

# CLAIRE DUNCAN

Industrial Designer | Maker | UX Designer

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*UX Design*

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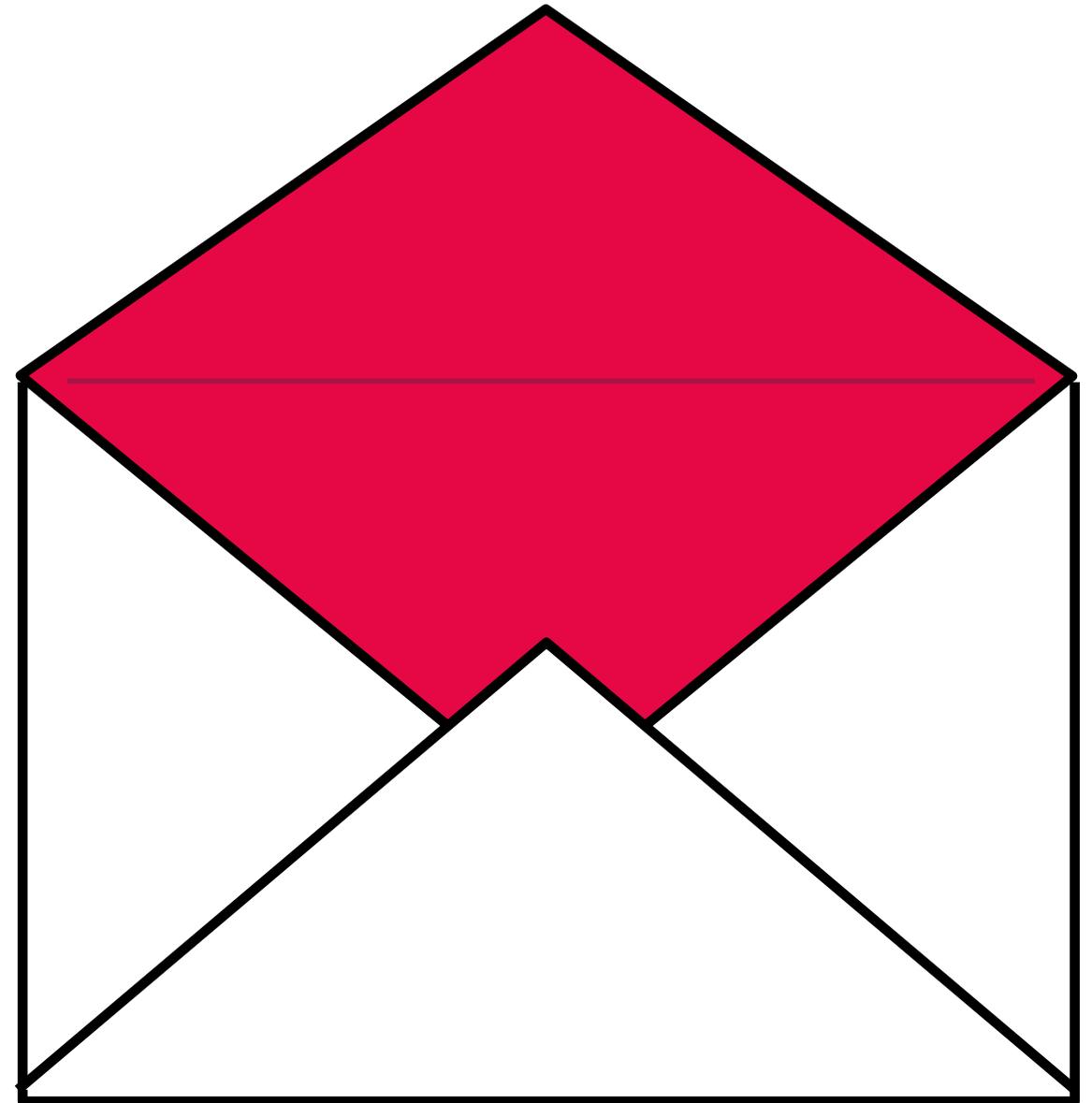
*Industrial Design*

# INBOX ORGANIZATION DESIGN

Individual Project | 10 weeks | Spring 2017

*UX Design*

*“How might we bring organization and order into people’s email inbox to help improve their productivity and well-being?”*



Note that this UX project lasted all semester, and resulted in 45 pages worth of content. The synthesized research has been laid out chronologically for the sake of clarity. The entire research book is available for viewing upon request.

