

Project: Design of kitchen ingredients UI to make shopping and meal preparation easy and fun.

Research & Insights

1. Research Goals and Questions:

The goal of this research project is to gain insight into the current experiences of busy individuals with preparing meals everyday. Our project focuses on retrospective research--that is the project focuses on user's past experience or lack of experience with meal prepping apps. We are using the same interview questions throughout all interviews in order to obtain consistent feedback. We will be targeting mainly individuals who live busy lives and constantly find themselves lacking time to prepare a meal everyday and struggle with random ingredients in their fridge and pantry. However, we will also attempt to interview individuals who love cooking and have set routines for shopping and preparing their meals to evaluate whether the use of this app is beneficial and/or convenient to them as well.

2. Process For Answering Questions:

How did you proceed to answer these questions? Be detailed. For example, if you conducted an interview, list all the questions. Where and when did you collect the data? How did you set up to allow triangulation, etc.

We perform a combination of field interviews and observations to answer our questions mentioned above. Those interviewed were our target users: busy individuals, individuals with routines and love for cooking, individuals who resort to apps and websites to plan for their meals, individuals that are inconvenient with random ingredients at home. They were all asked to answer the same questions and observed when they used our initial project prototype.

The user interviews were conducted during the day time and in private settings (the user were our friends and family members). All interviewees answered the same questions and used the same prototype set up to allow for proper triangulation. The answers were later on compared to extract the data to improve our project.

Interview Process

Base questions to structure the interviews:

1. How much time do users spend on grocery shopping and preparing meals daily/weekly?
2. What part of preparing a meal takes the most time every day?
3. Do they feel that preparing/thinking of meals is a difficult or burdensome task?
4. Do the users take time out of their days to plan out meals for the week? If so, how often do they stick to these plans? Do they find it difficult to stick to the plans?
5. How often does the person prepare a shopping list before going to buy groceries?
6. Does the user often have to make a return trip that week to buy something they forgot?
7. How often does the user forget to use ingredients that they bought?
8. How well do users remember recipes while shopping for ingredients? Do they ever have to look it up or feel like they want to make a certain dish but don't know what to buy?
9. Is there anything the person would like to see change in the way they prepare meals, or what do they think can make preparing meals easier?
10. Does the user have access to a phone or a desktop or a smart fridge? How often do they use their devices to access an app or a website to organize a shopping list and plan for meal preparations?
11. What is the skill level of the user in using technology?
12. Do they struggle with using apps and accessing websites? What are some things that make using such apps and/or websites difficult? What would they look for?

3. An exhaustive inventory of the elements listed below:

Everyone should fill out the following during the interview (For each interview):

The people in the space

- 3.1 - Who are they, what are they like?
- 3.2. What are they doing?
- 3.3. How are they doing it?
- 3.4. What do their emotions, purposes, reactions seem to be, and (if field interview) what did they say?
- 3.5. What problems do they encounter with their activities?

The objects (technological and otherwise) in the space and with the people

- 3.6 What are the functional elements of the objects?
- 3.7 What are the decorative elements?
- 3.8 Which objects do people look for (perhaps to somehow interact with)?
- 3.9. Which objects do people bring with them that matter to the activities they are trying to do?

The environment: spaces, architecture, lighting etc.

- 3.10 What is the layout?
- 3.11 What is the environment like?
- 3.12 How does it influence the activities people engage in?
- 3.13 How does the environment support the objects above?

4. Attach your detailed observations or interview responses (verbal and non-verbal)

Michael Interview #1:

The People:

The subject is a woman in her early forties, married with three children: a 9-year old boy and two twin, 2-year old boys. She previously worked as a lawyer in a metropolitan area, but is currently not practicing. Her husband works as a doctor in emergency medicine.

She appeared to be comfortable and at-ease throughout the interview. She is friendly while talking and answering questions, and did not display any degree of frustration with the process or her surroundings. Subject and interviewer shared a couple of laughs during the process. The small amounts of background noise did not seem to bother her.

The Objects:

The subject is being interviewed in the living room of her home. Throughout the interview, she briefly glances towards the television, her children to check on them, and checks her phone for the time a couple of times.

The Environment:

The subject is in the comfort of their own home, during the afternoon in a well-lit room with a mild amount of background noise from children watching TV. The noise is low and did not seem to impede or interrupt the interview process. The only technology within reach is the television and their phone. Subject and interviewer are seated on separate chairs across from each other.

INTERVIEW Q&A

*Questions in italics and marked with ** are additional, improvised questions.*

1. How much time do you spend on grocery shopping and preparing meals on a daily or weekly basis?

I spend probably about an hour to an hour and a half a week going to the store, not including any return trips for things I forgot or suddenly need. It can take a bit of time since sometimes I have to manage the kids if they're there with me, and I try to buy everything I need at once.

Every day, lunch and dinner probably take about 30 minutes to an hour to prep ingredients and season, etc., and then cooking time will depend on the meal.

