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INTRODUCTION

The average adult spends...

400
HOURS

in the kitchen every year.

According to the New York Post.



PROJECT SIGNIFICANCE


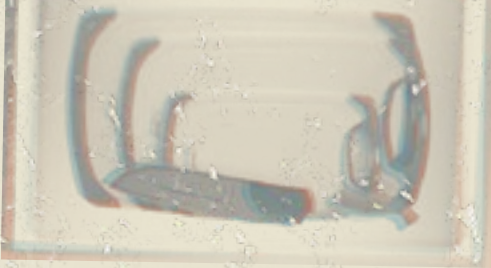
















That works out to about 7.5 hours of cooking and cleaning every week. If we're going to be spending so much of our time in the kitchen, what can we do to make it as enjoyable as possible? What jobs are current users looking to get done, and how can we accomplish them better? To answer this we must first observe the users, market, and technology involved, and assemble a list of findings in order to create design objectives.

<u>Phase:</u> 001	<u>Pages:</u> pg.01 - pg.15
<u>Contents:</u> <div><input type="checkbox"/> Product Benchmarking & Biaxial Maps <input type="checkbox"/> Activity Analysis <input type="checkbox"/> Artifact Inventory <input type="checkbox"/> Contextual Inquiry <input type="checkbox"/> P.E.S.T Analysis <input type="checkbox"/> Jobs to be Done <input type="checkbox"/> Design Criteria <input type="checkbox"/> POGs</div>	
<div><u>Date Completed:</u> 02-23-2023</div>	

Phase 1 is the research section of the project and creates the design brief by observing ‘jobs to be done’ with respect to the target users, the market, and the relevant technology.

PRODUCT BENCHMARKING

Market Research

Image										
Name	Kitchen Knife Set	5pc Set	Plastic Cutting Board	XL Cutting Board		Gen 2	Meal Prep System	Bamboo Cutting Board	Prep Master	Cup Board Pro
Brand	Pak	EATNEAT	Aichoof	Greener Chef		Prep Deck	TidyBoard	Seville Classics	Boos Blocks	Williams Sonoma
Price	\$25.99	\$19.99	\$34.99	\$69.69		\$129	\$99.99	\$29.99	\$232	\$90
Prep Surface Area	12" x 8" (3x)	15.8" x 8.4", 13.8" x 8.3", 9.8" x 5.8"	13.15" x 9.4" (4x)	20" x 30"		21" x 12.25"	20" x 15"	16.5" x 13.4"	15" x 14"	15" x 16"
Materials	Stainless Steel, HDPE	Stainless Steel, HDPE, Silicone	HDPE, Silicone	Bamboo		HDPE & Vinyl	Bamboo, PLA, Silicone	Bamboo, PP	Rock Maple	Silicone, PP, TPE, Paper Composite
Color Scheme										
Included Tools	3x Knife, 3x Board	1x Knife, 3x Board (S, M, L)	3x Board	1x Board		1x Board, 12x containers, Mandolin, Grater	1x Board, Containers, Strainer	1x Base, 7x Cutting Mat.	1x Butchers Block, 1x Steel Pan	1x Cutting Board, 1x Catch Bin
# of Reviews	5	28	1467	2224		1751	185	8	160	46
Negative Reviews	Crappy Knives	Thin, warped boards	Boards warped in the dishwasher	Wood splits along the grain & pieces come off in food		Cutting board is too thin & poorly made	Wood chips & develops mold easily	Replacement mats are too expensive	Wood cracks along the grain	Composite material warps and wobbles