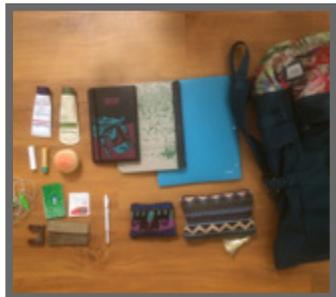
# FRAMING THE DESIGN

*“stop searching for problems that don’t exist”*

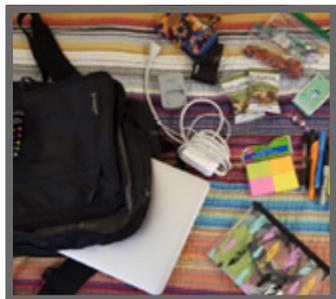
## Stuff Herding & Bag Dumping



This preliminary and dis-organized research taught me about people’s daily **habits**, **repetitive** tasks, and frustrations. Many felt **overwhelmed** by never-ending chores.



There was a mix of organized and hectic chaos, which revealed people’s priorities and thought process.



After more interviews, I noticed some serious **lack of organization** and planning skills, that becomes a burden on their daily lives: bad time management leads to falling behind, lack of sleep and **stress**.

I started to wonder if perhaps people did not know how to organize their lives, and if this affected their **state of mind**

## Assumptions

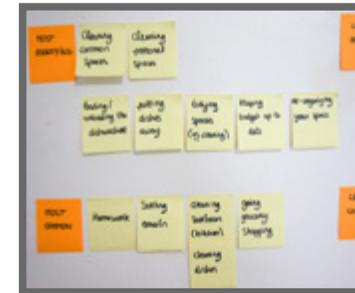
**1** Assumed that people had bad management skills and that it **bothers** them greatly.

**2** Assumed that people **plan out** things they have to, such as homework, chores, meetings etc.

**3** Assumed that what bothers me bothers other people too when it comes to a lack of organisation

**4** Assumed that most people **need help** organizing tasks and that they would take it if it were offered.

## Testing Assumptions via Interviews & Activities



*“I know myself and I’ll always find a way to procrastinate, but it doesn’t bother me at all.”*

*“I used to plan out everyday of the week but it was pointless because my schedule kept changing.”*

**All the assumptions I tested turned out to be false.**

I was surprised to learn things like no one other than I plan their weekends, and while some find going out to eat a way to relax/have fun, other see it as a waste of time and money (or only for special occasions).

Most people see the weekend as a time to **relax** even though I never feel like I have a **minute to myself**.

**Procrastination** does not bother people although I was set on the assumption that it would

Stress linked to repetitive chores and organization varies depending on living situation.

# REDEFINING & SYNTHESIZING

“Pivot!” - Ross Geller

## Pivot Moment

I finally understood that I was looking for a problem where there **wasn't one to find**.

I had walked in with **assumptions** about problems (and solutions to them in the back of my head) that had all been **proven wrong**.

I went back to my first interview with Marie-Anne, who had a very interesting daily experience with **managing her emails**.

I found her case fascinating because I had no strong assumptions about the subject.

**Managing my emails has always bothered me, but I always saw it as a necessary evil.**

## Shadowing & Surveying

I performed a shadowing activity with four more people. The activity revealed there was a generational split of attitudes towards managing emails.



Finally, a large survey with over 70 respondents confirmed the presence of a design opportunity within email inboxes. (Detailed survey and shadowing available upon request).

