Spice

Low-fi Prototyping & Pilot Usability Testing

CS 147 Winter 2021

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Introduction

Value Proposition:
Spark creativity in the kitchen

Mission statement:
With Spice, our vision is to make cooking fun, social, and accessible for busy college students. Spice will assist you throughout your entire cooking journey by providing simple tips, tasks, and community interactions tuned to your skill level and time constraints. We'll elevate both your experience and meal– so let's get creative in the kitchen!

Problem/solution overview:
Cooking is essential. But for busy college students, meal prep is an obligation pulling them away from classwork, homework, or leisure time. Spice aims to amplify the cooking experience by providing easy ways to elevate meals while cultivating a social experience with friends from around the world offering features to share pictures, chat, and cook with others.

Concept Sketches

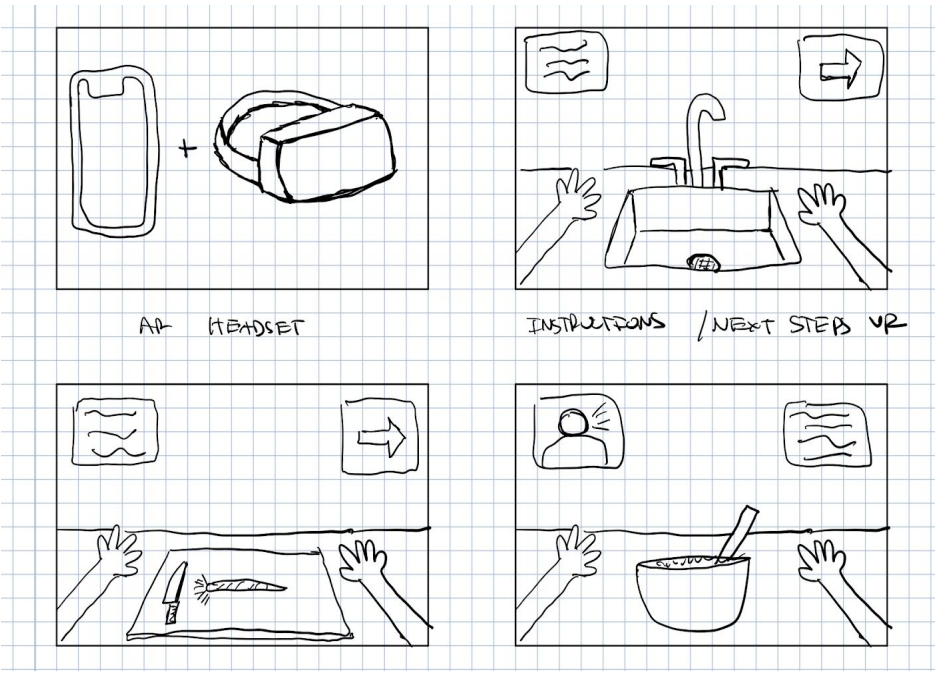

Figure 1: Augmented Reality Interface

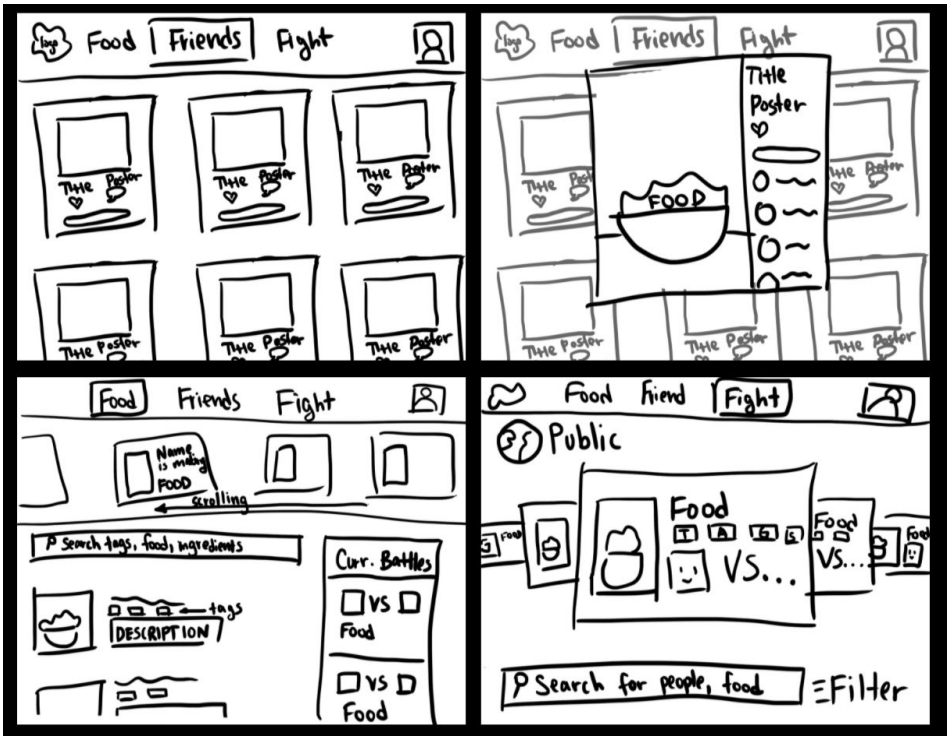

Figure 2: Web Interface

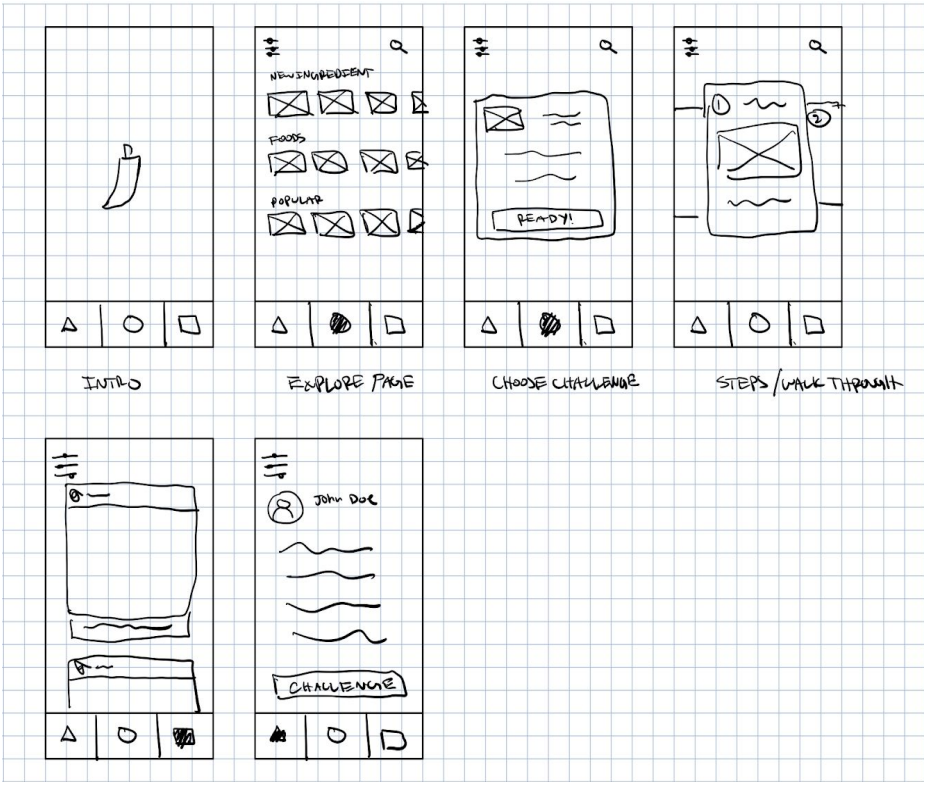

