

Low-fi Prototyping and Pilot Usability Testing

Human-Computer Interaction: Travel

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Introduction

Value Proposition: Travel through your kitchen.

Mission Statement: Bring authentic cultural experiences to all people regardless of travel constraints.

Problem / Solution Overview:

Travelers often find it difficult to fully experience local culture and have authentic experiences when they don't know locals. Additionally, many people want to experience new cultures but don't have the time or means to do so. We bring these two groups of people together through food, a valued aspect of everyone's culture. Homemade provides a solution to both of these problems by creating a cultural exchange. Travelers and locals meet, teach each other to cook a recipe from their respective cultures, and enjoy their meal together. As a result, the local learns about the traveler's culture, and the traveler has an authentic experience.

Sketches

Top 3-5 Design Ideas, First 15-20 Sketches

Figure 1: SmartWatch

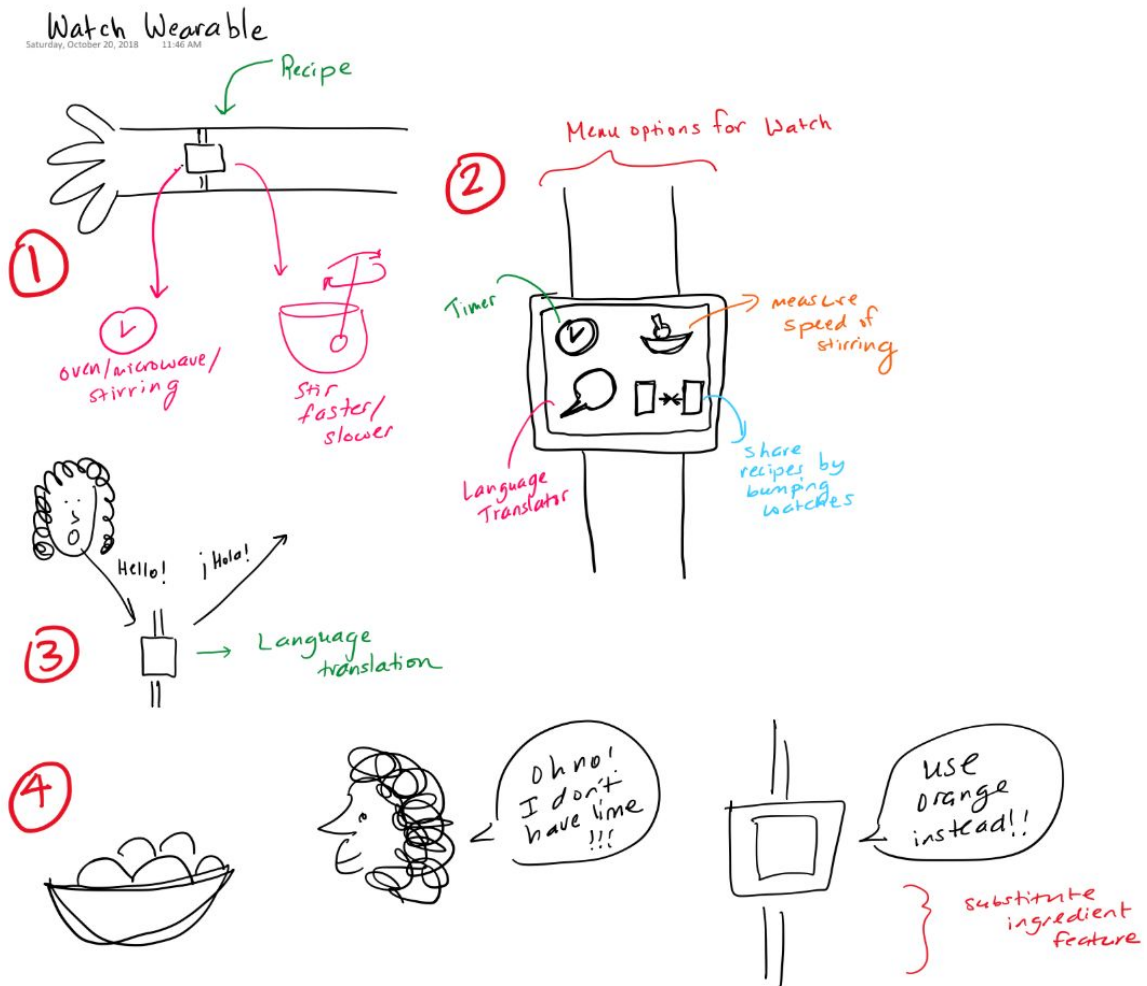


Figure 2: Tinder Style

"Tinder" Design Idea
Friday, October 19, 2018 11:56 AM

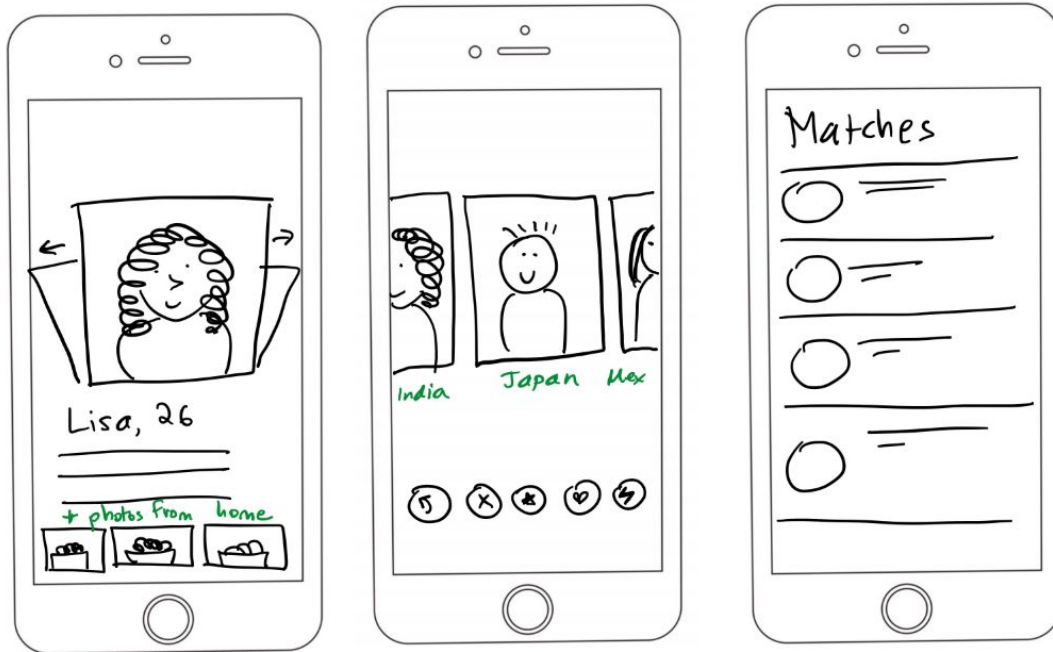


Figure 3: Travel Map

"Map Design Idea"
Friday, October 19, 2018 12:03 PM

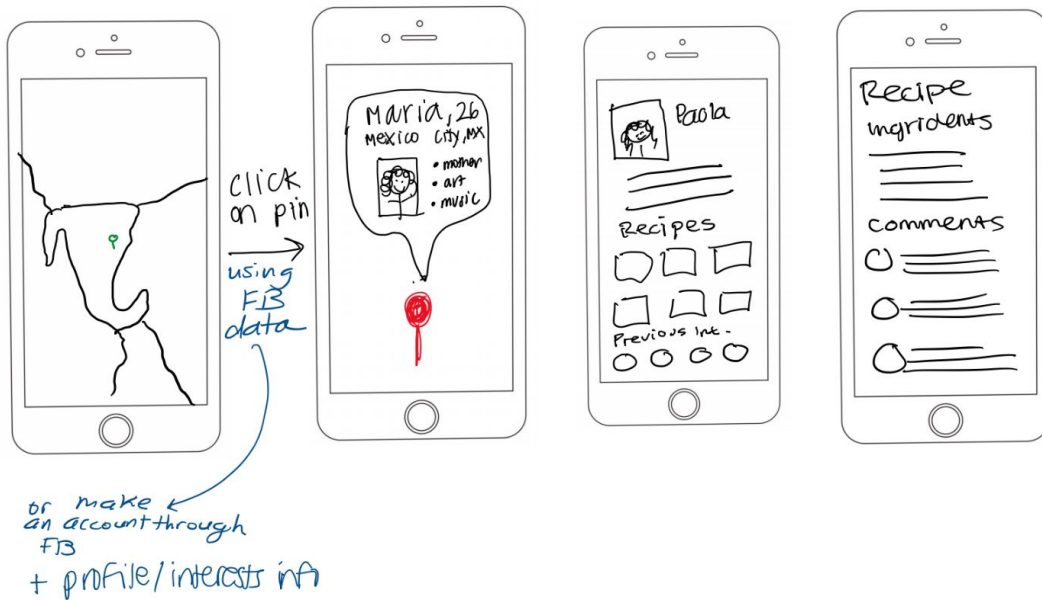
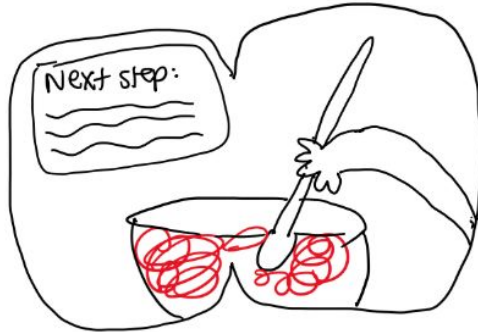


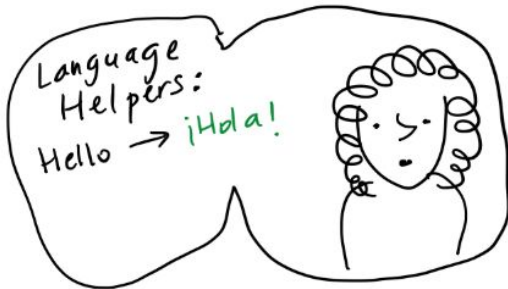
Figure 4: VR

VR Cooking Idea

Saturday, October 20, 2018 11:30 AM



Virtually
make exotic
foods
using
recipe
helpers



talk to people
of different
cultures (who are
making the food)
using the language translator