*“Lack of organization between conversations, losing track of threads, hard to automatically separate into folders”*

*“The system automatically puts some important emails into junk mail box.”*

*“It should be called zombie mail. You unsubscribe and it always seems to come back.”*

## Pulling Insights

### TIME

The more emails one receives, the more time one wastes sorting them out and answering them.

### PRIVACY

Spam and junk mail are a breach of privacy, especially when they were never given permission

### ORGANIZATION

If emails were sorted in folders automatically, users would save time and frustration looking for them.

### STATE OF MIND

This can all become incredibly frustrating and put users in a bad mood, which influences their productivity

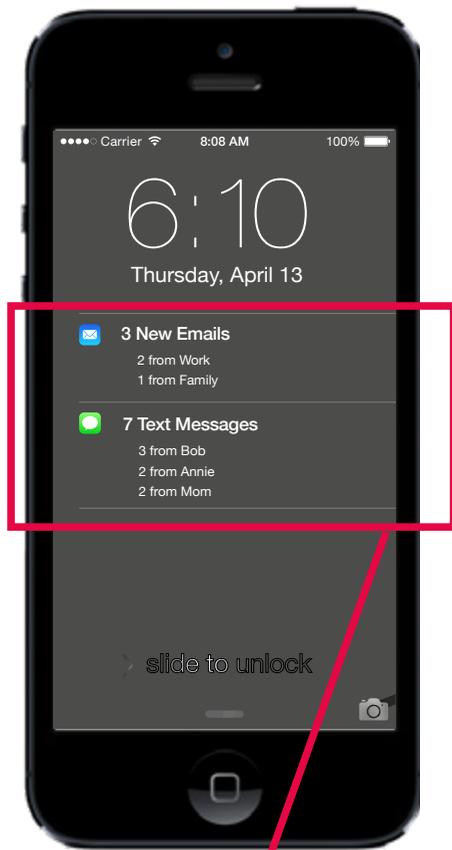
### HIERARCHY & PRIORITIES

Receiving many emails wouldn't be as much of a problem if the important ones set themselves apart

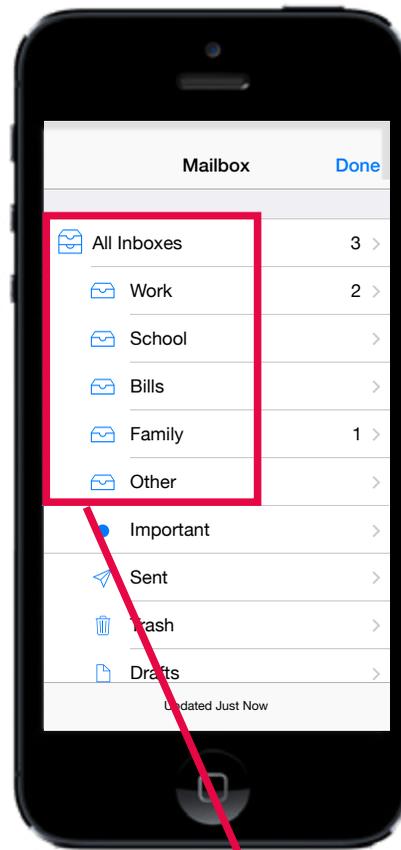
# PROTOTYPING & USER TESTING

## Round 1

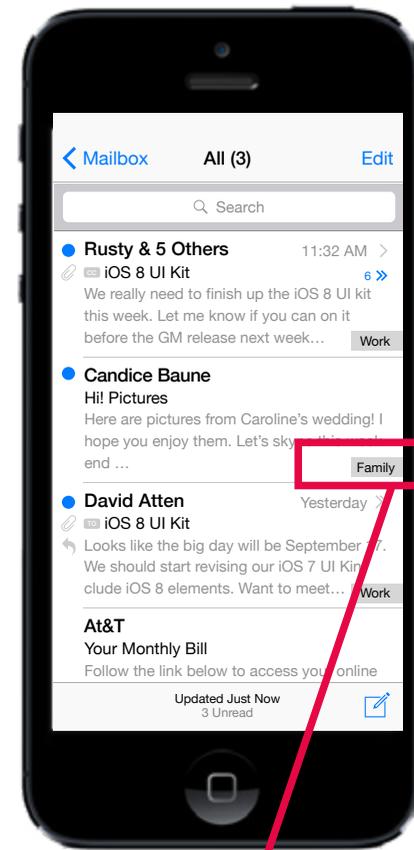
After 6 rounds of sketching, rapid prototyping, and user testing, I moved on to more structured layouts of my ideas. This prototype was tested with 5 participants. They received it on their phones. As they went through it, they were asked to pay attention to the new features present in the software updates, and talk out loud about their thoughts, and feelings.