PRODUCT BENCHMARKING

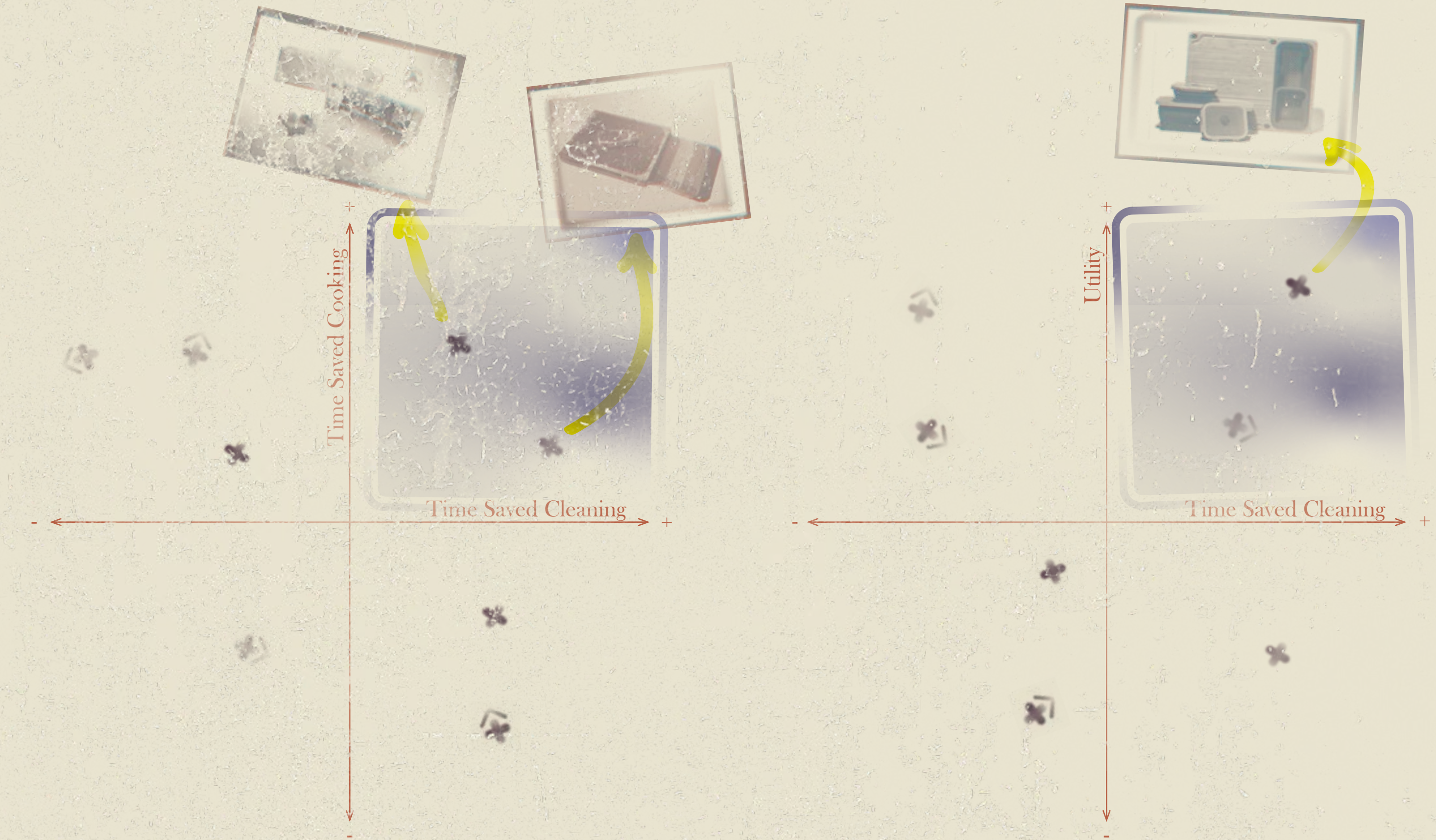
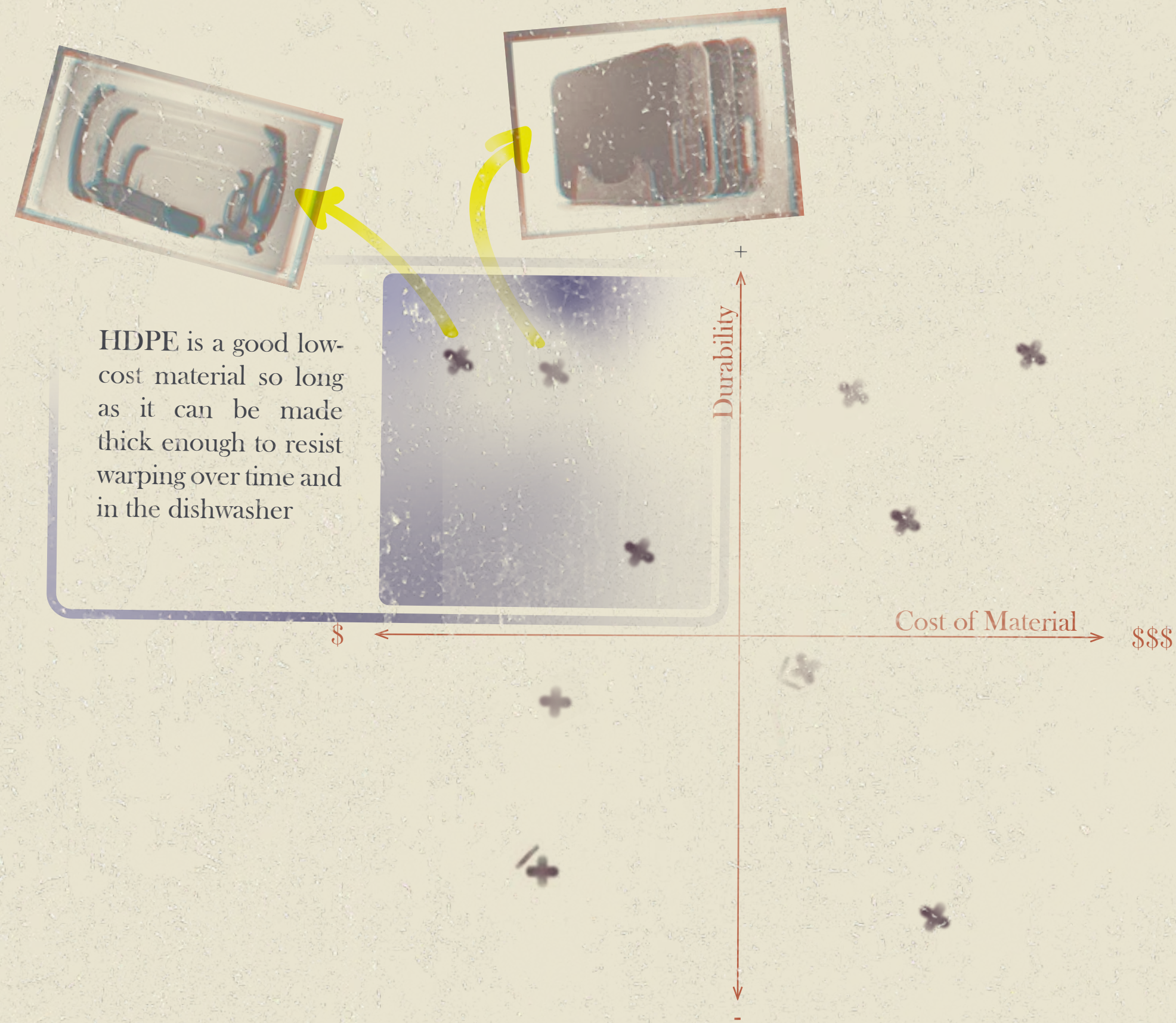
Tech. Research