Figure 3: Mobile Interface 1

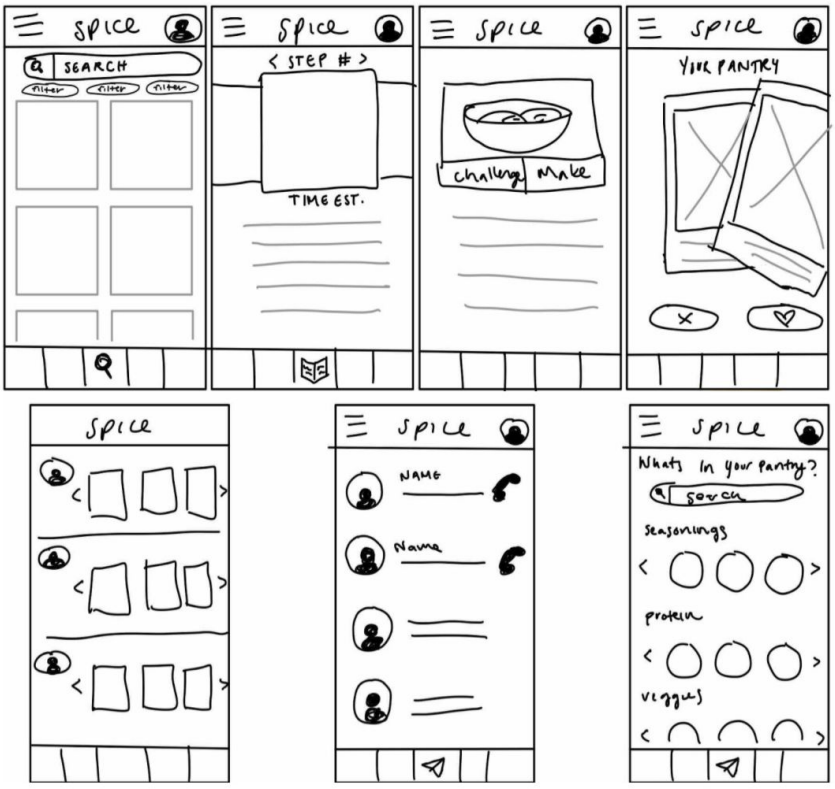

Figure 4: Mobile Interface 2

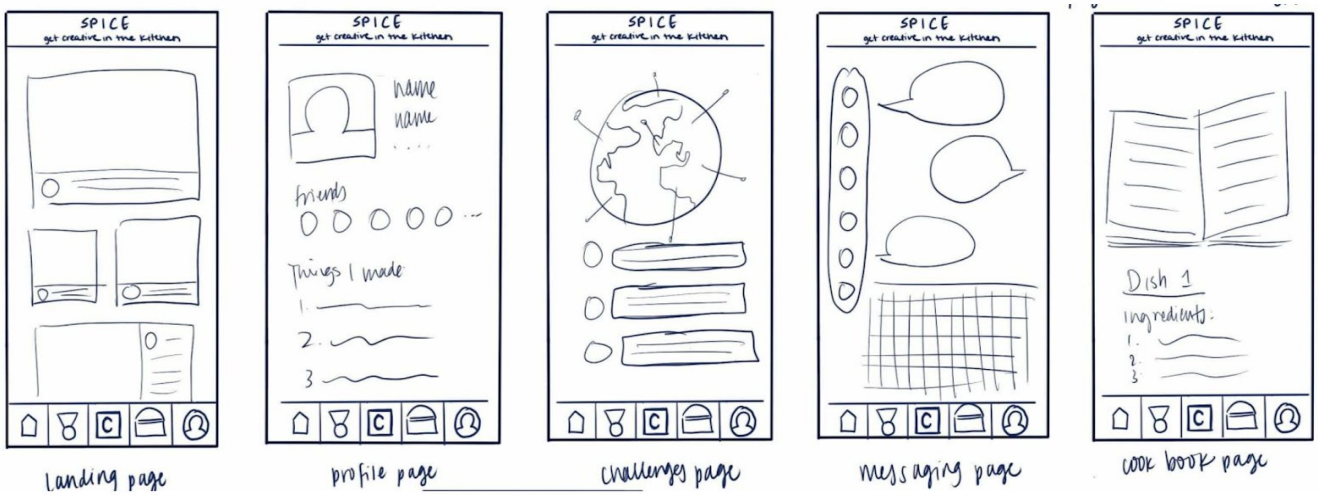

Figure 5: Mobile Interface 3

Top Design Storyboards

We chose to proceed with two mobile interfaces, Mobile Interface 2 and Mobile Interface 3, for the following reasons:

- Phones are widely used amongst our target audience compared to VR technology
- Phones are convenient in the kitchen due to portability and water resistance
- Research revealed that people already search for recipes on mobile devices

Design One:

