HOMEFOOD

An Authentic Cooking Experience

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DESIGN PROBLEM

The focus of our project: This project, Homefood, aims to provide and teach users authentic traditional/cultural recipes. The target user group is people who are inexperienced in cooking and who are eager to learn authentic homestyle cuisines.

Targeted problem: The design works by allowing a user to find unique traditional, cultural recipes through posts generated by other users and the community. Also, the tutorial should be professional, which leads to a successful cooking experience and increases users' cooking motivation.

DESIGN CONCEPT

Our persona enjoys home-cooked meals, and therefore we made the color scheme warm and appetizing with a home-like feel. We discovered through user interviews that the user gains gratification and motivation for cooking when the food is shared. We also discovered that the user prefers simple and authentic tutorials, hence we first replace the wordy tutorial with photos and included recipe rating/sharing options. We also wanted the app to provide an immersive cooking experience by providing personalized instruction like a family member or personal instructor might provide, which can't be achieved through YouTube or TikTok. Therefore, we added an AR assistance mode.

USER RESEARCH

Insight 1: Participants cannot easily access grocery stores.

Insight 2: Participants value efficiency more than the taste of food.

Insight 3: Participants already use online resources for recipes they want to cook, but they also learn from family and friends.

Insight 4: Cooking is more enjoyable when participants have all of the ingredients they need for a recipe.

PROTOTYPE

example screens (not holistic)

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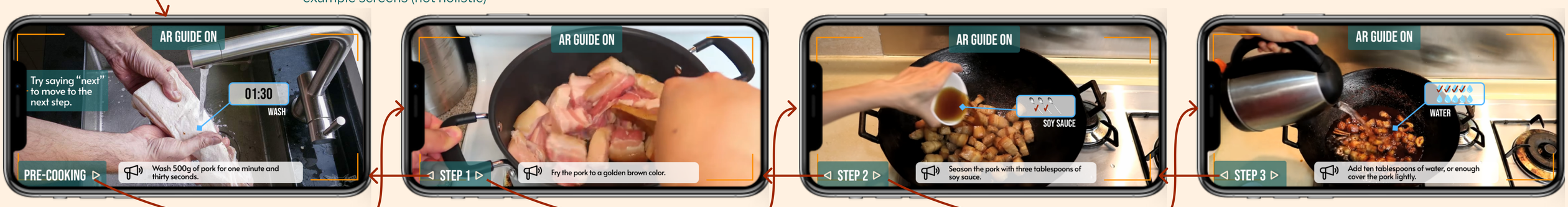


INVESTIGATING THE SOLUTION SPACE

Our project idea: Our project is aimed at students who are new to living without food support from campus facilities or parents. Originally, we hoped to help students who are inexperienced in cooking learn basic cooking skills quickly through lessons, tips, or recipes. However, through our user research insights, we found that one of the biggest challenges is not actually with the cooking itself, but the struggle in figuring out what to cook based on limited ingredients.

5 existing products that provide solutions to the same (or similar) design problem:

1. **NYT Cooking** - NYT Cooking is a subscription-based offering from The New York Times. It is a digital, multi-platform service that helps users discover recipes from around the world, save and organize their cooking experiences, and provides an easy and approachable guide to the kitchen. Unlike The Times Food, which is another food service of the New York Times, NYT Cooking seeks to help users with their kitchen and cooking needs, providing them with seasonally relevant, editor-curated recipes and cooking technique guides on a regular basis. There are a couple of limitations of this solution. The first is that there is a subscription fee, which costs money and therefore may not be an attractive solution for college students looking to cook for the first time. Additionally, one insight we found from our user research was that users will not use traditional recipe sources because the foods that they crave are not available, such as cultural or traditional dishes. NYT Cooking may not appeal to these users tastes or help solve their cooking needs.
2. **Gordon Ramsay's Master Class** - Gordon Ramsey has an online MasterClass for cooking to teach how to prep, plate, and pair recipes "that wow guests." It includes 13, follow-along video recipes designed for home cooking and using everyday ingredients. Like NYT Cooking, it is an online subscription. It aims to give users a class experience from masters in the field, with hundreds of video lessons taught by "the world's best." According to the MasterClass website, "every class has been designed to be accessible for people with little to no experience and advanced students alike. With new classes launching regularly, you can learn practical skills, ignite new passions, and get everyday wisdom." There are a couple of unique affordances of this application: It has credibility through experienced teaching professionals and an easy, follow-along video format. The downfall of this solution is that users may be intimidated by the ambiguous student levels these courses are aimed for. Additionally, it may not be helpful for college students looking for something that will help them efficiently and on an everyday basis.
3. **Tasty -** Tasty is one of the world's largest food networks, with recipes, cooking hacks, and easy tutorials galore. It primarily features easy, simple, and minimal ingredient cooking for users looking for easy-to-follow and convenient, yet tasty meals. Unlike the previous two solutions, Tasty provides something more convenient for college students, with minimal ingredients and both written and video tutorials. It also features some cultural dishes, however, the authenticity or specificity of these dishes is questionable: For example, I looked up a couple of traditional Chinese dishes, and mostly fried rice, orange chicken, and garlic noodle recipes showed up. These are not *traditional* Chinese dishes, even though they are *technically* considered Chinese dishes.