2x2 comparison charts show the current state of the market with respect to two features or jobs-to-be-done on either axis.

I know I will want CMF benchmarks on hand, when I begin ideation, so I've made sure my first table focuses on material cost and durability.

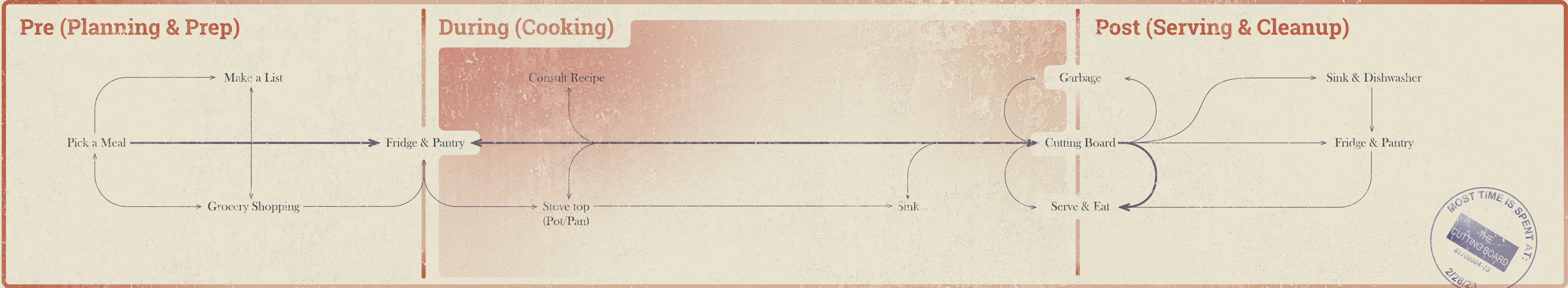
I am also interested in identifying products that save time while cooking, yet do not result in more cleaning to do later on. Similarly, I also want to find a feature set that is especially useful or productive without requiring more work.

Some things to avoid going forward are large product lines that necessitate excess cleaning, 'economically' thin material that warps over time, high maintenance materials that require upkeep, complex & moving geometry that introduces failure points, and nooks & recesses that are tough to clean.



ACTIVITY ANALYSIS

User Research



Doing:	Meal Planning, Grocery Shopping, Stocking the Pantry	Getting Ingredients, Chopping, Mixing, Cooking	Putting Ingredients Away, Serving Food, Cleaning Dishes & Counter Tops
Thinking:	Meal Preferences, Schedule, Dependants, Inventory, Recipes	Technique, Recipe, Timing, Taste, Safety	How to Clean Specific Items, Where Items Go, What Leftovers to Keep
Feeling:	Worried about Food Waste & Cost, Excited about Upcoming Meals	Stressed about Time, Engaged in Process	Burnt Out, Full, Ready to do Something Else, Don't Feel Like Cleaning