2. What part of preparing a meal takes the most time every day?

Probably preparing the ingredients, like cutting and seasoning.

*****Do you spend much time at all thinking of what to make?***

I don't really think so. I usually just outline the week, maybe ask my husband or my oldest son if they want anything specific.

3. Do you feel that preparing or thinking of meals is a difficult or burdensome task?

It's not difficult, but preparing or trying to cook takes time and can be annoying to do when the kids are getting rowdy or need something, and takes away my attention. There have been a couple of times when I've overcooked something on accident or lost track of where I was because I was interrupted.

*****So do you handle all the cooking in the house?***

No, not always. My husband is a good cook and helps out in the kitchen when he is home and not sleeping – I say that since he works a lot of 24-hour shifts at the hospital, not because he's lazy! So sometimes he helps or does a meal himself. He likes to experiment and try new things too.

4. Earlier, you said you will make a sort of outline for the week - how often do you stick to these plans? Do you find it difficult to stick to it?

Sort of – I have a general plan but sometimes I change my mind and make something else. In a way, I usually just shop for general things I know I often use and only buy specific things if I have a specific meal planned and don't already have what I need at home. The store is down the street, so me or my husband can go pick something up pretty easily.

*****If your husband isn't home but your kids are, does that make it difficult to go shopping?***

Well, I've taken them with me to the store plenty of times. So I guess it doesn't make it difficult just because I'm used to it, but there are definitely times when the kids are being a hassle and I just don't want to take them somewhere with me.

5. How often do you prepare a shopping list before going to buy groceries, if at all?

Not always... I only really use a shopping list if I have a lot to buy and there are a lot of meals to prepare, like if we're preparing to cook for guests or for holiday meals. We have a lot of experience in making a variety of meals at home, so I feel like it's not too hard remembering what we might need. Sometimes I make my 9-year old write a list or remember in his head to give him something to do if I'm taking him – he's kind of hyperactive and it gives him something to focus on.

6. Do you often have to make a return trip that week to buy something you forgot?

Kind of often, yeah, but it is more often when we decide to make something on a whim and need to go get an ingredient we don't often use.

*****So maybe when your husband wants to try making something new?***

Yeah exactly, those aren't really planned or accounted for sometimes, so we'll have to make another trip to the store to get anything we might need.

7. How often do you forget to use ingredients that you bought?

Never?

*****To clarify, do you buy ingredients to use but not end up using it, or maybe it goes bad before you get to them?***

Well sometimes if things come up, like we end up going out to eat all weekend then veggies or raw meats might go bad if we don't use it in time, but I don't think I usually forget to use any ingredients in a recipe I know by heart. Maybe if it's my first time making a new recipe I might forget something.

8. How well do you remember recipes while shopping for ingredients? Do you ever have to look it up or feel like you want to make a certain dish but don't know what to buy?

I've definitely looked up a recipe if I don't usually make it to remember what I need. If there's a dish I have in mind and I have the recipe for it, then I'll know what to buy. I'll usually have the recipe saved or written down in my phone somewhere. Sometimes one of my sisters will text me a recipe and I'll just refer to that text. I never really try to improvise or make a new dish without a recipe though.

9. Is there anything you would like to see change in the way you prepare meals, or what do you think can make preparing meals easier?

I don't really think there's a change I would make in cooking or prepping. I feel like we usually have a good grasp on things... If I felt like I was struggling to remember things, I would just use something on my phone to write it down or something.

*****What app or function on your phone do you use for that?***

Just the Notes app that comes with iPhones. I'll write something there or just have a screenshot saved.

10. Do you have access to a computer or a smart fridge? How often do you use your devices to access an app or a website to organize a shopping list and plan for meal preparations?

I have a laptop. We have a nice, big refrigerator, but not a smart fridge. Whenever we do need to make a list, I just write it in my phone. Sometimes we'll Google recipes we might want to try – maybe we had something we've never had before at a restaurant and want to try making it, then we'll look up a recipe with good reviews.

*****Do you have a preference between your phone and laptop when it comes to googling a recipe?***

Usually my phone, since my laptop is put away and stored in a case or something. Since I have my phone near me most of the time, it's just more convenient to use.

*****Does the smaller screen size of the phone compared to a laptop screen bother you at all?***

I mean the bigger screen is convenient, but I don't mind the phone's screen. It's easy to scroll up and down if I need to.

11. What would you say is your skill level in using technology?

I'm not advanced or anything but I have all the basic skills – familiar with Word, Excel... All the good stuff you'll always see on a resume. I'm familiar with my phone and computer and don't have trouble learning a new app or anything.

*****Would you say you are pretty adaptable when something happens with technology you aren't expecting?***

Yes, if something doesn't work or is confusing, then I can always just search Google for an answer or maybe a guide on YouTube for how to do something.

12. What are some things that make using apps or websites difficult?

Something that makes them difficult or frustrating is if it's slow every time I go to a new page or screen. I mean if the internet is fine and other things are loading fast, but one app or website isn't, then it's frustrating because it seems like a problem with that app. I guess because it feels out of my control.