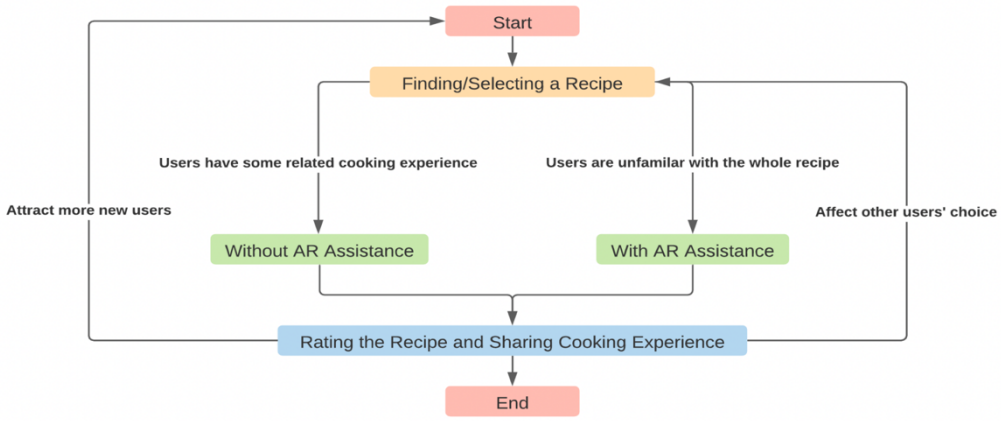
4. **MyFridgeFood** - MyFridgeFood is, in my opinion, a pretty rough website: It is filled with flashy advertisements and outdated design features. However, it was the first site that appeared for me when I searched for “search by ingredients.” The website allows users to check off ingredients that they have from a list, and it provides recipes that they can make from these ingredients, including category, cook time, calories, fat, carbs, and proteins. It also provides a list of missing ingredients. While the idea could be really great, I believe the execution of the website is so poor that it does not actually help solve the problem of helping figure out what to make.
5. **Foodcombo** - Foodcombo is very similar to MyFridgeFood, only with significantly improved layout, design, and usability. Users are able to save ingredients to their “pantry,” a nice design metaphor parallel to the user's actual pantry. From there, the application will generate recipes catered to the user. This website was quite impressive, featuring many different recipes and allowing users to also input allergies, number of ingredient items, and dietary/religious restrictions. It also allows the user to sort recipes by nutritional value: calories, sodium, carbs, sugars. Some limitations include mapping that is sometimes confusing or counterintuitive, poor image resolution and does not include cultural recipes.

PAPER PROTOTYPING AND USER FEEDBACK

Project Topic: Our users are students who are new to living without food support from campus facilities or parents. Our project is aimed at helping these students find ways to make cultural foods that may not be available to them in restaurants. Students living from home often feel homesick and miss the traditional foods from home, especially the foods their parents used to make for them. Living on their own for the first time, these students are generally inexperienced in cooking yet miss the food from home. These traditional cultural foods may not be available at restaurants, and it is difficult to find authentic, credible recipes online. Therefore, our project seeks to help users find traditional recipes and gain cooking experience by following the recipes available through our application hub. Additionally, there is an AR assistance component that walks the user through certain recipes.

