created a calendar platform designed specifically for meal planning. However, we never want Cookee to feel like yet another app to add to one's workstream, so we added a feature to sync your Cookee calendar with other calendars (google, apple, outlook, etc.).

Secondly, we wanted to provide users with the opportunity to learn new recipes with ease, so we created livestream rooms with chefs (Cookee rooms). While we could have simply linked many youtube videos of step-by-step cooking sessions, we learned that shared listening experiences across the same meals boosted people's moods and made them feel more connected when we tested our experience prototypes. We wanted to replicate this with a live virtual cooking experience.

Finally, we wanted to make the process of finding recipes from ingredients users already have as simple as possible. Sitting down to type in all of your ingredients into a recipe generator takes time. Cookee adds a speech-to-text feature that allows users to walk around their kitchen and tell the app everything they have already. Cookee then adds these ingredients to users' pantries and updates the recipes that they can cook based on current ingredients.

At Cookee, we believe that efficiency and enjoyment are not conflicting values. Together, they challenge conventional productivity. We believe that it is productive to care for yourself, to balance work and life, and to prioritize even the most mundane tasks like cooking.

## Final Prototype Implementation

Our final prototype implementation uses a techstack of Expo, React Native, Google Firebase, Apple's XCode Simulator, to develop on VScode. For visual design we utilized the Expo Icons library, images off the web, as well as continuing to use Figma. We found that Expo was a very intuitive way to learn to develop a React Native app. Between React Native documentation, libraries, and the teaching team of CS47, there was a strong learning curve but we were able to implement a majority of functionality and design needed to allow users to perform the three tasks: dynamic rendering, accessing food images, connecting to an editable database, taking in text input, implementing a dynamic calendar, linking to websites, the ability to simulate "speech to text". React Native was helpful because of the libraries that could be easily integrated. For example, we just had to import the Calendar component to include more calendar functionality than our Med-Fi. However, we did find some limitations with developing with React Native. For example, on the page to edit or add a calendar event, a user can type in input, but the five fields (Date, From, To, Location, Details) are variables that should populate the information on 4 other screens. We found difficulty making these variables persist and be editable across multiple pages (list of details, booleans to know if a response has been completed, booleans to know if the content has changed, etc.). This was also an issue with updating the "Your Pantry" page, so a workaround was to have two datasets with hard coded input: one with the pre-input ingredients and recipes, and one with the post-input ingredients and recipes.

In terms of visual design, React Native was helpful to create consistency. We were able to create a themes file with the color, fonts, and text styles that could be used across all screens. Utilizing expo icons was also very helpful to quickly integrate basic visual icons (calendar, plus, chef's hat, filter, sort). One challenge with this was that to match the fonts we used in Figma, I had to import font packages. To consistently check the Hi-Fi with our Figma designs, the XCode simulator was helpful to make sure that users' interactions with buttons and scrolling were easy for a user to use.

### Wizard of Oz

The following components of the app have been simulated using the Wizard of Oz technique:

1. Live Cookee Rooms — We simulated a Live Lasagna Cookee Room in the High-Fi prototype with a Youtube video where the user can follow a professional chef. In the final product, the app would be able to create a masterclass/zoom like live video Cookee room for each cuisine that allows a professional chef to lead a session with a live audience that can communicate with each other.

2. Speech to recipe — In the final product, the user would be able to use speech to text to input their ingredients. The app would also have an algorithm that could take ingredients & pantry items to create recipes that fits a user's needs based on time and taste in food. We simulated this speech to text & recipe creation algorithm by visually showing the app is "listening" using a pulsing icon and loading text gif, and giving the user set ingredients (pasta, tomato sauce, onion, spinach, tomatoes). After a user uses the speech to text or enters a text input, Cookee is able to refresh the ingredient list and recipes based on hard-coded data to include the 5 ingredients and a veggie pasta recipe.

### **Hard-Coded Data**

The following components of the app have been hard-coded or omitted for demonstration purposes:

1. The list of available Cookee Rooms is stored in Firebase
2. Available Cookee rooms is limited to one. User is only being able to join the Italian Cookee Room when selecting the "join" button from a Cookee Room
3. For adding and editing meal plans off the monthly calendar view, users can input their text, but it will not populate a day's information
4. The details of each day within the Monthly Calendar View randomly pick from a list of 4 day plans
5. The Week View Calendar is hardcoded with an image designed in figma, along with the day detail
6. Ingredients and recipes on the Pantry page are a hard-coded list
7. Recipes on the pantry page are hard-coded links to external recipes
8. Pantry's current stockpile count is a hardcoded value
9. Speech-to-text is hard-coded with Gifs to simulate a speech-to-text algorithm is running

### **Limitations & Future Work**

Due to time constraints of the project, the following features are not implemented

1. Functional Filter and Sort buttons in the Cookee Rooms list
2. Ability for the user to customize their settings and profile
3. Notifications about meals
4. Ability to edit current ingredients and recipes off the Pantry page

If we had more time, we would implement:

1. A user onboarding process to learn about their meal preferences and food limitations
2. Syncing to Google Calendar API or another calendar platform

3. Ability to share your meal plans with others, especially for social events
4. For Cookee rooms, a video call feature within the app that would display the recipe & ingredients alongside the video call
5. The app should keep track of what meals and ingredients a use likes
6. A way to keep track of ingredient quantity or measurements in the pantry
7. Automatically decreasing a pantry item's volume/count whenever it is used in a meal

### **Summary & Next Steps**

We had three primary takeaways from our needfinding process: 1) Working women are expected to balance home and work life with ease. They feel a need to “do it all”. 2) The best parts of working women’s days are the small “moments of bliss”—a morning coffee, waiting for the kids during music lessons, watching TV before bed. 3) Working individuals (specifically women), tend to de-prioritize mealtimes due to their hectic work schedules.

Our team strongly believes in a different type of productivity; we believe it is productive to take care of oneself, to balance work and life, and to prioritize moments of bliss. We set out to make the cooking experience blissful for working people and came up with Cookee. Cookee is a cooking productivity app that focuses on efficiency and enjoyment.

If we had more time, we would have fleshed out the settings and notifications part of our project. We found it hard to focus on these features because this class is structured around the creation of three distinct tasks. Our idea is to add more information on users’ meal time preferences, favorite takeout spots, grocery stores, shopping habits, etc. This information will prompt notifications that can promote more healthy and consistent eating habits. For example, “We see you have scheduled a meeting over lunch, would you like to order takeout or move your lunchtime?” or “Reminder: stop by Trader Joe’s on the way home”.

That said, we learned a lot through this project and enjoyed getting practical experience with the design thinking and application development processes.