*****So if a problem occurs because of error on your part, do you feel frustrated?***

Definitely, I can feel frustrated because of my mistake, but I don't get too annoyed or upset since it was my own fault and not someone else's.

*****Can you think of another example where you were frustrated with an app and it was because of something out of your control?***

Maybe things being too small or in a weird spot. I also don't like it when something I've been using for a while gets changed, like in the past when Facebook has gone through big redesigns. I hate it when I think it the new look is ugly or things get moved around too much.

*****What exactly about it do you dislike?***

I just feel like sometimes they change things just to do it. So if I felt like something was perfect, it just seems weird to me that they would change it to make it worse.

Reverse Recipe Prototype

The subject was given a description of Reverse Recipe, was shown the prototype, and asked to step through each screen with the interviewer and make any comments and observations that came to mind. Screens receiving comments or discussions are listed below:

Opening Screen: Subject noted that she liked the aesthetic with the soft background and easy to read title text.

Home Page: Subject praised that the buttons look easy to read and press. She notes that some apps can be annoying if it is easy to click the wrong thing.

Ingredients Screen: Subject was intrigued by this screen, wondering how effective scanning ingredients to fill in the information would be, or if she would have to manually enter this information. When asked

what she would do if the scan function was ineffective at times, subject mentioned she would just likely not input information beyond what the ingredients were or the amount.

Search Screen: Subject liked the multiple ways to search that were available on the screen because it would be versatile.

Recipes Screen: Subject noted that the layout of the pictures might make it “hard on the eyes”. Interviewer asked if more whitespace was used between images might help, and subject replied “yes, definitely”.

Favorite Ingredients Screen: Subject refers back to recipe screen and mentions something similar to this screen would be better, in her opinion, for spacing.

Settings Screen: Likes the dark mode option, noting she uses it often on her phone and other apps because it is easier on the eyes.

Interview Report - Carter

Interview Subject “DZ”

DZ is a man in his early 30s, in a long-term relationship without children, living in a medium metro area. We knew each other previously through a mutual friend, but haven't socialized much. DZ works night shifts at a fitness center, and highly enjoys cooking and meal prep. During our interview, he seemed comfortable and engaged with the questions, giving detailed answers and requiring minimal prompting to expand on relevant topics. While our discussion did surface some frustrations with his meal & recipe management process, they were focused and highly personal, and were not severe impediments in their process of meal-related work.

Environment & Objects

The interview was conducted over voice call. I was in my home office, while DZ was in or near their home kitchen, in the midst of his weekly meal prep routine. The routine nature of this prep seemed to be reinforced by the stability of this environment, as the subject seemed at ease in their work consistently throughout the interview process.

Interview Response Notes

After introduction of the project, we proceeded to a semi-structured question-and-answer interview, guided by the key questions identified in this document, but not adhering to them strictly. From the responses given to more fundamental questions, I guided the interviewee towards more free-form dialogue of detail sharing, and as such was able to gain more natural insights to the nuances of their meal work process.

The following are bulleted notes grouped by main topics, with key insights observed during the conversation ➤**denoted like this**. Responses below were slightly paraphrased where needed for brevity, and were revised for clarity after the conversation.

Recipe Gathering and Meal Pre-Planning

- 80% of meals eaten at home on an average week, consistently.
- Spends 12-16 hours a week on meal planning & prep, but concentrated on one day of 5-8hr of prep, makes 4-6 days worth of meals at once
- On a weekly basis, DZ plans out meals for 5-7 days in advance, and he estimates an 80%+ rate of adhering to planned / prepared meals, with exceptions usually coming later in the week as stored food deteriorates.
- Most stressful / cumbersome part of the meal process is trying new recipes for the first time, not knowing if they'll be good or a waste of groceries. In particular, excessively needed scrolling through the blog posts on every recipe website to get to the actual recipe can be particularly taxing. On top of that, recipe acquisition can be hard to trust without knowing what's good / what's been tested from other users.

- At the end of the week, instead of trying to scrape together things from on-hand ingredients, DZ often ends up picking up takeout food instead of making new things from leftover supplies or making additional grocery trips to find extra needed ingredients.
- DZ is almost always happy eating the same thing on a regular basis if he has found a recipe he likes and is efficient for prep or smaller meals.
 - **In general, it seems recipe / meal variety can be valuable to an extent, but the backbone of DZ's process is iteration on and optimization of known recipes to improve them or prevent them from becoming boring.**