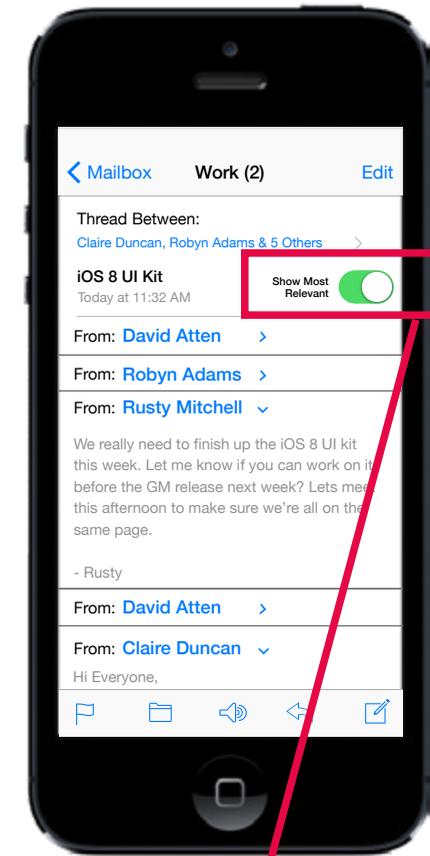
This notification system was the most liked feature



"I love this organisation. If I'm at work I'll leave all of the other folders for the end of the day."

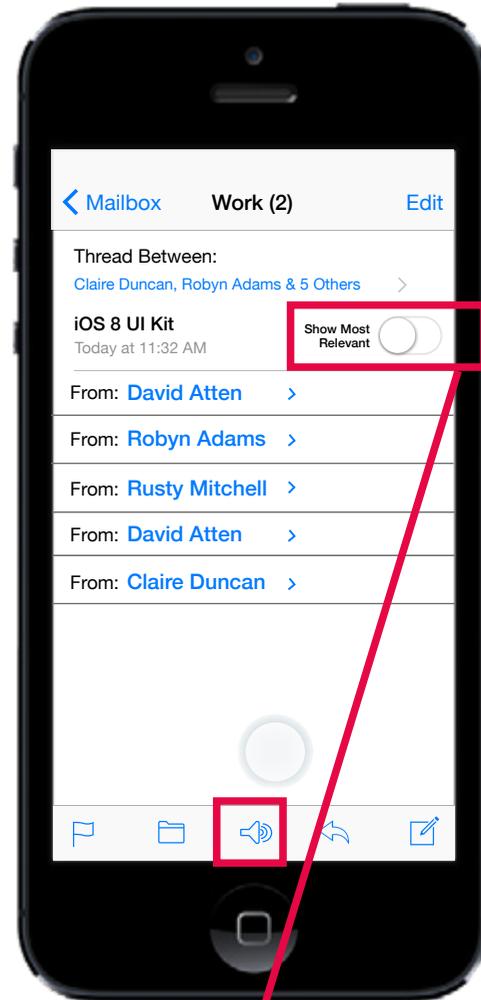


"The grey boxes are super effective and simple." Quick way of recognizing emails.