Design Description and Rationale:

Tasks and relationships map from our A3 assignment:



Task 1: Finding/selecting a recipe

- Goal: The goal is to help the user find a recipe to learn. The user is hungry and missing food from home. They are not able to find a restaurant that provides the type of cuisine they are looking for and they do not want to bother their parents by asking them to walk through the recipe instructions. Instead, our user wants to quickly find a dish and get to cooking.
- Design decisions:
    - The first interface is a loading screen. This allows the application to load all of the appropriate interfaces while giving the user an engaging visual/graphic to view and *visibility of the system status* by letting them know it is loading. It also allows displays the app name so that the user can become familiar with it and remember it.
    - The first screen that displays is the “cuisine” interface. At the top of the screen, there is a search bar that allows the user to easily search the type of food they are looking for. Additionally, there is a “sort” button that is commonly used in applications and that the user will be familiar with. Upon clicking on this button, a drop-down menu appears with various metrics the user can pick to sort cuisines. The cuisine widgets themselves take up most of the space on the screen. To avoid clutter and create a minimalistic/simplistic design experience, the cuisine widgets only display the cuisine name and the number of recipes under this cuisine type. This is to create an easy decision and efficient viewing process for the user. Throughout the app, there is a navigation bar at the bottom to allow the user to jump to different screens.
    - After clicking on a cuisine type, the user is led to the “recipes” interface, which follows a very similar format to the “cuisines” interface for design flow and *consistency*. Similar to the previous interface, the user can search for a dish at the search bar at the top, or they can use the “sort” button once again to view the dishes displayed in a different order. Unlike the “cuisines” interface, there is a back arrow at the upper left of the screen, which allows the user to return to the previous screen. This allows for *user control and freedom* by allowing the user to “back out” of the action. Within the recipe widgets, there is a summary of the vital information related to the dish that the user may want to know, including an

image of the dish, the dish name, rating, preparation time, and calories. This is to help the user efficiently choose a recipe by summarizing key details without having to click through each one. It also *minimizes the memory load* for the user by making options more available for them to choose from. There is also a heart button at the top left of the widget. When users click on the heart, it saves recipes to their "Favorites" list.

Task 2: Using the app (without AR assistance) to follow a recipe

- Goal: Our user has chosen a recipe, and they feel generally confident in making the dish. The user may prefer reading instructions in a traditional form or wants to take their own spin on the recipe. Therefore, they choose to follow the recipe without the use of AR assistance. The user's goal is to learn a new recipe by following instructions provided by the app.
- Design decisions:
    - When the user first clicks on a recipe, a pop-up is displayed which asks the user if they would like to use the recipe "WITH AR assistance" or "WITHOUT AR assistance." Allowing the user only two, mutually exclusive options allows the user to make the decision-making process easier for the user.
    - Upon clicking on the "WITHOUT" button, the user is able to view the recipe. Items in the recipe are viewable by importance using Gestalt principles. The most important detail, the name of the dish, is at the top and largest. A summary of important information, like on the widget, is provided at the top, including prep time, calories, cuisine type (ie. Korean), rating, and the heart button to add to favorites. Below this information, there is information about the dish under "About". I included this because the app deals with traditional/cultural recipes. In order to avoid appropriation of certain cultures, a historical or cultural significance to each dish is provided at the top. If the user is unfamiliar with the dish, it allows them to learn more about how the dish originated and its cultural significance. Because this section could be quite long, only the first couple lines of text appear followed by a "see more" button. The user can view the full description by clicking on "see more." Under the "about" section, there is the "ingredients" section, which lists ingredients, and the "instructions" section, which contains the steps for preparing the dish.

Task 3: Using the app (with AR assistance) to follow a recipe

- Goal: Our user has now chosen a recipe, but they do not feel super confident about making the dish. Therefore, he uses the AR assistance feature within the app to get real-time guidance throughout the process. The user's goal is to learn a new recipe with the help of AR assistance.
- Design decisions:
    - Upon clicking the "WITH AR assistance" button, the user is directed to the AR assistance interface. The app opens the user's camera, and the user is able to point their camera at their cooking in order to get real-time feedback. In order to avoid clutter or distractions on the screen, the interface itself is highly *minimalistic*. The

bottom of the screen displays the step the user is on so that the AR can know what to reference when providing suggestions. There is also a menu icon at the upper right which allows users to view the ingredients list, view instructions, access tips/tricks, or exit the AR experience.
    - Upon clicking on various menu items, pop-ups will appear displaying the relevant information and thereby providing *help and documentation*. All of these pop-up items include a "close" button at the very top right, a familiar affordance for the common user. This is to always ensure an exit option for the user.