Shopping Pre & Ingredient Inventory

- DZ's Grocery Shopping plan & prep Starts by looking for new recipes or deciding on old ones to prep for the week.
- For new dishes, he will often google a few different recipes of a dish he had heard of or had somewhere, look for home-make-able equivalents, then find one that looks best / most thorough, bookmarks the recipes (estimated 2-3 hours a week)
- For old recipes, will often reuse bookmarked recipes or, if they need to be modified, write them down on index cards kept in the kitchen.
- **Insight: DZ seeks out recipes digitally, but doesn't** tend to 'save' custom recipes regularly, and has no easy way to modify and share recipes that he does want to save. If there were an easy method for importing base recipes from ones found online, **and** being able to save them with modifications / results of previous iterations in the future.
- All needed ingredients for the week go into an existing app: Listonic
 - Serves as a cross-platform grocery checklist, but is synced with google tasks to be editable from many places.
 - Highly customizable / categorizable by the user
 - Also reorderable for idiosyncrasies of one's chosen grocery store, or by simple food type associations like meat, dairy, produce, etc.
- After recipe-hunting, he completes shopping list at home, checking pantry / fridge against recipes.
 - As this is usually a simple and short process, he has never really found value in tracking home inventory more concretely - just checking recipes against home supplies and adding to the list where needed is simple and efficient enough.
- **It seems that detailed tracking of ingredient inventories** a solution without a problem

Shopping

- DZ's grocery shopping itself is quick and efficient, with little exploration or research done onsite.
- In-store research & deviations from the prepared shopping list are made only by necessity, usually for small substitutions of unstocked items.
- Return trips to the store are rare. "It's usually just not worth it to go more than once."
 - If he needs a meal late in the week, he typically just eats out somewhere inexpensive, rather than try to cobble together a meal from ingredients on-hand.
 - The proces

Unused Ingredients

- In the cooking process, DZ suggests he can sometimes get distracted and forget an ingredient or meal component, or end up not finishing a recipe, or just have a leftover side component of a meal go uncooked for time constraints or other reasons.
- However, these instances are the exception, not the rule:
- With time and experience, he has developed the habit of avoiding 'extraneous' ingredient purchases, with the knowledge that doing so usually simply results in food waste. **Accordingly, the need to find recipe applications for spare ingredients is generally unlikely.**

Cooking

- With new recipe implementation, he almost always adheres to the exact recipe on the first cooking attempt, for a good 'base case'.
 - If it turns out good, he is very likely to make it again, and will frequently use these iterations to try slight modifications to recipes to test their effect on a meal
 - To keep track of them, he uses a limited process of index cards & memorization. However, even for highly don't often use, "I just know how to make it"
 - Uses phone and more googling / social media outreach to investigate new recipes, or share successes of old recipes and any modifications.

DZ's Current Tech Tools in Meal Work

- Listonic: Grocery List App
 - Best Parts:
 - Easy to add stuff
 - Easy to organize
 - customize
 - Less likely to forget
 - Desired changes:
 - Make it easier to add my own symbols for food categories, give repeated items more details where applicable. Limited detailing & icons available on the app.
- Recipe Research: Google and other social media searching.
 - The Good Part: There's an infinite supply out there.
 - Frustrations:
 - Even if a recipe seems good, the sites they are found on frequently spend excessive pagespace with long stories & ads, and make it harder than necessary to get to the core material of the pages.
 - There is often no easy way to 'export' / mold recipes into shopping list of your choice / recipe tracker that allows customization, so simple tools like bookmarks, screenshots, and index cards become the tools most accessible that don't get in the way.
- **DZ showed a consistent theme of prioritizing an interest in adaptability of tools and process over time, while maintaining ease of use as a core necessity.**
 - He uses some tools, but he only really engages with them where they can adapt with his iterative process in meal planning and prep.

DZ - Closing Thoughts

He has a lot of experience with cooking, and has had years of doing it poorly / not improving to understand what works well for him - it should not be taken for granted that not everyone's meal-related software should serve the same purposes. It Should keep in mind those of lesser background knowledge / less experience with their own tastes and understanding of what habits work for them.

Interviewers's Observations

DZ's relationship to software in his meal work can be summed up by 'use it for what it's worth, but only when it doesn't get in the way' - his long experience with efficient cooking suggests that he wouldn't be likely to use a new app just for a flashy feature. His tone expressed a baseline of *comfort* with cooking; tools that would integrate with the process would need to do so non-invasively. His experience suggested emphasizing the following insights when it comes to designing a highly usable meal work companion app:

- High customizability in every facet - food is personal, and an app that focuses on it should be able to be as personal as possible to the user.
- Recipe tracking system
 - Tools for searching, saving, reviewing, and sharing
 - Tools to import recipes
 - Easy recipe updating, based strongly in the iterative process of trying new recipes, reviewing how they turned out, and saving modifications.
- Inventory tracking was seen as a lower priority, but could still be useful for longer-shelf-life items like spices & condiments. This is still a concept worth exploring, but it needs work.

Dylan Interview: (Subject PN)

The People:

The subject is a male about the age of 23. He is currently a student studying full time and is currently unemployed. The subject seemed a bit distracted as before the interview he was studying for 2 midterms. He is calm and does not seem to be bothered by the interview. He does occasionally look at the time.