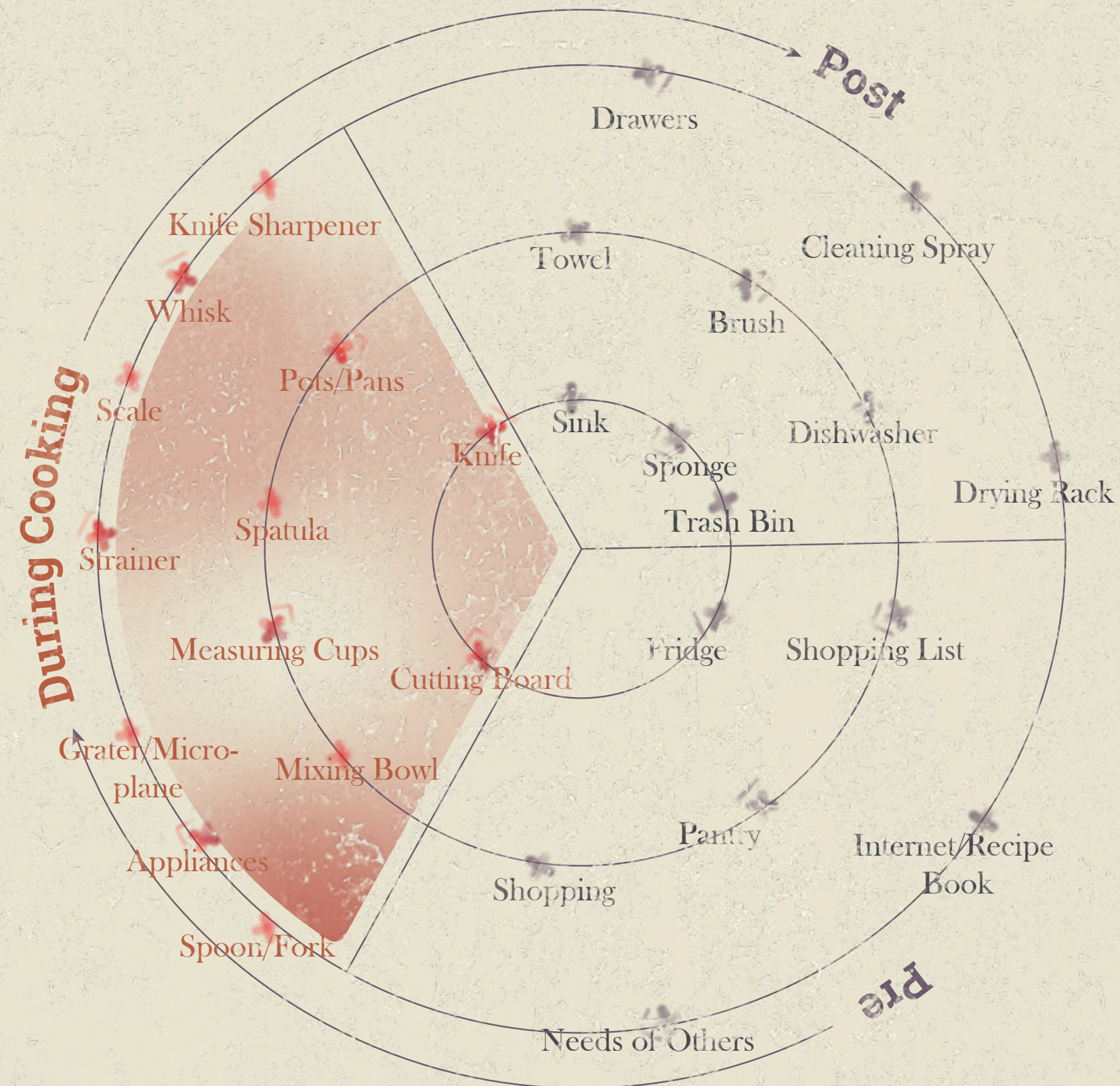
ARTIFACT INVENTORY

User Research

The artifact inventory documents touch points and products along the arc of the users journey. The diagram displays a hierarchy from the most used items in the middle, to less used items around the perimeter.