Task 4: Rate the recipe/Share the cooking experience

- Goal: After the user finishes making the dish, they want to provide feedback on the recipe they used so that other users can gain insight into the experience. If the user enjoyed the experience, they can recommend the recipe to others and share it with friends. They can also upload a picture of their dish to social media outlets, allowing the user's friends to give praise and also promoting our app.
- Design decisions:
    - After completing the recipe, whether with or without AR assistance, the user is brought to the recipe "review" screen. This allows users to upload a review of the recipe experience so that other users can receive insights. The user can upload a photo, provide a rating out of 5 stars, and write a comment. If the user decides they do not want to provide feedback, and simply want to return to the recipe screen, they can click on the upper left arrow to return to the recipe screen. If they choose to provide a review, they can tap the "finish" button to submit.
    - Once the user has submitted their review, they can also share their experience on social media. A pop-up is displayed that redirects the user to various social media sites to share the experience (and promote the app in the process). If they do not want to, there is always an exit option! The user can simply click the upper right "close" button. This sharing feature was based on our user interviews, from where we discovered that users gain satisfaction and motivation to cook when their friends or family members can enjoy their cooking or they receive recognition for their cooking. The share feature allows user to share their dishes, even beyond the people they may be cooking for.

Task 5: Favoriting recipes

- Goal: After the user has made and enjoyed a dish, or while the user is scrolling through dishes to make, the user can add the recipe to their "Favorites" list.
- Design decisions:
    - This feature was added after our group A3 assignment (which is why it is not featured in the task relationships map above). This feature saves the recipe so that the user can easily return to it or reference it at a later time. It provides the user with *flexibility through shortcuts* and *control*. The favorites list can be accessed through the navigation menu at the bottom of the screen. For consistency, it is formatted in the same way as the "Recipes" interface.

Paper Prototype Video:

https://drive.google.com/file/d/1-HYaqOT_XU9Vy-Ft-q3-3GUr-RxhX2zT/view?usp=sharing

User feedback

The user, Jane, is an undergraduate student living off-campus this semester. She is in the College of Engineering and is originally from New York City. She is a first-generation Chinese-American and eats primarily home-cooked Chinese food when she is home in New York City. She gets most of her recipes from calling family members or friends who know how to cook specific cultural dishes that she craves at the time.

During the session, I met her at her apartment and explained to her my project, goals, and the objective of the feedback session: to gain insights and feedback on the solution prototype. I asked for consent in continuing with the feedback session and asked if she had any questions for me. She had no concerns. I started with walking her through the paper prototype and how the application works. For the most part, she nodded along while lifting certain features up to inspect them. Once in a while, she would ask a clarifying question, such as "Just to make sure, this feature navigates to this interface, correct?" and I would answer her.

The questions themselves brought a lot of insights. For one, Jane asked me what "AR" meant when we arrived at the pop-up which prompts the user to choose how to interact with the recipe: with or without AR assistance. I had to explain what AR is, and how it is different from VR. This was a valuable insight because I had assumed that the user would know what "AR" is, and therefore did not provide an explanation within the app. Upon clicking on the AR feature, the user may be highly confused if they do not understand the concept of AR or how it works within the app. Some potential solutions could be to provide a tutorial or AR information before the user is brought to this pop-up. Once Jane understood what the AR entailed, she said she liked that there were two distinct options for the user to choose from. She also enjoyed the AR feature, saying that it would tailor to more users, such as those who may not be keen to follow written instructions.

Jane also appreciated the navigation bar and commented that it covered all of the grounds that the user may need. She also enjoyed the "hearting" and rating feature, because she said she enjoys providing ratings on experience (such as on Yelp) and that she enjoys reading other user reviews. Going off of this comment, Jane asked how the user may view people's ratings/reviews/comments. This was a feature that I had not thought much about and wondered how/where it could be implemented within the current system: maybe as an alternative pop-up window or widget.

Link to Figma prototype:

https://www.figma.com/file/s8yHlyAA0cESaM7y1yazl7/COMM-3450-A4---prototype?node-id= 0%3A1