The Objects:

The subject is being interviewed in his room. He is currently sitting at his desk. He has his laptop open next to him and his study materials are on his desk. He seems to glance at them from time to time. His phone is also placed face down on his desk. He does pick up the phone often to check the time or look at texts. Subject is sitting at his desk with feet on the floor and leaning back with his arms behind his head while talking.

The Environment:

The lighting is bright and coming from a single bulb at the ceiling of the room. The room itself is messy, unkempt, but the desk that the subject works at appears clean and well organized. In the background, there is a little bit of noise as the interviewee has a live stream on low volume playing and his parents are watching television in the living room. The sound seems to echo through the thin walls.

INTERVIEW

*** are additional, improvised questions.*

1. How much time do you spend on grocery shopping and preparing meals on a daily or weekly Basis?

I didn't do a lot of meal prep honestly; I wasn't eating very healthy most of the time. A lot of instant ramen, chicken, beef and rice. Usually made dinner for the night and cooked the next day. I do go grocery shopping at least once a week, sometimes twice if I forget something.

****So you prefer to make meals throughout the week instead of plan meals?**

I would say that I was more limited by having four other roommates. One roommate would buy a lot of frozen meals and take up a lot of freezer space leaving me very littler room. Everyone had their own food and no one ever wanted to share so it was hard to buy stuff.

****does that mean what you bought mattered a lot more because you had to be organized with the meals you wanted to make?**

Yes, it was. I was only able to buy one package of meat a week, usually five or six chicken breasts for example. I wasn't able to buy any frozen products either.

****Does this mean that you didn't spend much time cooking then?**

I did spend a lot of time cooking. I would usually have to wait for my roommates to finish cooking in the kitchen first, so I usually ended up making dinner late. I spent about 2 hours every day preparing one meal.

2. What part of preparing a meal takes the most time every day?

I wasn't able to make many fancy things, so it was mainly waiting for rice to cook and prepping ingredients.

****Do you spend much time at all thinking of what to make?**

Not often... usually not at all actually.

****Earlier you mentioned that you did not eat healthy much. Do you think that if you had spent more time planning your meals you would have had healthier things to eat?**

I think I was eating unhealthy because I would buy fast food or buy cheap carb heavy foods. Cause its cheap.

****What if there were recipes for cheap healthy meals available? Would you have tried to use some of them?**

Probably. There probably are recipes for cheap healthy meals but I was often too busy to attempt to find them or focus on eating healthy at times.

3. Do you feel that preparing or thinking of meals is a difficult or burdensome task?

I feel like prepping for like, a week was very stressful.

****What was difficult about making meals?**

It was hard to plan, keep track and think about making meals. It was often easier to make whatever.

****To make 'whatever' did you ever have ingredients that you had but never knew what to use them to make?**

Yeah sometimes I had ingredients for food I didn't want to make that day and would crave making food I hadn't thought about making before I went to the grocery store.

4. Earlier, you said you will make a sort of outline for the week - how often do you stick to these plans? Do you find it difficult to stick to it?

Hm... yes, I would honestly buy food that was quick to make but totally unhealthy. As a fallback for when I was lazy or didn't have time to make meals I would often default to like ramen. Instant ramen is super easy and affordable to make.

5. How often do you prepare a shopping list before going to buy groceries, if at all?

Never. I usually just make a mental list. Didn't have time to write stuff down.

6. Do you often have to make a return trip that week to buy something you forgot?

Sometimes but not very often. It was usually if my s/o at the time wanted something. Like snacks and such. Sometimes if I run out of an ingredient half way through the week I would also make a trip.

7. How often do you forget to use ingredients that you bought?

Rarely. I have a short list usually and I usually buy stuff on a whim while at the grocery store or when I walk through the aisles.

8. How well do you remember recipes while shopping for ingredients? Do you ever have to look it up or feel like you want to make a certain dish but don't know what to buy?

I didn't often feel like I wanted to try new things until I moved back in with my parents. I think my taste buds just changed, I started to eat more veggies. I didn't like them before was because my mom would always make them a specific way.

****Would you be interested in cooking veggies in a different way then? If you had a recipe?**

It depends, the recipe would have to look good or I was certain that it was a good dish, otherwise, no.

9. Is there anything you would like to see change in the way you prepare meals, or what do you think can make preparing meals easier?

I am a lot better at meal prepping now than when I was doing my undergrad... I think before I would spend a lot of time on one thing, focusing on getting a certain thing right... like not burning or undercooking. I think having good kitchenware is super fundamental to making or preparing a meal. Actual cooking is a lot easier.

10. Do you have access to a computer or a smart fridge? How often do you use your devices to access an app or a website to organize a shopping list and plan for meal preparations?

I have a computer. No smart fridge... I don't know how technologically advanced fridges are now. If I wanted to it's really easy to make a shopping list on my phone... probably use a built-in app and all or something. There's definitely apps to help with planning food or for dietary purposes... I've just never used them.

****Would you be interested in such apps?**

Yea. I probably should use one actually. To track calories and such.