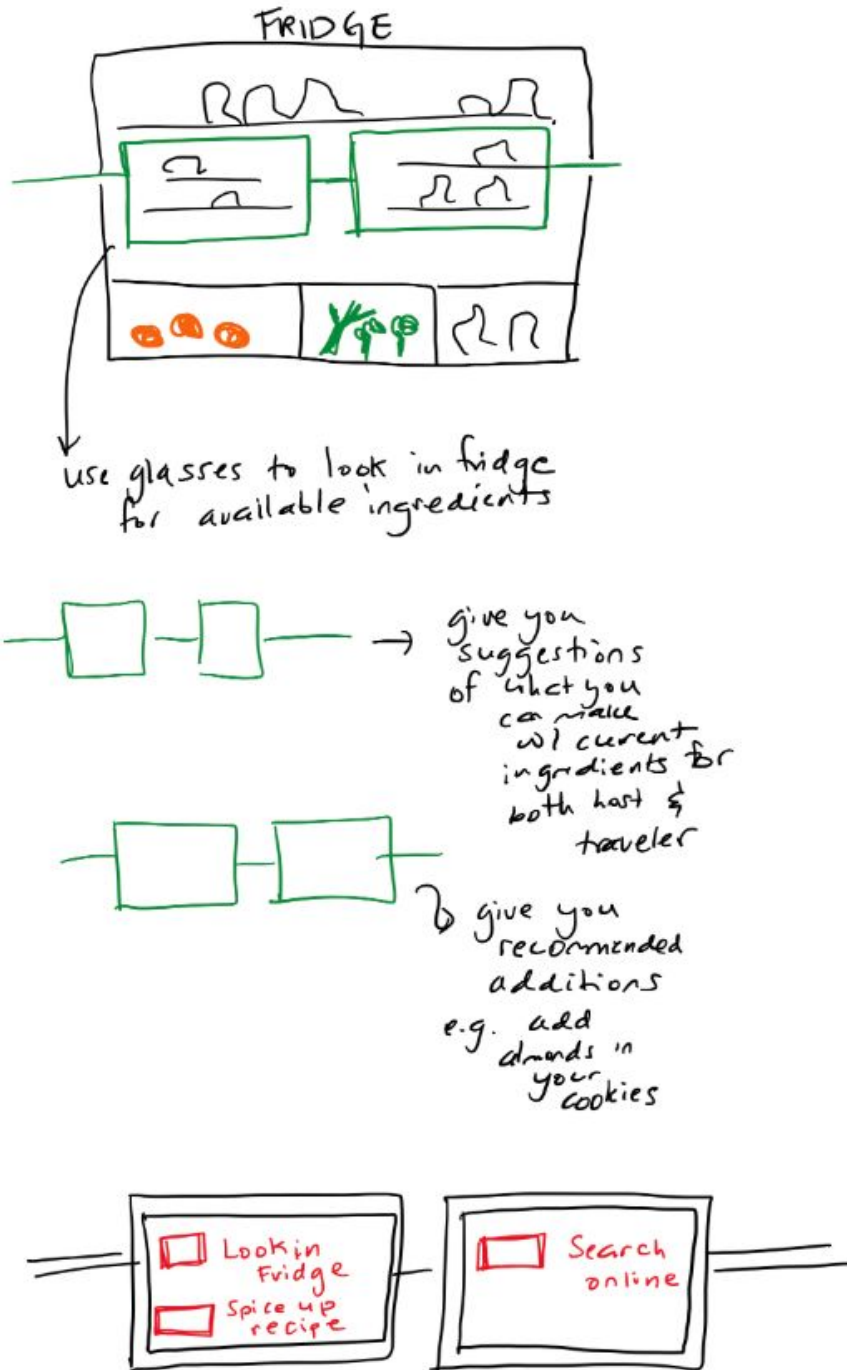


mirror the
cooking of
a local to make
your ideal
meal!

Figure 5: Eyeglasses

Glasses (Wearable) Design

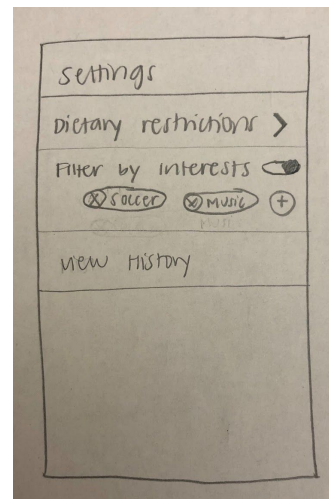
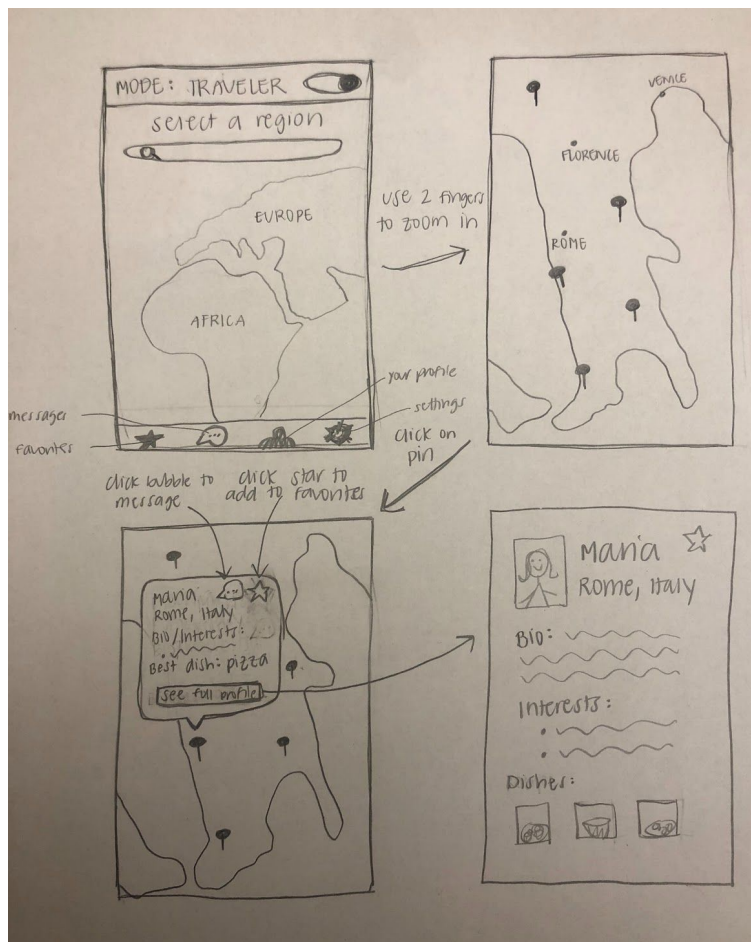
Saturday, October 20, 2018 11:39 AM



Top 2 Design Storyboards

Travel Map

Figure 7: Map



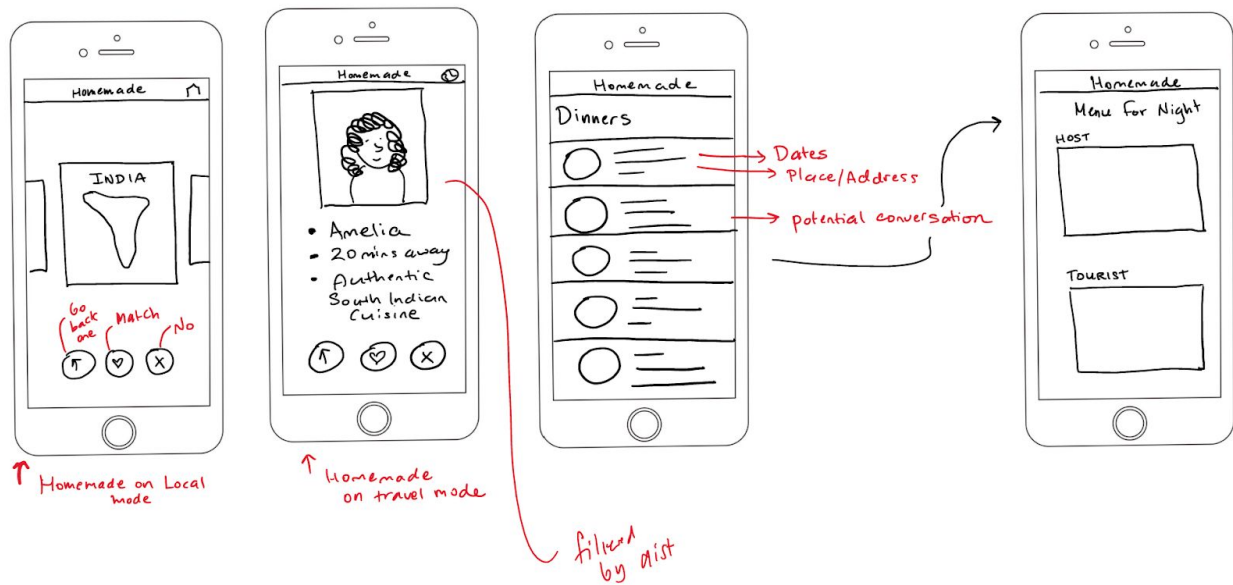


Figure 8: Tinder

Pros	Cons
<ul style="list-style-type: none"> • Gamifying search process • Easy UI, first thing user sees are options that he/she can be mapped to • Familiar to those who've used Tinder 	<ul style="list-style-type: none"> • Risk that it'll become a dating app • Loses focus on food and culture • Filtering not entirely intuitive for user