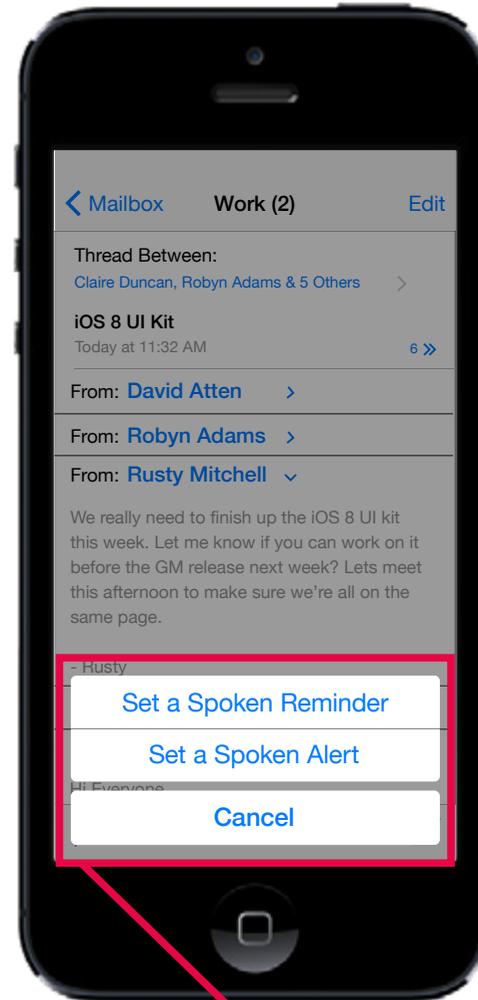


Mixed feelings about AI finding the most relevant email in the thread and showing it.

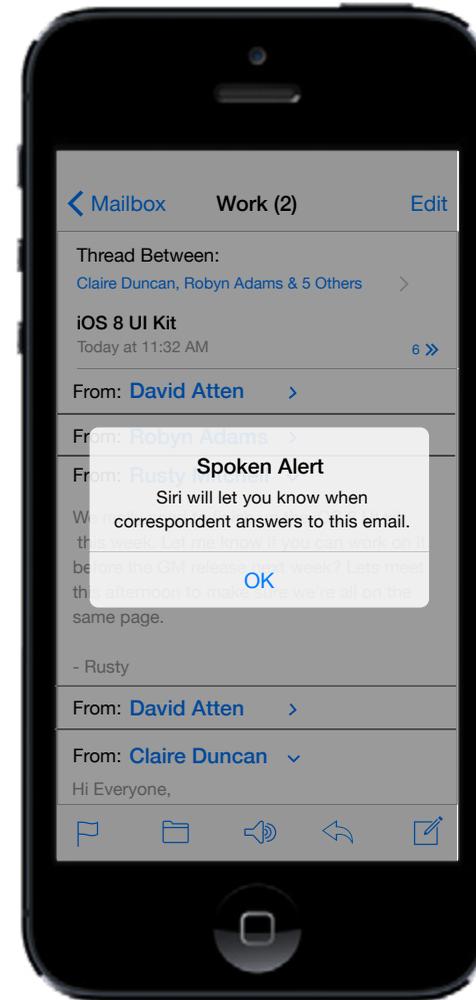
Round 1 (continued)



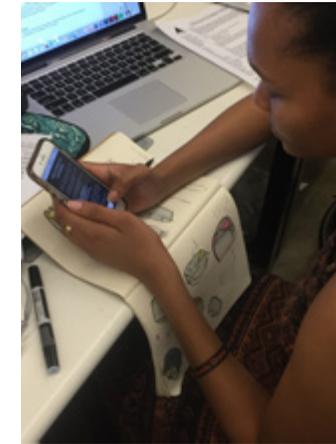
“I wouldn’t get any use out of the most relevant option because I don’t get that much mail.”  
“I like this option because my family will have really long thread emails and I get lost in them.”