11. What would you say is your skill level in using technology?

I am pretty good with computers and tech savvy. I am a computer science major.

12. What are some things that make using apps or websites difficult?

Usually I am okay with most apps. I would say my biggest issue with some apps are spelling errors, laggy UI, or apps that are buggy in general. Many apps aren't stable and have latency issues, could be due to things like overloaded images, sizing, etc... It's nice to also have to app not too overwhelming, stuff should be easy to find but also not too crowded. Apps that make people overwhelmed makes it harder for them to open a second time because I find it stressful just thinking about it.

INSIGHTS: Subject places value in flexible and easy meals that do not require much ingredients. Subject also values the taste of the meal and would prefer to only eat meals that he knows are good. Subject would likely use an app if it wasn't a hassle or made him stress out. He would only use an app that is clean and easy to use. Prefers that he can navigate to screens that he needs quickly. The subject is a busy student and does not have much time to prep meals let alone plan. Subject values time and efficiency when it comes to things he uses.

Yu Chuan interview:**The people:**

Currently studying at OSU and have to cook to 3 other housemates. 3 of his housemates are currently studying at OSU. He loves to cook and he always cook every night for 4 of them.

The Objects:

The interview takes place in his room and he went out of his room for a few times.

The environment:

His kitchen is really clean and all his housemates clean kitchen very well after they use it.

Interview**1. How much time do you spend on grocery shopping and preparing meals on a daily or weekly basis?**

Usually he spends about 2 hours on grocery shopping and after grocery shopping, he spent another hour to clean up the meat, cut them into small pieces. Every day when he prepares dinner, he spends about half an hour to prepare ingredients for his dinner.

2. What part of preparing a meal takes the most time every day?

He think cleaning up meat, cut them into small pieces take most of the time, this is because he has to separate those meat for seven days. Which mean this take longer time.

3. Do you feel that preparing or thinking of meals is a difficult or burdensome task?

He feel preparing and thinking meals is difficult. This is because he tried not to repeat the same meal in the same week and also take time for preparing those ingredients.

4. Do the users take time out of their days to plan out meals for the week? If so, how often do they stick to these plans? Do they find it difficult to stick to the plans?

He usually takes 30 minutes to plan out meals for the week and usually they stick to his plans. He think if well prepare for the food, then is not difficult to stick to the plans.

5. How often do you prepare a shopping list before going to buy groceries, if at all?

He said that he had to prepare a shopping list every time before going to buy groceries. This is because he might forget some ingredients and have to go again the next day.

6. Do you often have to make a return trip that week to buy something you forgot?

He said before he do shopping list, he always have to return to the grocery store to buy something he forgot. After he have shopping list, he return grocery store time become very less.

7. How often do you forget to use ingredients that you bought?

Sometimes, this is because when something is hidden, then he didn't think about it and he will forget. After the end of the week, he realizes that and will use it next week.

8. How well do you remember recipes while shopping for ingredients? Do you ever have to look it up or feel like you want to make a certain dish but don't know what to buy?

If he is making new food, then he has to look at the recipes. For some food that he know, then he don't need to look at recipes. Usually he look at recipe, and he will know what to buy.

9. Is there anything you would like to see change in the way you prepare meals, or what do you think can make preparing meals easier?

He doesn't really know what to change, usually stick to his cooking style that he is comfortable.

10. Do you have access to a computer or a smart fridge? How often do you use your devices to access an app or a website to organize a shopping list and plan for meal preparations?

No he doesn't have a smart fridge. Usually he just writes the ingredient he wants into his phone.

11. What would you say is your skill level in using technology?

He is a computer science major, which means that he is better in using technology.

12. What are some things that make using apps or websites difficult?

Usually making apps or websites difficult is an error page, which means that there is some recipes that he wants to look at it, but couldn't due to that is an error page.

Interviewers' Observation

From my view, he really loves to cook. This is because he cooks for his housemate for 1 and half year. His housemates like the food he cooks. He said that from preparing to cook, is really comfortable for him and feel like having smart fridge might be helpful, but only for luxury goods. Which mean that he doesn't interesting to those smart fridge or new apps.

Shannon: Interview Report (Subject JH)

The People:

A twenty-six-year-old woman living with her boyfriend was the subject of this interview. She is an author working on high fantasy novels. She spends most of her time at home working on her novel and does the shopping and meal preparation of the household.

She was excited and very engaged throughout the interview. She was very comfortable answering questions and did not feel frustrated or uneasy. The interview took place at a restaurant and she was very interested to learn about our project so that she can say goodbye to her little clipboard that she uses for shopping and keeping an inventory of ingredients in her kitchen. The ambient noise and didn't affect her participation in this interview and she felt even like the relevancy of being in a restaurant and talking about a kitchen ingredient centered project.

The Objects:

The subject was at the restaurant and talking about this project inspired her to look around at dishes that were coming out of the kitchen and being placed on tables. She once in a while glance at her

food and trying to guess the ingredients and expressing how it would be nice the project could help her in reproducing the dish.