Selected Interface Design: Travel Map

Storyboard for Tasks

Figure 9: Task 1 (Simple) - Meet local people to share interests/passions

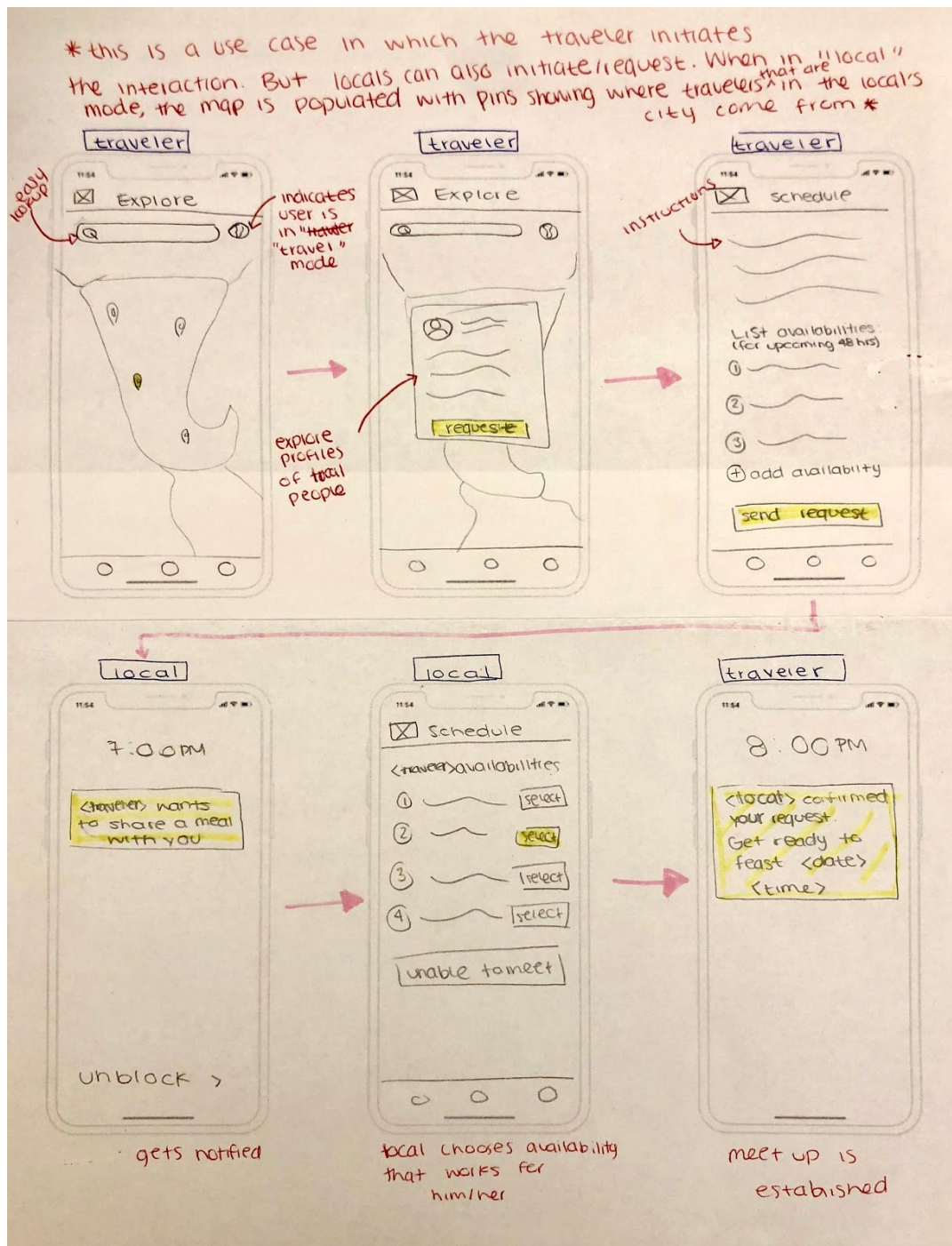


Figure 10: Task 2 (Moderate) - Share a meal with local people to experience authentic culture