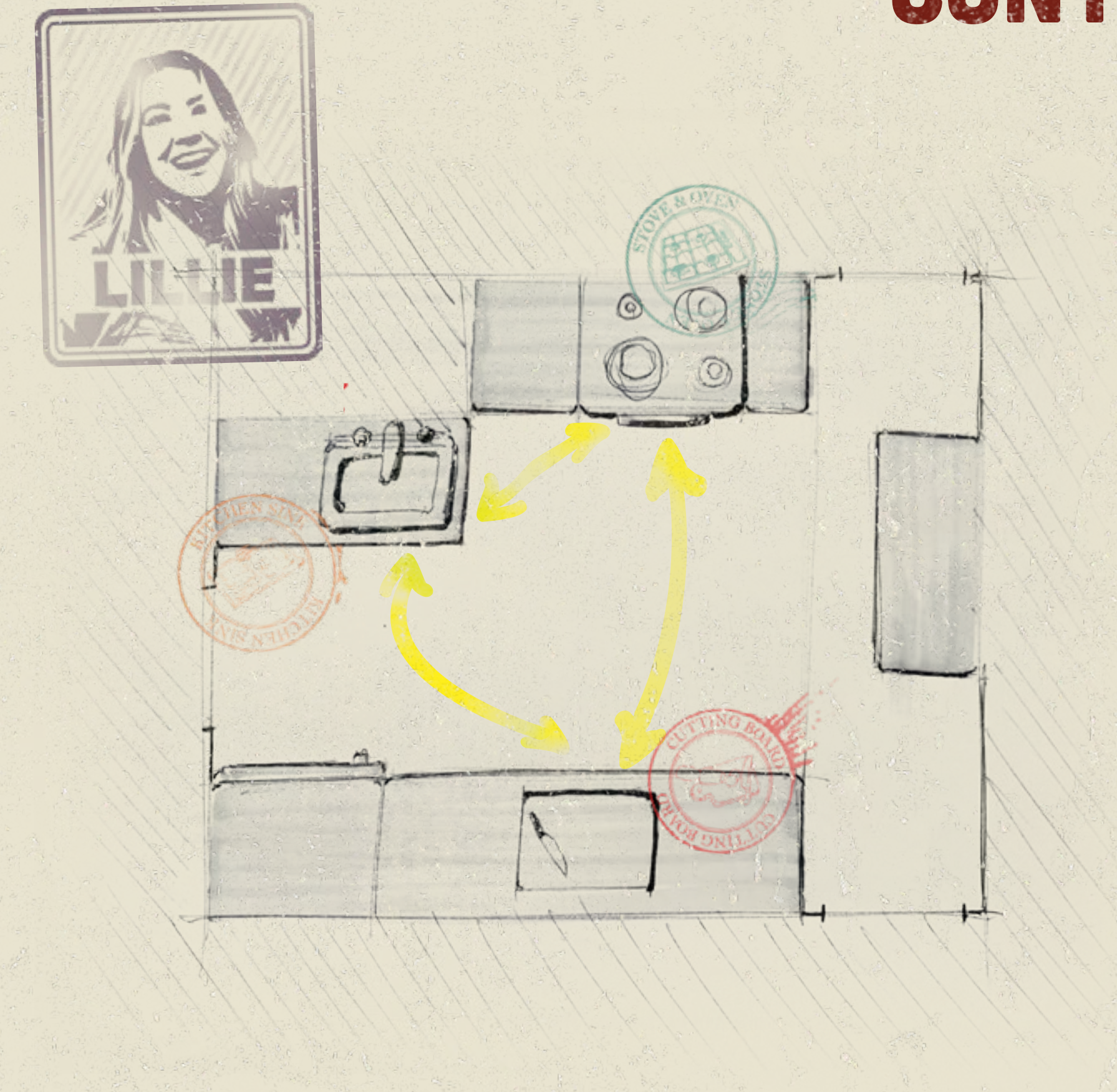
A distinction is made between the pre, during, and post phases of the process, and an emphasis is placed on the items the user interfaces with while actively cooking.

It is also worth noting that many touch points extend through more than one phase of the journey, and that most jobs to be done from earlier phases become touch points in subsequent phases. For example, a spoon used to stir a pot in the 'during' phase will end up in the sink by the time the user reaches the 'post' phase.



CONTEXTUAL INQUIRY

User Research



This map was drawn during a contextual inquiry and illustrates a pattern of touch points that formed between the sink, stove, and cutting board while Lillie cooked pasta alla vodka for me and her roommates.

Lillie would frequently make trips between these three locations while washing vegetables in the sink, chopping them at the cutting board, and putting them into the pan on the stove. Between prepping, cooking, cleaning, and serving, Lillie made trips too and from each touch point several dozen times.

She had a few struggles getting objects from one location to another. For example, finely diced onions would fall off the cutting board while Lillie carried them to the stove, or dirty spoons would drip sauce onto the counter while on their way to the sink.

PEST ANALYSIS

Market Research

<div>Political</div> <div>P</div>	<ul style="list-style-type: none">• Cuisine varies by region and culture along with ingredients, preparation styles, and cooking habits/cultural values of food.• Regional foods influence cooking habits. Look to focus on North American & European cuisine & techniques.
<div>Economic</div> <div>E</div>	<ul style="list-style-type: none">• Economic status drives food selection at the grocery store. Higher income families tend towards higher end produce with more variety while lower income shoppers tend towards lower priced, less varied selections.• Economy-grade kitchen supplies are very competitively priced, and offer less room for innovation as a category.• Higher end equipment is used often and expected to last. High end materials and manufacturing are required.
<div>Social</div> <div>S</div>	<ul style="list-style-type: none">• Certain materials and forms in the kitchen are regarded as ‘classic’ or ‘timeless.’ Often for good reason, but some sought after features are less durable than newer technologies. (Butchers block cutting boards tend to split more than composite)• The kitchen is both a creative and technical space. Users are looking for practical tools that aid in the creative process.• The kitchen is frequently an entertainment space. Surfaces should be kept clear with items put away out of sight when not in use.
<div>Technological</div> <div>T</div>	<ul style="list-style-type: none">• Newer cutting surfaces offer an advantage over hardwood/bamboo, but only if used correctly to avoid warping.• Polyvinyl Acetate boards are popular in professional kitchens. Apparently they feel have a similar feel to a hardwood board.• There is space in the market for products primarily targeting the cooking process with a secondary focus on clean-ability.