The Environment:

The interview was conducted in an upscale Thai restaurant during the Sunday evening time. The background noise was not interruptive, but highly inspiring. Our cell phones and the restaurant's TV and tablet registers were the only technologies present.

INTERVIEW Q&A

Questions in italics and marked with ** are additional, improvised questions.

1. How much time do you spend on grocery shopping and preparing meals on a daily or weekly basis?

I spend two to three hours shopping per week. I use a clip board system where I keep track of my kitchen ingredients. I usually spend around two hours preparing our daily meal. These hours sometimes get expanded if I decide to make something special that requires more time both in shopping for ingredients and cooking the meal.

2. What part of preparing a meal takes the most time every day?

For me the shopping takes more time. That's why I came up with the clipboard system to expedite it more and eliminate going back to the store for more items.

****Does the clipboard system help you?**

Yes, but I would be interested in something more technological advance and not so primitive.

3. Do you feel that preparing or thinking of meals is a difficult or burdensome task?

It could go both ways as it was hard in the beginning to decide what to do, but it got easier over time as now I have a little system in place. My experience so far has helped me to make preparing and thinking of meals easier as to some extent it is repetitive through a month or sometimes a week.

****Do you do all the deciding/shipping/ preparation/cooking?**

Yes, most of the time and when it's Ron turn, he just takes us out. No, just kidding, he does help me during the weekends when we are home together.

4. Do you take time out of your days to plan out meals for the week? If so, how often do you stick to these plans? Do you find it difficult to stick to the plans?

Yes, I plan for the whole week and do my shopping accordingly. I stick to the plan pretty good since I usually make what we both like and have made before most of the times. So, no, I actually stick to the plan since it makes it easy for me and let me not wait too long or buy extra ingredients.

5. How often do you prepare a shopping list before going to buy groceries, if at all?

I always make a shopping list as I want to know what and how much of it I have. It was hard in the beginning to keep track of all ingredients and know exactly what to buy. I used to end up with ingredients that I thought I needed, but they were left in the fridge for a long time because they were bought without having a plan for them. I felt I was wasting money since I ended up throwing away some of the ingredients I would buy, but did not utilize in preparing meals. That when the clipboard system was born and though it is primitive, it has helped me a lot.

6. Do you often have to make a return trip that week to buy something you forgot?

Before my clipboard system yes, but now it happens very rarely. Most of the ingredients are planned and meals that prepare, I'm used to know what I would need for them. You could say, I have a routine that works for me. It might seem a little repetitive to some people, but We like that since we eat meals that we both like and look forward to them every week. Like if Chili is not one of our weekly meals, I would see my boyfriend planning on making it himself by going through our ingredients.

**** So rarely you prepare for new meals that you have look up recipes and such?**

No, that is not true. We went out a couple of times a month and we experience something new we like and then we either replace one of rotating meals with that one or add it to the list. For example, I need to be prepared if the store doesn't have good Salmon and switch to another dish that I'm familiar with its ingredients.

7. How often do you forget to use ingredients that you bought?

Before a lot of times, but now almost never since the clipboard is a huge help.

8. How well do you remember recipes while shopping for ingredients? Do you ever have to look it up or feel like you want to make a certain dish but don't know what to buy?

I don't remember the recipes if I haven't made them that often. I looked them up online and follow the instructions. The ones that I have made many times, I know by heart and I have altered them to

our liking too. Sometimes the recipe would not result in what I make since I interjected what we like and deviated from the online recipes to create what is unique to our liking.

****How do you decide to deviate and what to substitute instead?**

It most of the time comes from our family and how they used to prepare it for us. Then, we alter the recipes or call and ask them what they did and try to replicate it. That's why we like to have a plan and make almost the same thing every week. It feels like a puzzle we are trying to solve to come as close as possible to taste our home cooked meals would be if we visited our parents. It feels like an adventure though Ron is really good at guessing.

9. Is there anything you would like to see change in the way you prepare meals, or what do you think can make preparing meals easier?

Yes, it would be nice to have something more advanced than a clipboard. It would be a plus if it can track what I have bought before, keeps a log of what we have and create a shopping list for me. It can also suggest food so that we can easily add variety to our planned meals. We are open to everything, but just the time and decision making make us to stick to the system we have right now.

10. Do you have access to a computer or a smart fridge? How often do you use your devices to access an app or a website to organize a shopping list and plan for meal preparations?

I don't have access to a smart fridge, but have seen one at Home Depot and would love to own one someday. I use apps on my phone and websites on my laptop to do my research on ingredients and recipes. The clipboard is a printout of what I make in excel and some alteration on them when I figured out I was not able to buy the ingredients and needed to alter it or by accident find out that my inventory system was not as accurate.