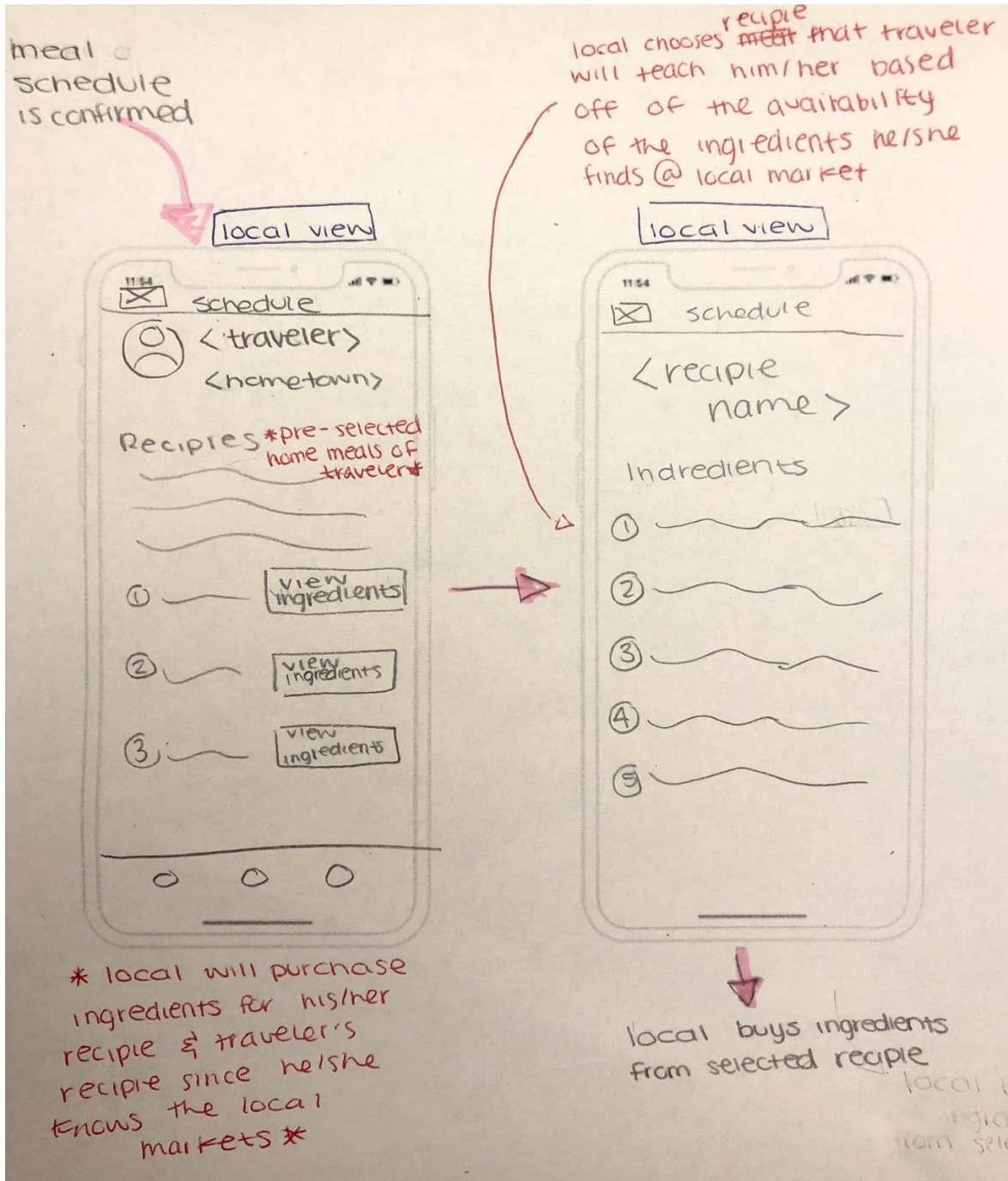
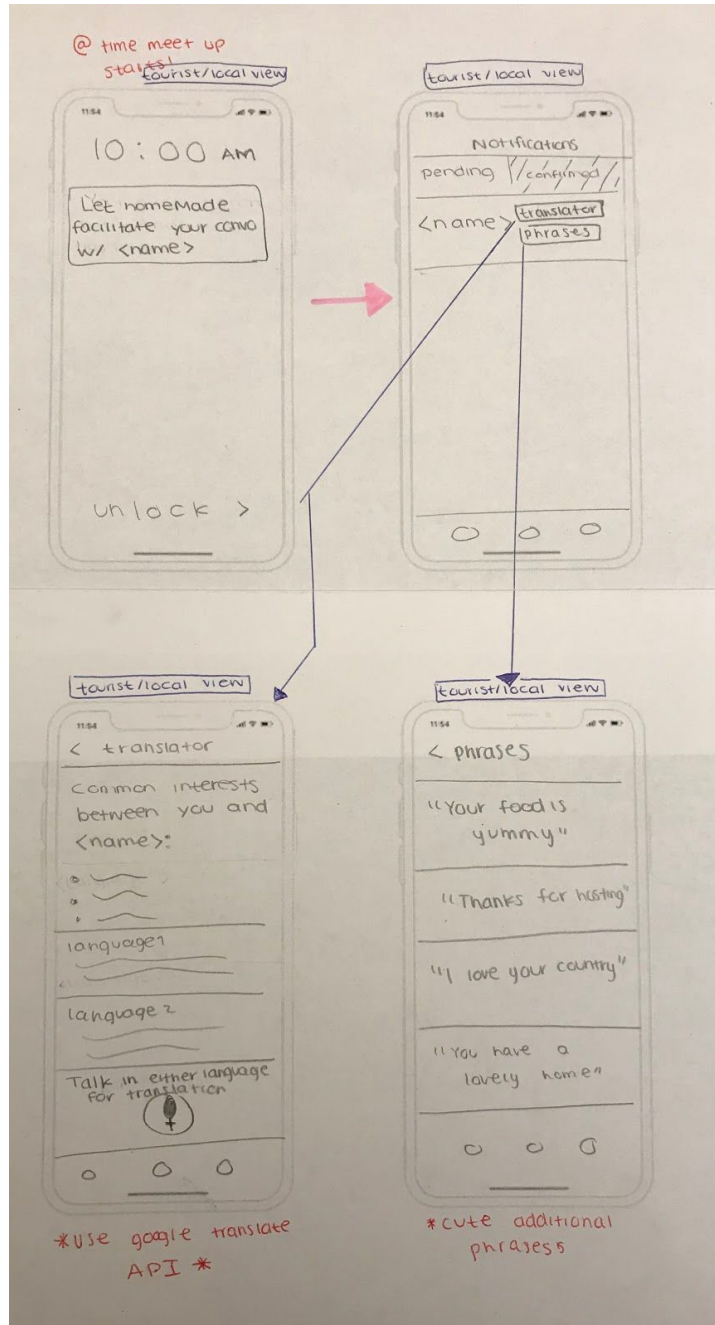


Figure 11: Task 3 (Complex) - Get to know someone from a different culture without traveling.



Reasoning for Selection

We chose the map over Tinder because it's better focused around the users' goals. Although the "Tinder" option more directly "matches" users, the map interface does a much better job of incorporating geographic location, which is closely tied to travel. The "Tinder style" places too much emphasis on people rather than culture, and this could unintentionally encourage biased selection. Additionally, the map interface may also be more effective with scheduling rates because either side of the interaction can make a meal request to the other side.

The map interface allows users to navigate a map and browse "pins" dropped by counterpart users (if tourist, browse available hosts, and vice versa). They can view users' profiles, request to book a meal, schedule a meal, facilitate ingredient shopping, and remove language barrier at the time of meet-up.

Interface Element	Functionality
Mode	Easy for users to switch between use as a traveler or local.
Map visual	Emphasizes geographic location and provides familiar way to narrow down on cultures to experience.
Pins	Represents counterpart users on the map
User profile	Consolidates information about users (hometown/travel location, bio/interests, dietary restrictions).
Favorites/Saved for Later	Allows users to "save" people they might want to connect with later
Notifications	Notifies users about pending meal requests and confirmed meals.

Prototype

We designed a prototype based on notecards, using touch and input. When the phone had to make sounds, the person performing as the computer would speak on behalf of our app.