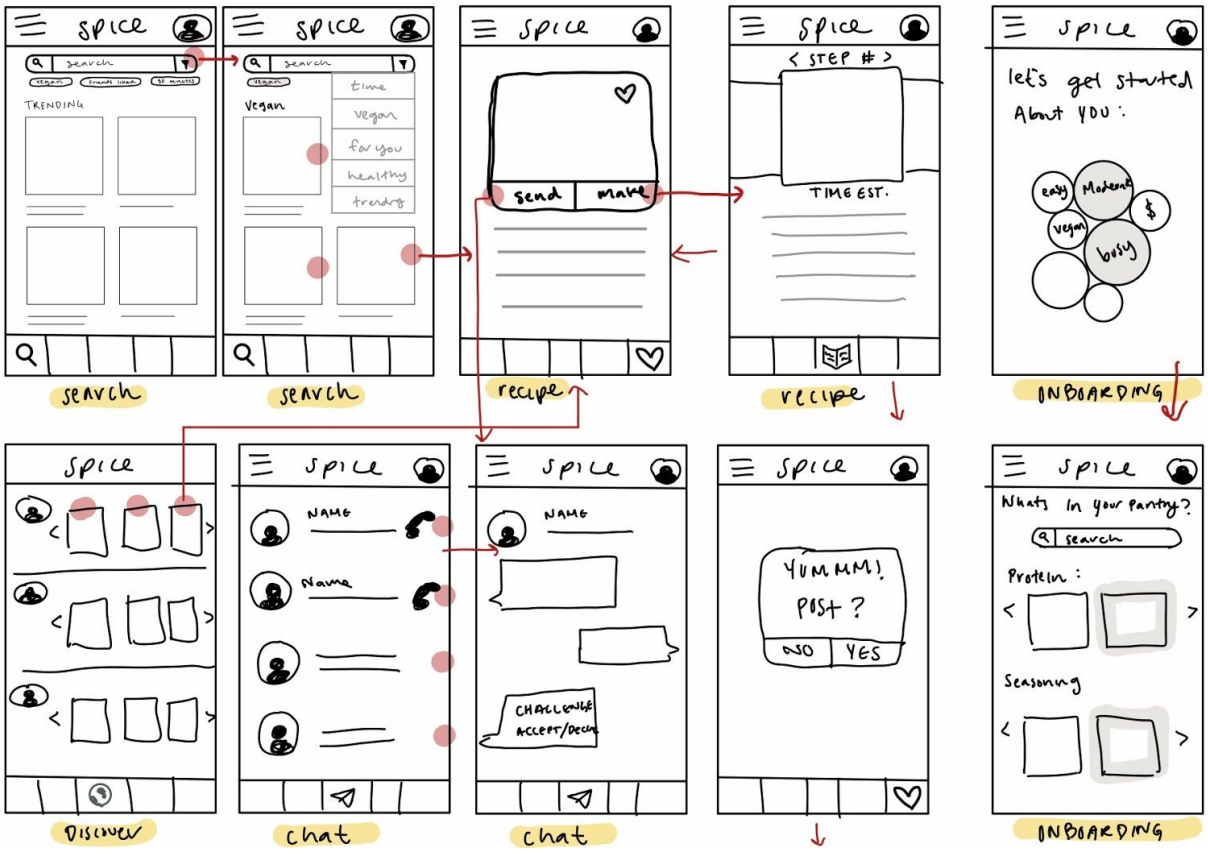

Figure 6: D Mobile Interface 2 storyboard

Pros:	Cons:
• Concise search steps, one of our main features • Explicit action buttons make	• Having both hamburger menu and bottom navigation is confusing • Has to navigate through a recipe to

completing tasks clear • Achieves main functionality • Familiar UI (ex. Instagram explore page, Netflix browsing) • Explicit integration of filters to organize explore page	share images and chat/challenge others • Unclear profile feature

Design 2:

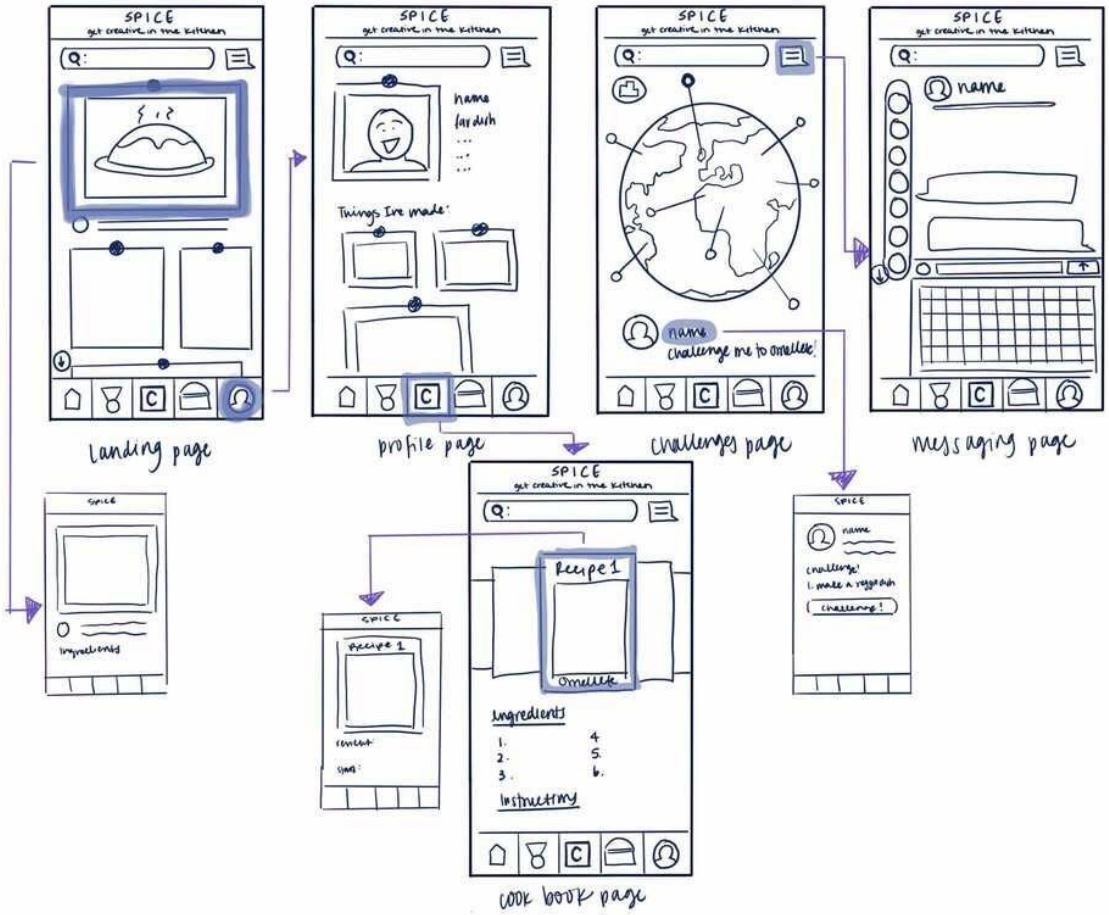

Figure 7: Detailed Mobile Interface 3 storyboard

Pros:	Cons:
• Globe emphasizes connectedness • Dynamic grid layout makes exploring recipes aesthetic • Clear bottom navigation bar • Emphasis on creating a user profile	• Less intuitive screens • Search bar always expanded • Unclear task flow and icons • Not enough explicit actions for users to take in order to navigate the app • Cluttered screens

Selected Interface

Rationale:
As mentioned previously, a mobile application fits our audience better due to the accessibility, portability, and familiarity of phone apps. Our team chose to proceed with Mobile Interface 2 because users are able to achieve tasks more easily due to its simple UI layout and seamless tasks flows.

Overall, Mobile Interface 2 integrates social/community aspects throughout the cooking experience, achieving Spice's overall mission statement. For example, Spice prompts users to challenge others and post their creation at the start and end of recipe cards. Thus, going from one task to another requires minimal effort. This exposes users to different features of the app, flattening the learning curve and making them more comfortable navigating complex tasks. Moreover, the buttons were large and clear, and recipe cards have the option of being voice controlled for efficiency when hands are occupied. Recipe cards also break down instructions into digestible steps for cooks of all experience levels.

Task Flows:

Figure 8: Navigate the app to find a way to spice up your food (simple task)

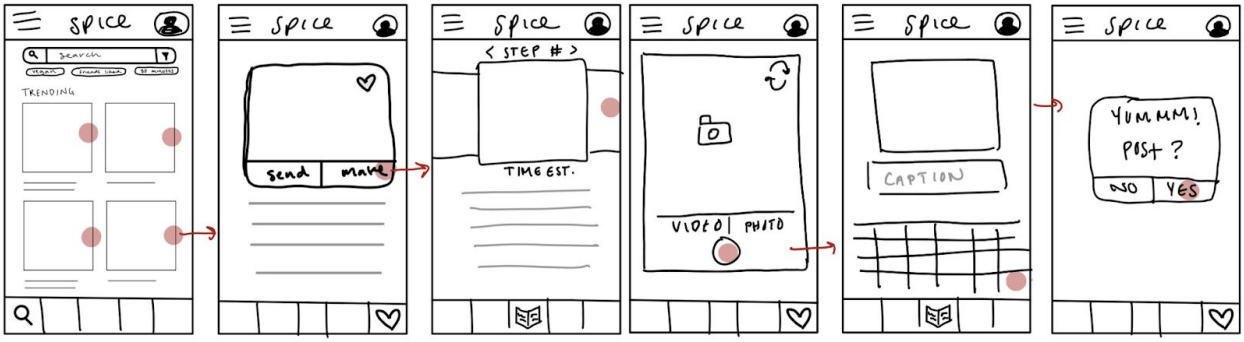

Figure 9: Navigate the app to find a way to share your creation (moderate task)