11. What would you say is your skill level in using technology?

I would say I'm very tech savvy since I use my laptop for work and writing my novel. In addition, I have to do extensive research for my novel. So, I know my way around finding exclusive and informative subjects and articles. Thus, looking up recipes and such are pretty mundane for me.

12. What are some things that make using apps or websites difficult?

For me not much since as I said I'm pretty good at using technology and looking up stuff. I like using apps and websites since it's pretty much similar to my searches for my novels. It's actually fun for

me since they are like mini breaks from my work and it's easier to do when it's about cooking and preparing my shopping list.

Reverse Recipe Prototype

The concept behind making the Reverse Recipe app was explained to the subject. What the app does and how it would be doing it was discussed in detail with the subject. The prototype was presented to the subject and helped her to navigate through it.

Opening Screen:

Subject really like what how the app looked like overall and how easy it was to go from one screen to another. The flow was good, and the presentation of titles help her to know what each screen does and what she needs to do.

Home Page:

Subject liked the homepage had most of the important buttons and she expressed how they got her excited to explore where each button would take her.

Ingredients Screen:

Subject liked the presentation and how there were two ways to create a list of ingredients: by scanning or manually entering. She was very interested in how she could see all the ingredients in one list and edit them, add quantity and make them into a shopping list. She expressed that look of each screen was very modern and inviting. She loved how coupons and the shopping list are her favorite features that makes experience exciting for her.

Search Screen:

Subject loved how she can now fit in other people's food restriction into her routine shopping and meal preparation. She could see how this would be helpful since she has friends and family members who visit her and have allergies or favorite foods that would affect her shopping list drastically.

Recipes Screen:

Subject was familiar with the layout of this screen as she expressed it is similar to the other apps she uses and like how the navigation through them was easy.

Favorite Ingredients Screen:

Subject loved this screen and proposed to have a screen that also recommends the best ingredients in terms of brand, taste or freshness. She gave me an example which pasta sauce it the most recommended by other shopper so that she have that readily available.

Settings Screen:

Subject was fond of this screen as she loved the dark mode. She expressed the light mode bothers her eye and she loved to have that feature on this app. She would like to add her own picture and may be compile them as her own custom recipes to share with others.

5. With the detailed observations/responses, point out the places that provide Results/Insights and say what they are ("I"):

Based on our research we've identified the following insights:

- The way each user prepares a meal is inherently different and their approach to groceries is different as a result of that. It appears that users who want to prepare a set schedule of meals prefer to buy specific ingredients when making their shopping list/visiting the grocery store. On the other hand, users who tend to make meals throughout the week try to buy general items that they know they will be using or specific items if they know that they want to make a specific dish. People who tend to meal prep seem like they are very set on what they are making that week while people who make meals during the week have the flexibility of changing plans based on their ingredients.
- Users do not often forget what ingredients they need for recipes that they cook all the time. They do have to make lists that are usually stored within their phones. Users prefer using phones however they do appreciate the option to 'sync' to other devices. Some subjects do not make lists at all.
- Users seem to prefer simplistic designs that are easy to use and navigate. Simplified icons/categories and more whitespace may help in this regard. Some users prefer apps that are not too overwhelming and would like apps that are concise and to the point.

- Users prefer more flexibility in their recipes, the ability to add recipes from different sources (screenshots and texts) and the ability to edit existing recipes to their needs. (Easily modifiable and shareable).
- Recipes should be very clear and concise. People often find it hard to find what they need without scrolling through text of useless blogs.
- An important factor when considering recipes is the result of the final product. Users want to know which recipes are good/what's been tested. (reviews)
- Users seem impartial for keeping track of inventory and more concerned with the availability of new recipes / trying new things.
- The way people deal with food is different for each person. App should be more flexible to cater to these rather than present static options. (customizability).
- Subjects each have a working system on preparing food and prefer an app that assists them with their system rather than one that tries to facilitate a new lifestyle.
- Most subjects spend their time prepping ingredients for the meals or grocery shopping

Table 1: Group members, Assigned Tasks, and Task Completeness Grade

Group Member name	Role	Responsibilities and Assigned tasks	Tasks Completeness Grade* 0-5
Shannon Farazi	Leader	<ul style="list-style-type: none">● Managing the meetings● Making the prototype● Helping on writing the Document● Conducting 1 Interviews and 1 observations	Carter's Opinion: 5
Carter Fritsch	Collaborator	<ul style="list-style-type: none">● Helping on writing the document● Conducting 2 Interviews and 2 observations	Carter's Opinion: 5
Dylan Kieu	Collaborator	<ul style="list-style-type: none">● Writing the document● Conducting 1 Interviews and 1 observations	Carter's Opinion: 5
Yu Chuan Tey	Collaborator	<ul style="list-style-type: none">● Helping on writing the document● Conducting 1 Interviews and 1 observations	Carter's Opinion: 4
Michael Ton	Collaborator	<ul style="list-style-type: none">● Helping on writing the document● Conducting 1 Interviews and 1 observations	Carter's Opinion: 5

*Provide additional justification/comments if needed.