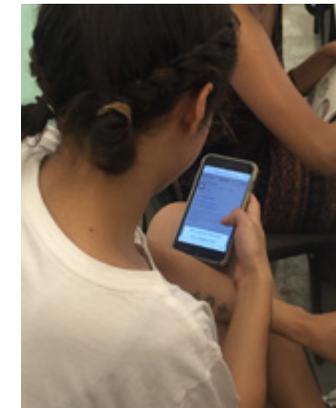
“I wouldn’t use the spoken notification because I’d rather have a special notification sent to all my devices.”  
“I don’t know if I would use it but it works.”



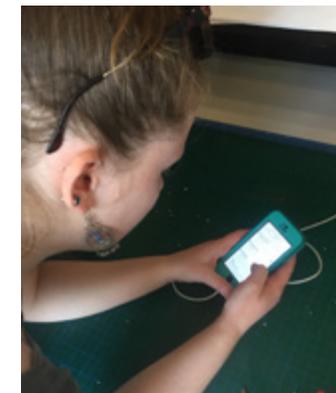
Overall feedback was very positive with the exception of mixed feelings about the spoken notifications. This idea will be further explored in round 2 of prototyping.



“I really like all of these new features, they’re **very effective**. I think the Mail app does a very poor job at making inboxes clear and simple.”



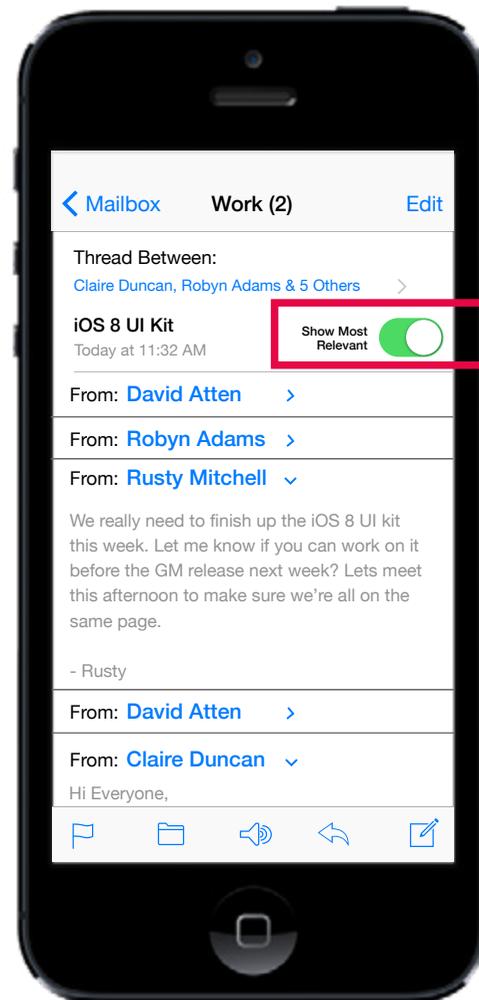
“I like all of these except the **spoken notification**. It wouldn’t work for me I think. I would prefer a special notification.”



“The “**most relevant**” option doesn’t work for me because I don’t ever have the problem of an overwhelming thread.”