Figure 12: UX: Reach Out & Arrange Schedule

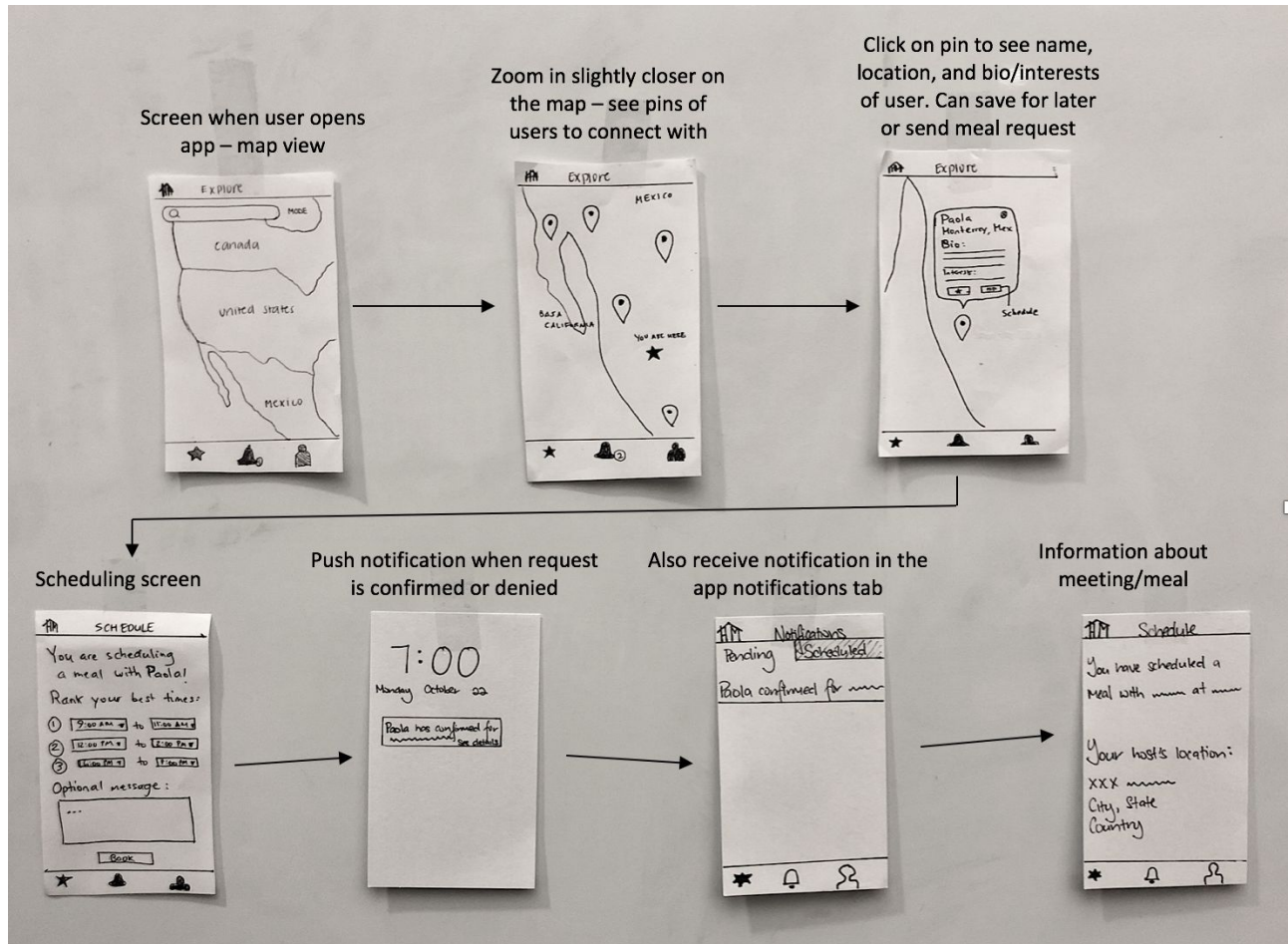


Figure 13: UX: List of Ingredients

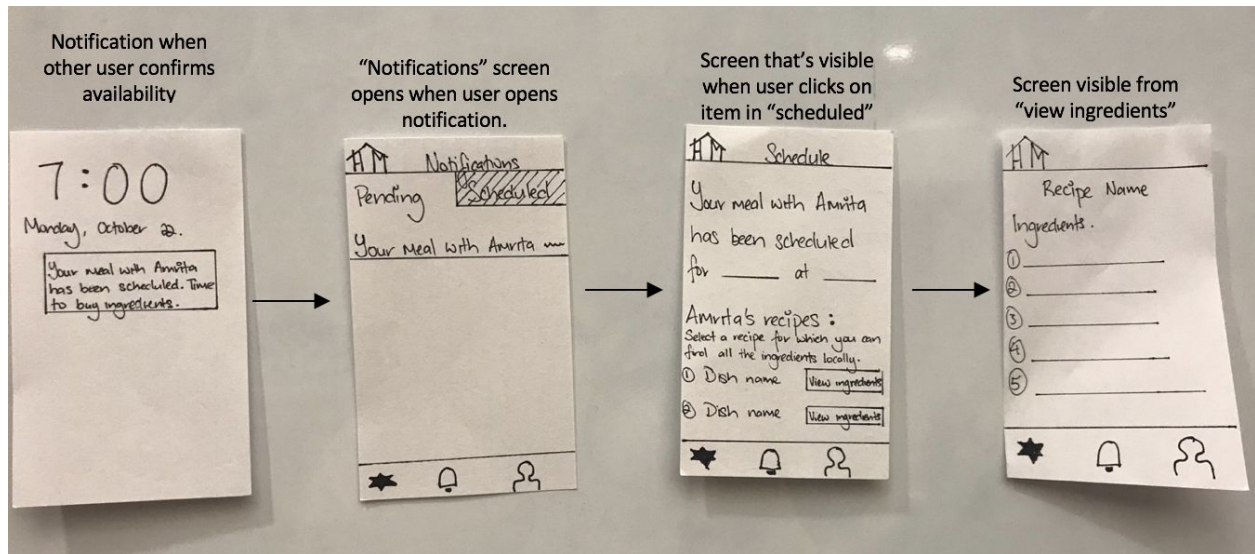


Figure 14: UX: Converse during meet-up

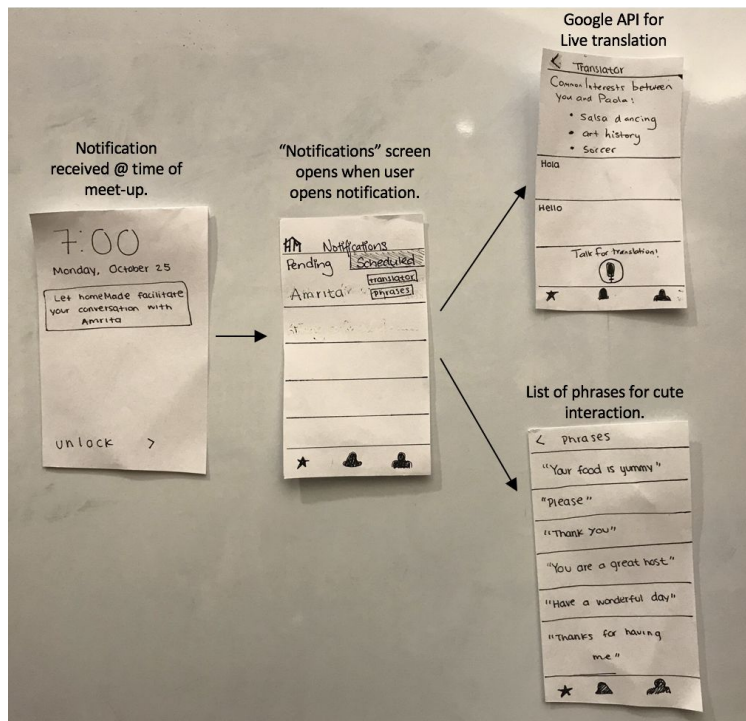
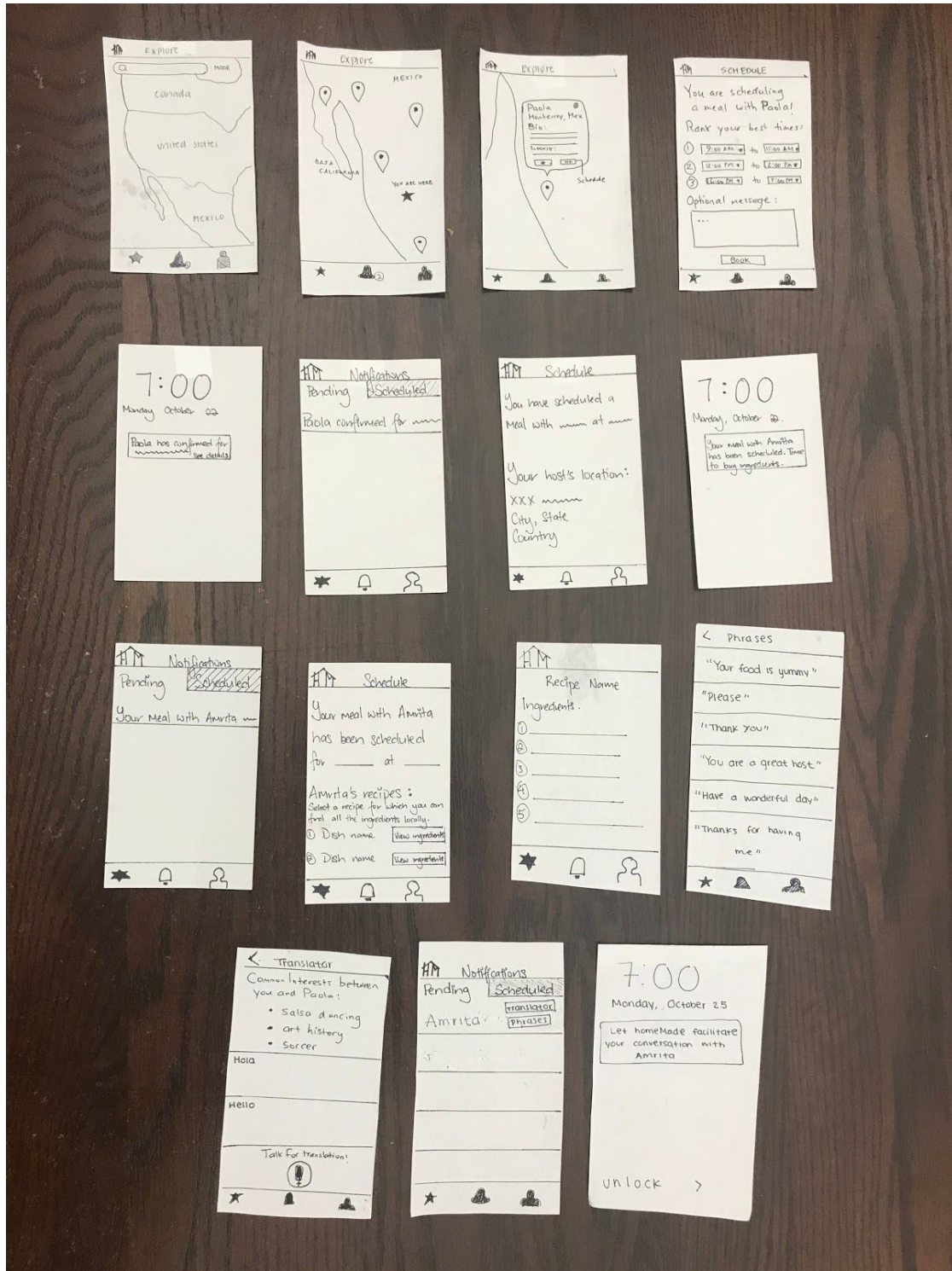


Figure 15: UX: All Screens



Method

Participants:

1. **Pablo Santos**, a CS major at Stanford, of Hispanic descent, low-income background.

Figure 16: Pablo



We selected Pablo because he is an example of someone who doesn't have many opportunities to travel because of financial barriers, but still really enjoys meeting foreign cultures.

No compensation.

-
2. **Ira Lit**, an adult male interested in French cooking and traveling.

Note: No photo of Ira because he didn't feel comfortable.

We selected Ira because he's an example of someone who would be an ideal traveler for our app (loves learning new recipes from locals in foreign countries).

No compensation.

3. **Tyler Brooks**, an African American, 26 years, Stanford alumni and music producer.

Figure 17: Tyler



We selected Tyler because he is an example of an average user, someone who is ambivalent about traveling, and who likes eating good food. We thought this would be a good balance to the other two participants.

No compensation.

Environment

1. Pablo: conducted interview in his dorm lounge, a public area so he'd feel comfortable.
2. Ira: conducted in lounge area that he's familiar with.
3. Tyler: conducted in Tressider, Starbucks so he'd feel comfortable with his surroundings.

Tasks

1. View and select dinner options
2. Send availability
3. View Ingredients
4. Mediated Translation
5. Non-mediated translation

Procedure & Roles

Different prototype screens were placed in front of interviewee, depending on the interviewee's input. Team member roles were Amrita (computer), Pao (recorder), and Erin (greeter/facilitator).