After taking input from the users, the market, and the technology through various sources, the insights gained can be collected and organized using the Jobs to be Done framework. This helps to lay out our findings and generate design criteria moving forward into ideation.

JOB TO BE DONE

User Research

User → Motivation → Situation → Outcome

Home cooks want to	decrease the time it takes to chop vegetables	when they are preparing a large meal	so they can have dinner ready sooner.
Home cooks want to	use as few tools and surfaces as possible	when cooking	to minimize the amount of cleaning.
Home cooks want to	peel alliums away from the cutting board	when doing other prep work	to keep the skin away from other foods.
Home cooks want to	use advanced knife skills in their workflow	while chopping produce	to save time, reduce risk, and feel cool.
Home cooks want to	avoid using silicone	with lightly flavored foods	to avoid unpleasant odors and flavors.
Home cooks want to	clean surfaces often and take extra care	while preparing raw meats	to reduce risk of food born illness.
Home cooks want to	use wooden spoons and silicone	while scraping steel pots & pans	to avoid scratching the cooking surface.
Home cooks want to	cook simpler and faster meals	during the week	to increase time spent outside the kitchen.
Home cooks want to	use old ingredients & food on hand	before introducing new items	to reduce waste and avoid shopping.
Home cooks want to	cook meals that are familiar to them	most of the time	to reduce complexity and feel confident.
Home cooks want to	see a clean kitchen	before and after cooking	to feel more organized and in control.
Home cooks want to	keep their tools in good condition	for many years	to make cooking easier and maintain good practices.

Save Time & Money

User would like to...

- Chop vegetables faster
- Use fewer tools
- Use advanced techniques
- Cook simpler meals
- Use ingredients on hand

In order to **save time & money.**

Do Less Work

User would like to...

- Use fewer tools
- Cook simpler meals
- Use ingredients on hand
- Cook meals that are familiar

In order to **do less work.**

Make Better Food

User would like to...

- peel alliums away from the cutting board
- Avoid using silicone
- Cook meals that are familiar

In order to **make better tasting food.**

Maintain Safety & Order

User would like to...

- Use advanced skills
- Clean surfaces often
- See a clean kitchen
- Keep their tools in good condition
- Use wooden spoons on steel

In order to **maintain safety & order**

Have Good Time

User would like to...

- See a clean kitchen
- Cook simpler meals
- Use advanced techniques
- Use fewer tools

In order to **Have a good time.**

DESIGN CRITERIA

Research Summary



PRODUCT OPPORTUNITY GAPS

Research Summary

1. **Enjoyable**

How might we create a kitchen tool set that...

- Is fun to use
- Improves food quality
- Improves Safety

to make cooking a more enjoyable experience for home cooks?

2. **NEAT & TIDY**

How might we create a kitchen tool set that...

- Stows away neatly
- Helps to move food around cleanly

to make cooking and cleaning a faster and more contained experience for home cooks?

3. **Easy & FAST**

How might we create a kitchen tool set that...

- Reduces time spent in the kitchen
- Is quick & easy to clean
- Is low/no maintenance

to require less time and effort be spent by home cooks?

<u>Phase:</u> 002	<u>Pages:</u> pg. 16 - pg.25
<u>Contents:</u> <input type="checkbox"/> Concept Sketching <input type="checkbox"/> CAD <input type="checkbox"/> Concept Render <input type="checkbox"/> Feature Presentation <input type="checkbox"/> Conclusion	
<u>Date Completed:</u> 12-02-2023	