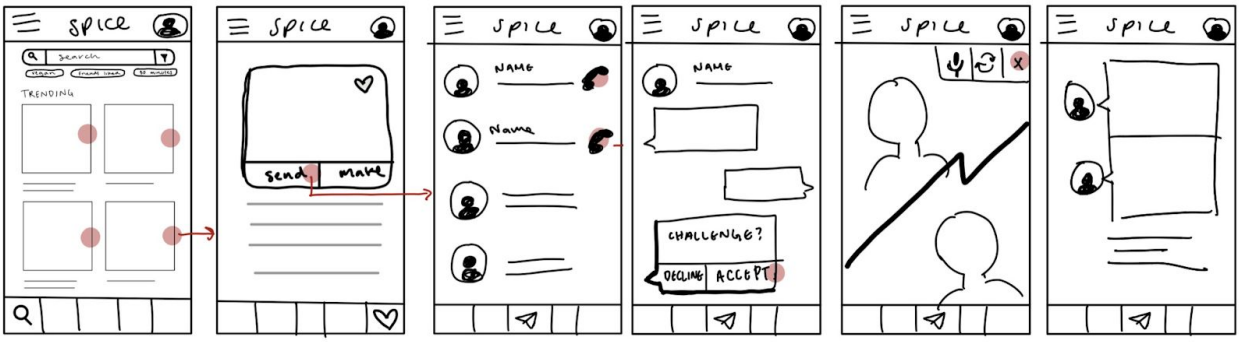

Figure 10: Navigate the app to find a way to cook with a friend (complex task)

Low-fi Prototype

We added functionality to our low-fidelity drawings in Figma. Transparent touch boxes on clickable elements allowed us to create a prototype that was responsive to user input.