Test Measures

We evaluated our users on (1) places that they were confused or got stuck or (2) places that they were tempted to ask questions. This helped to see where our assumptions in our product fell through and what we could do to fix those gaps in understanding.

User Testing Heuristics

Problem	Location	Task Number	Severity	Possible Fix
Questionable use of search bar	Map Screen, Home Page	1	3	Add a "Search for your destination" in the bar or automatically zoom into where the user is on the map
You are here button and favorites button are the same icon	Zoomed in map screen	1	1	Change the favorites button to be a heart
Questionable use of "book" button	Schedule time screen	1	2	Change book to "request" to signify that the

				dinner is still pending
What to do with ingredients	Screen with list of ingredients	2	2	Have a way to print out the list of ingredients or export it
Common Interests in wrong place	Translator Screen	1	2	Move the common interests to a different screen so users can see what to talk about

0 = not usability problem

1 = cosmetic problem

2 = minor usability problem

3 = major usability problem

4 = usability catastrophe

Results & Discussion

Results:

Tyler:

Tyler was confused by the map. He was expecting it to be touch and not pinch. We had him play different roles (be local and traveler) at different points, and he found this confusing. He got very excited when performing the final task and said “that’s a good idea” and “that’s very helpful”.

Key takeaway: Make it easy for user to understand our complex process without instructions.

Pablo:

Pablo got stuck when interacting with the map and implied that the search bar was not distinct enough. When scheduling a meal in his first task, Pablo found the “book” feature to be misleading. It wasn’t clear that confirmation from the host was required. In the final task, Pablo mistakenly thought the translated phrases were buttons to interact with and found the “common interests” in the translator page to be out of place.

Key takeaway: Make sure user knows what to do with the information they are presented with, since it requires the user to go out and perform a task (e.g. buy ingredients).

Ira:

Ira didn’t know to click on the home screen notifications for more information and thought he could swipe and it would go away. He voiced liking the concept, but personally, as a traveler, would not take the time to cook a meal. He also remarked that eating two dishes could be too much food for one meal.

Key takeaway: We need clear notification messages.

Discussion:

Based on participant feedback, we have concluded that our user interface could use some much-needed improvement to make sure that the user understands the general flow or order of tasks as they navigate through the app. For the most part, our participants had trouble with the first task which was finding and selecting a person to have dinner with. Tasks 2 and 3 were generally more fluid and the participants seemed to understand how to review the ingredients of the counterpart user as well as have a conversation through the translator.

Some small discrepancies that our prototype did not cover included the fact that we did not make every single combination of host/traveler interaction with the app just because it would be excessive and a lot of those interactions would be repetitive. We also did not do much testing for the tasks of making a profile or adding recipes to the app.

We learned many things from our prototyping: that we have to enhance the home map screen in order to make it clear for the user to navigate to their place of travel (or living) and to find a person to have a meal with. We would probably change the design a little bit to have the Search Bar say "Search for your destination" or have the app locate where you are.

1500 words

Appendix

Survey Results

Thank you for testing Homemade! Please answer the following survey to complete the process:

How did you feel while using the prototype?
Great! Took me a little time to understand what I was doing, but (1) That's me, and (2) I'm new to travelling so ~~so~~ I wasn't the hippest person walking into this demo / This demo made me more hip.

What did you like?
App was generally very easy to navigate. I loved the recommendation and common interest features during the dinner task!

What frustrated you?
Nothing frustrated me!

Did anything seem out of place or unnecessary?
Nope.

Are there any features you would have liked to see or have?
I love the recommendation features — I think if occasionally tips pop up (i.e. a "helper"), that could be great for making users more comfortable ~~in their experiences travelling~~ in their experiences travelling.

On a scale from 1-10, how likely or unlikely would you be to use the finished product?
1 2 3 4 5 6 7 8 9 10

On a scale from 1-10, how likely or unlikely would you be to recommend the product to a friend?
1 2 3 4 5 6 7 8 9 10

Other comments:
As a person who's new to travelling, I think the more the app can do to help users learn or try ~~the~~ new things, learn local idioms and faux pas(es), or enrich their experiences generally, the better the app will be! Great idea.

Thank you for testing Homemade! Please answer the following survey to complete the process:

How did you feel while using the prototype?

I felt like I was using an app that I was unfamiliar with, so I wanted to explore around

What did you like?

The idea is cool

What frustrated you?

It was just odd using ~~at~~ paper as an app

Did anything seem out of place or unnecessary?

The common interests seemed like it wasn't properly placed

Are there any features you would have liked to see or have?

A view to look at pictures uploaded by the user you are meeting up with

On a scale from 1-10, how likely or unlikely would you be to use the finished product?

1 2 3 4 5 6 7 8 9 10

On a scale from 1-10, how likely or unlikely would you be to recommend the product to a friend?

1 2 3 4 5 6 7 8 9 10

Other comments:

I really like the idea!

Ira Lit

Thank you for testing Homemade! Please answer the following survey to complete the process:

How did you feel while using the prototype?

engaged

What did you like?

the hosts and the travel possibilities

What frustrated you?

nothing

Did anything seem out of place or unnecessary?

no

Are there any features you would have liked to see or have?

yes. I should be able to

On a scale from 1-10, how likely or unlikely would you be to use the finished product?

1 (2) 3 4 5 6 7 8 9 10

On a scale from 1-10, how likely or unlikely would you be to recommend the product to a friend?

1 2 3 4 5 6 7 (8) 9 10

Other comments:

I'd do it if I didn't have to code... 😊

Consent Form

The Homemade application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of Homemade Data will 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 (Paola Martinez, Erin Cohen, Amrika Venkatraman, Emilia Darmstadt) 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 provided 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 experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the Homemade experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name TYLER C BROOKS

Participant Number 1

Date 10/25/2018

Signature 

Witness name 

Witness signature Paola Martinez

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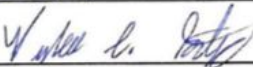
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Name Pablo Santos

Participant Number 2

Date 10/25/18

Signature 

Witness name Amrita Venkatraman

Witness signature 

Consent Form

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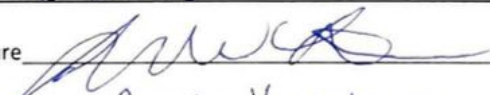
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Name Im W. Lit

Participant Number 3

Date 10-25-18

Signature 

Witness name Amrita Venkatraman

Witness signature 