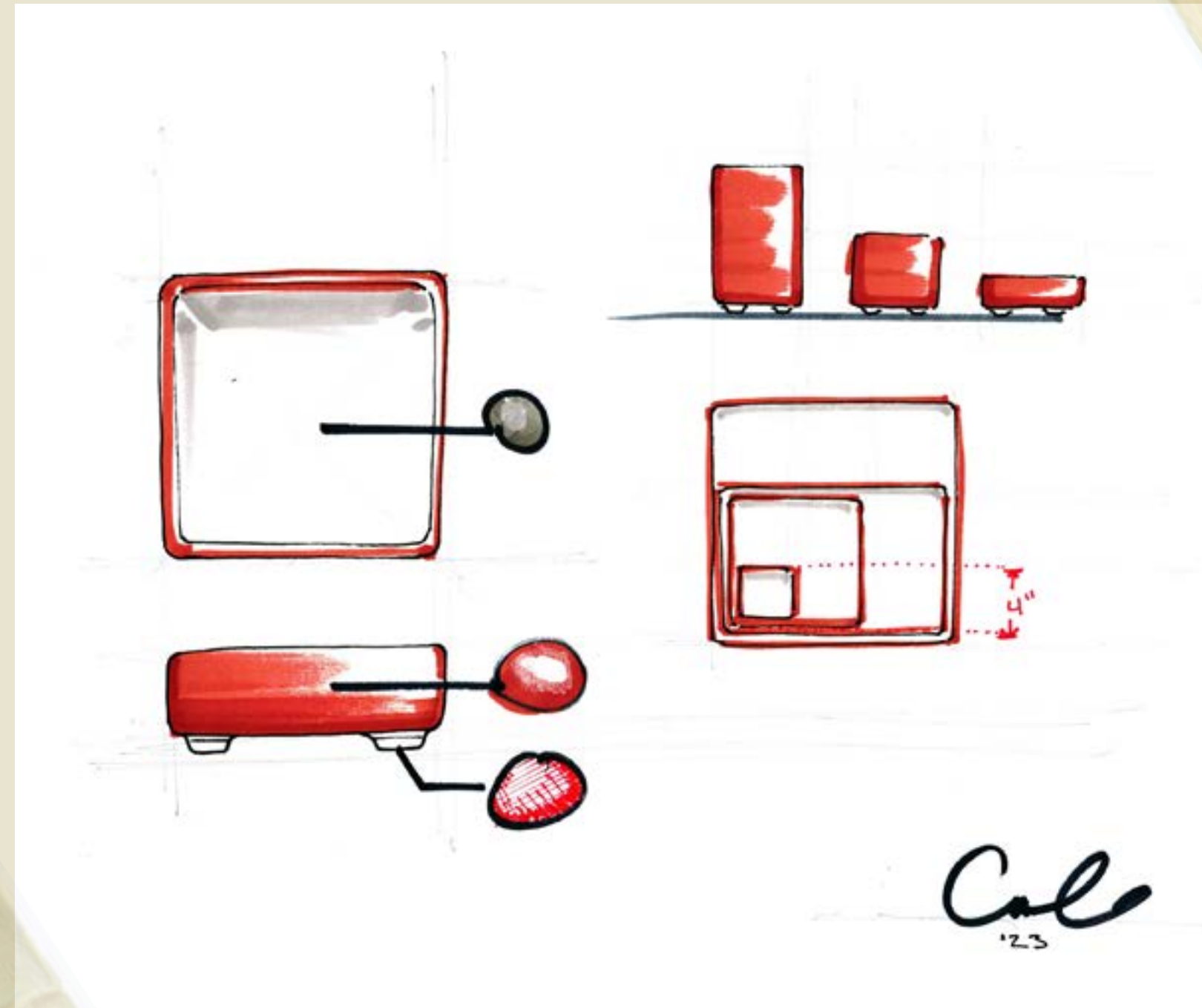
After one round of idea generation I developed a cutting board system that was over designed. The following concept was developed about 8 months later with the knowledge and user testing data that the previous failure supplied.

Rather than pitch another cutting board set, I’ve pivoted to the smaller workstations of the kitchen that orbit the main workspace. Spice racks, fruit bowls, and butter dishes are examples of these secondary locations where we store and manipulate ingredients.

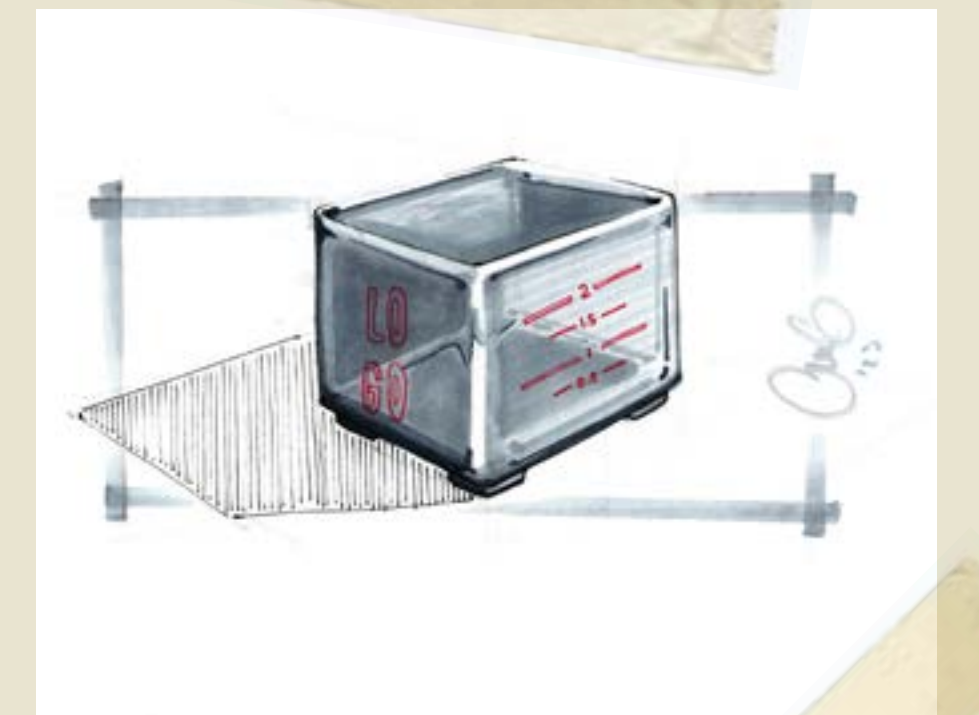
How Might We improve the quality of micro-interactions that home cooks make with their tools?