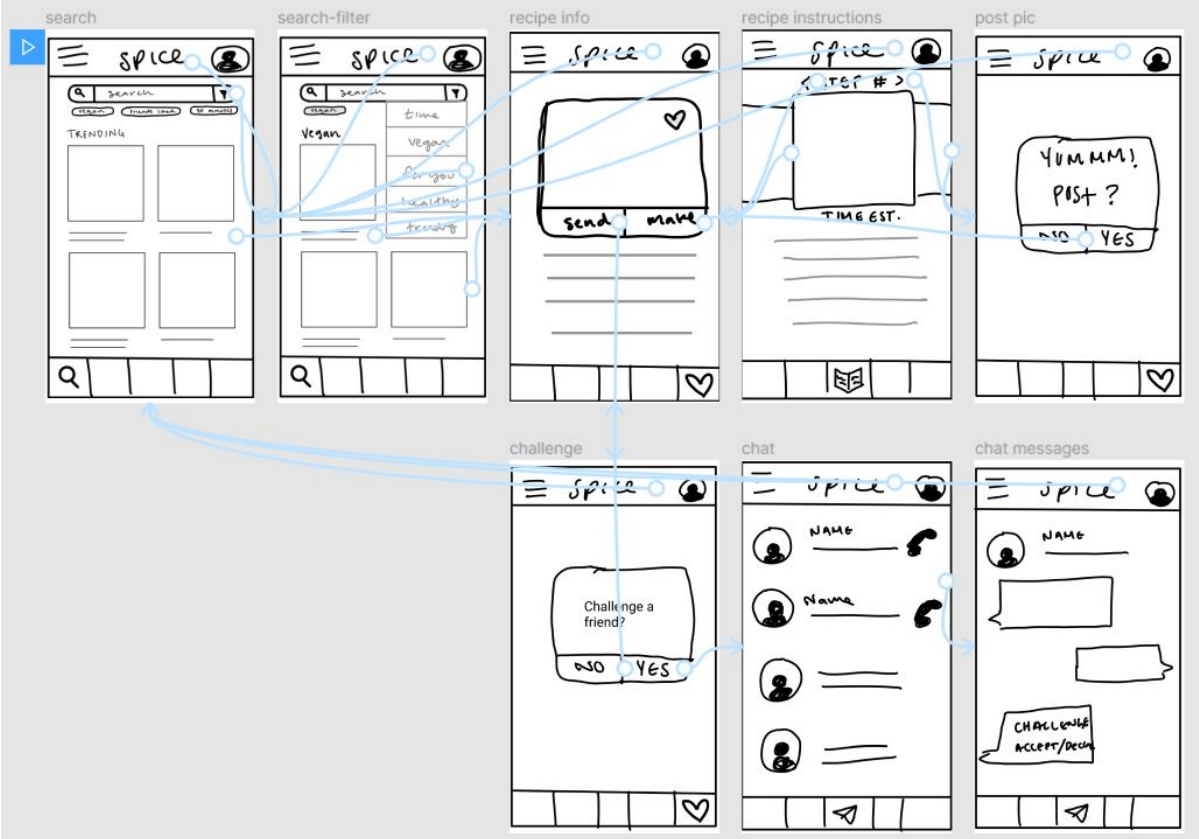

Figure 11: All screens of the Figma prototype

Interface Element	Functionality
Filter Button	Sorts explore page content by selected filter
Explore Cards	Synopsis of food, click into for specifics
Send Button	Sends selected food to someone in a contact list
Make Button	Start recipe instruction cards
Recipe Cards	Swipe through of the broken down steps in a recipe. Left = previous, right = next
Post prompt	Provides option to user about posting creation to community board
Challenge prompt	Provides option to user about “challenging” someone else in the community
Chat log	Medium for communication between members of the community
Profile Button	Expands user profile details

Prototype Task Flows:

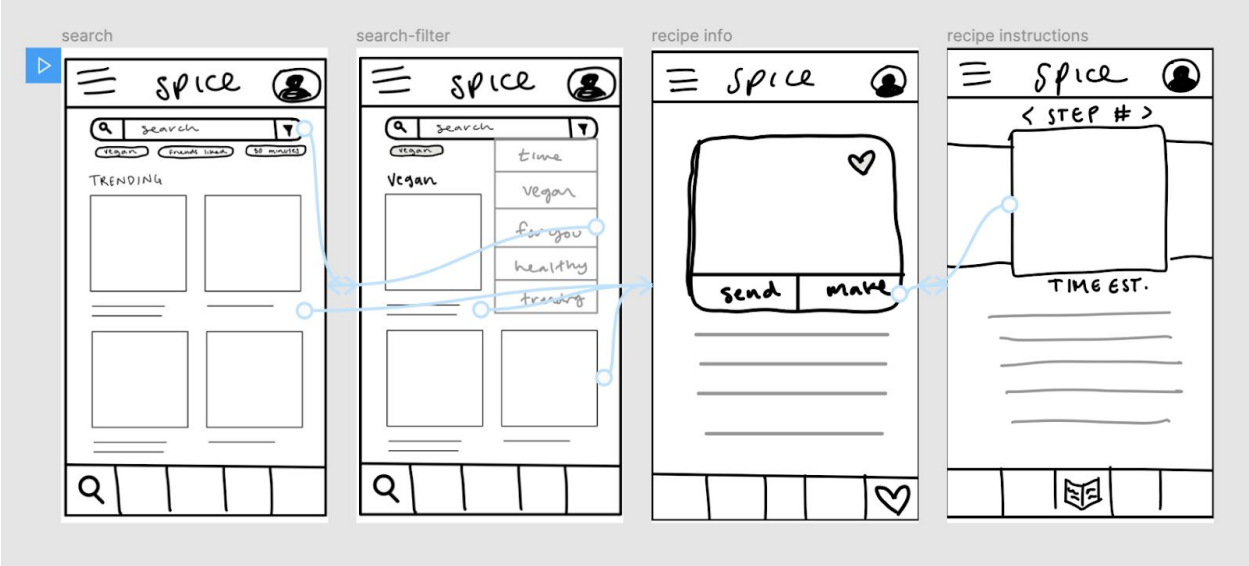

Figure 12: Prototype for Task 1, find a way to spice up your food (simple task)

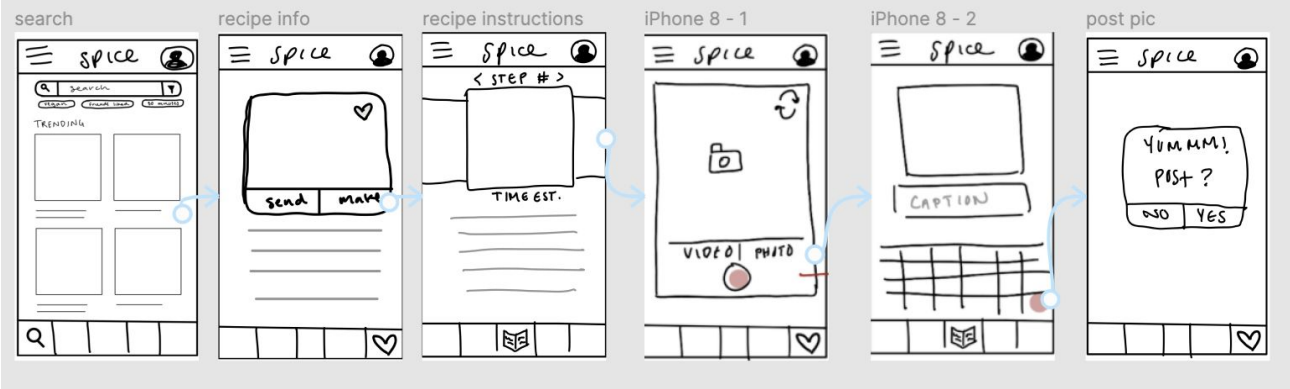

Figure 13: Prototype for Task 2, find a way to share your creation (moderate task)

Figure 14: Prototype for Task 3, find a way to cook with a friend (complex task)

Testing Methodology

Participants:
Our target audience are college students/young adults, as we found that this demographic has limited skill levels, monetary constraints, and time barriers that make cooking feel tedious. Thus, we recruited three participants–one college student and two recent college graduates. Interviewee 1 is a twenty-year-old college graduate of University of Virginia, who finds cooking dull and wants a more fun approach. Interviewee 2 is a twenty-year-old junior from Stanford University with moderate cooking skills. Interviewee 3 is a Master's student at Flinders University in Australia. Participants were not compensated.

Environment:
Due to COVID-19, all testing occurred virtually via Zoom. In an attempt to simulate a cooking scenario in the kitchen as best we could given virtual constraints, we put each task in context.

Tasks:

- **Simple:** You have been making bland/repetitive food for a while and want to spice up your cooking. Navigate the app to find a way to spice up your food!
- **Moderate:** You just made your new dish and want to show it off. Navigate the app to find a way to share your creation with your friends/community!
- **Complex:** You found something cool to make and want to make it with a friend. Navigate the app to find a way to cook with a friend!

Procedure:

1. Preface with a short explanation of CS147 and Spice's mission
2. Receive consent verbally and via Google Form
3. Introduce the Figma prototype via Zoom screen share
4. Ask participants to share screen, perform each task sequentially, and narrate their thoughts out loud as they complete the task
    a. Ask users to further elaborate on their thought process when observing unexpected courses of action or hearing interesting comments
5. When complete, ask participants for general feedback

Test Measures:

In order to measure both pain points and intuitive features of our app, we took note of the following:

- Mouse hovering over a certain area
- Excessive clicks in a single area
- Hesitation
- Going back and forth between screens
- Audio cues that indicate confusion (i.e. “umm” or “hmm”)

Team Member Roles:
We rotated roles for each test to allow team members to experience different responsibilities.

- Greeter/Facilitator (1): The only person speaking throughout the test.
- Observers/Note-takers (1-2): Watch/listen to user, noting any of the aforementioned test measures

Results

From our low-fi prototype usability tests, we gained many insights from our users:

1. Clarify the means of navigation
2. Improve information hierarchy to create multiple avenues to start and complete tasks
3. With pictures (more medium-fi), there would have been less confusion
4. Too many clicks to accomplish some of the tasks
5. Simplify navigation bar/profile button
6. Clarify goal of a user profile
7. User-uploaded photos for the recipes would make cooking appear less daunting
8. Make robust filters (ex. filter on cooking ability)
9. Clarify terminology: Posting/Send/Challenge

Our main issues lie in navigation, efficiency and cosmetic changes. Users would get confused by not knowing where to navigate, a lack of images, and unclear terminology on prompts.

Discussion

As we went through the process of designing and testing our low-fi prototype, we were able to learn more about the challenges of our interface. This allowed us to validate certain decisions we made but also enabled us to think about different solutions to user feedback.

We learned that users enjoyed seeing large and explicit prompts to guide them through each task. With each consecutive task, tasks became easier to accomplish due to app familiarity. This gave us insight that subtle repetition is important and that embedding different tasks within each other (or more clarity) is essential for them to learn about the interface more efficiently.

Some of the difficulties that users experienced while testing our prototype were most likely due to the fact that it was so low-fi. For example, the boxes on the home screen are meant to contain pictures of food, but Interviewee 1 expressed confusion and asked us for guidance on that page. Most likely, with pictures and names of recipes to guide him, he would have been able to easily navigate through task one.

Overall this week, we decided on a mobile interface and discovered profound insights through user testing. Incorporating user feedback, our goals moving forward include refining UI, simplifying UX of individual tasks, and implementing more functionality. Our results made us feel more confident about our concept and design, and we look forward to incorporating the feedback we received as we move to creating our medium-fi prototype.

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Appendix

- Blank Consent Form
- Figma Prototype
- Interview Logs