SKETCHES

Concept Delivery



The concept I selected is a nesting kitchenware set that doubles as a customizable storage solution. My idea is to embrace the impulsive creativity and nuance of home cooking with a set of stoneware that can turn into anything a cook might need; from a simple spoon rest or a tiered spice rack all the way to a full sit down dinning set. No matter what your needs, Preppy's sure to 'Stack Up.'



FEATURES

Concept Delivery

This product line of stoneware includes oven and microwave safe trays, trivets, dishes, mugs, measuring equipment, and much much more.

The form is defined by primitive shapes, and the reliable prime color scheme stands on the shoulders of the Bauhaus movement and the energy of consumer products of the 1960s and 70s.



Spice Rack



Mug Warner



Storage



Coffee Set



Spoon Rest



Bathroom



Serving Set

FEATURES

Concept Delivery

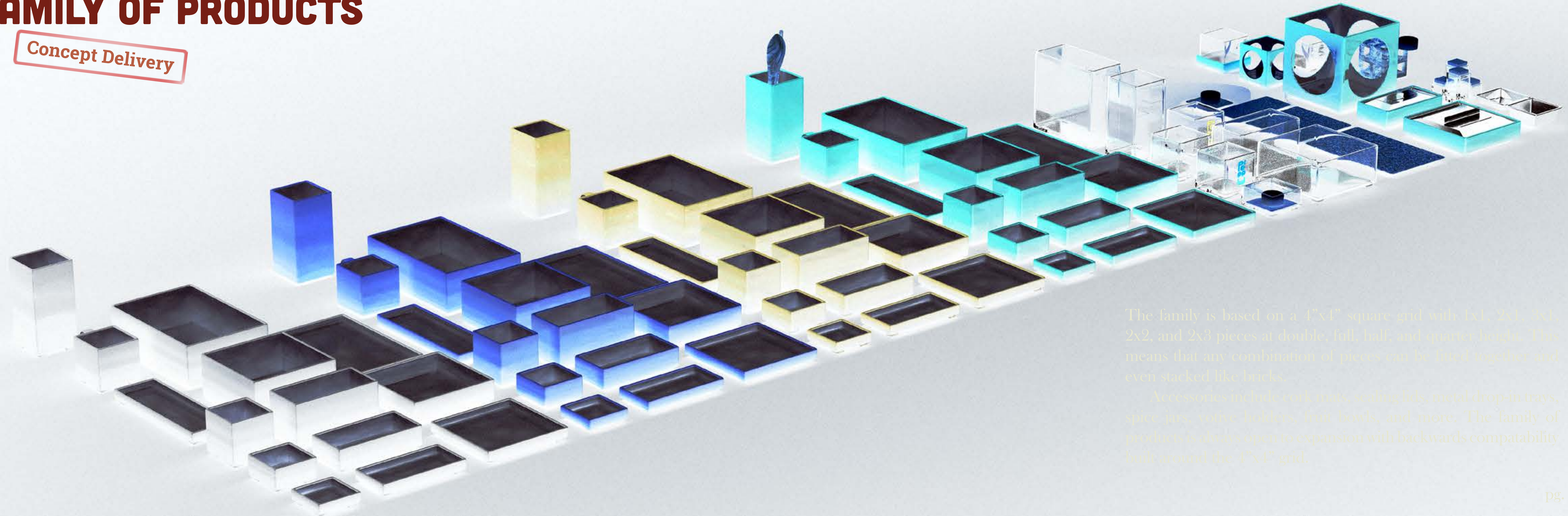
The high-fire ceramic dishes are treated with a food safe glaze on the inside and outside. The feet are over molded with high temperature silicone to keep the dish sturdy on even the soapiest of counter tops.

At a low volume, the pieces can be hand build from clay slabs with a working tolerance of around 1/8th". At production scale they are slip cast on an assembly line for a much tighter fit.



FAMILY OF PRODUCTS

Concept Delivery



The family is based on a 4"x4" square grid with 1x1, 2x1, 3x1, 2x2, and 2x3 pieces at double, full, half, and quarter height. This means that any combination of pieces can be fitted together and even stacked like bricks.

Accessories include cork mats, sealing lids, metal drop-in trays, spice jars, votive holders, fruit bowls, and more. The family of products is always open to expansion with backwards compatability built around the 4"x4" grid.

**IT'S NOT POSH
TO GET A LITTLE PREPPY.**

Get Preppy in sets or as individual pieces. Build an entire preppy ecosystem throughout your home, or try just one mug.