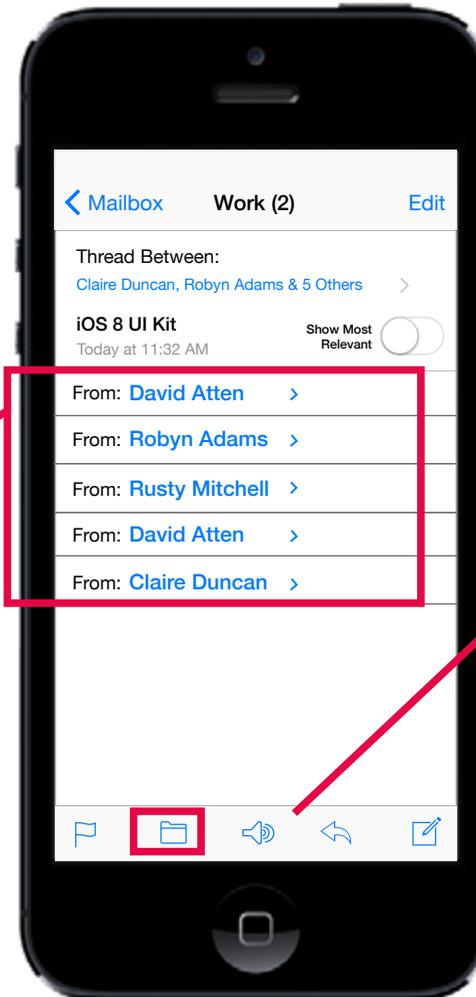
## Round 2

The second prototype was run with 5 different users, and with the same display as the first. However, this time participants had to perform a task. This helped me understand what was wrong when users were looking for something specific. Below are the three screens that caused the most interesting responses.



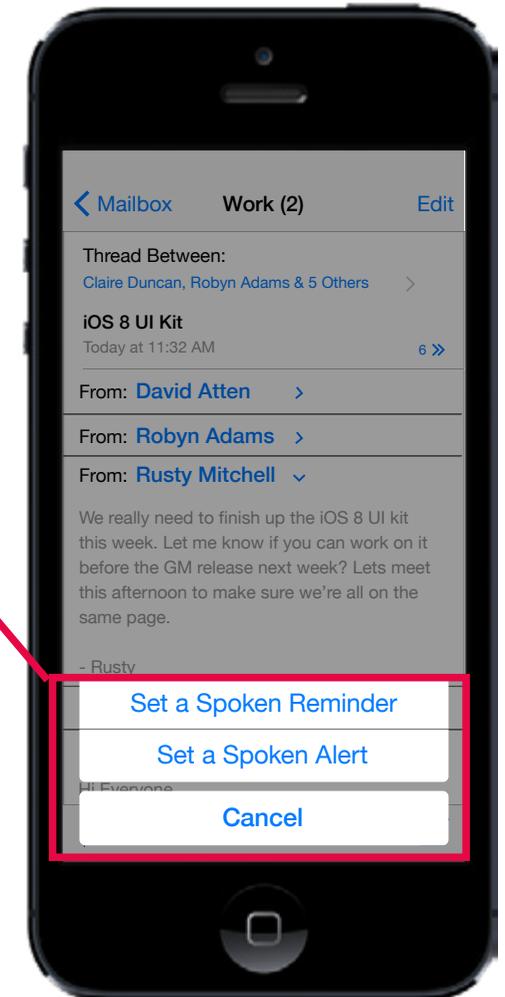
The task here was to find an email from Claire Duncan within a thread:

Users seemed to turn “most relevant” feature off when asked to find a specific message. They explained that it was easier that way to see all emails in a list format.



The task here was to set a spoken reminder for a thread email:

Users had some trouble finding the spoken notification button. One explains he found it thanks to it's location (next to other relevant buttons), and because it was a symbol he did not recognize.



# FINAL DESIGN RECOMMENDATIONS



Overall, the prototype was very well received.

The “most relevant” option turned out to be very useful when the participants were looking for a specific message.

After helpful feedback and some thorough consideration, I decided to change the “spoken notification” feature. Instead of having Siri speak out loud to the user, a ringtone-like alert will go off when the important email comes in.

Users did not like the idea of their phone speaking to them as it could be embarrassing if they are in public. Instead, receiving the equivalent of a phone call is just as effective and doesn't make the user uneasy.

# PORTABLE BREW

Individual Project | 10 weeks long | Fall 2017

*Industrial Design*

*“How might we use coffee to bring people together while they are both outdoors and out of their comfort zone”*

Project Parameter:

Design a portable coffee maker for a specific target audience that brews at least 5 cups of coffee without using pods.



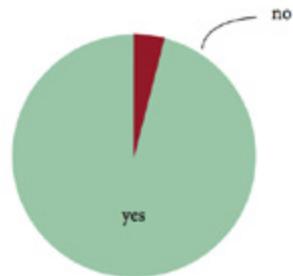
# RUGBY & COFFEE

## Target Market

As I reminisced about the rugby matches I had to stand through outside in the rain and snow to watch my brother play, I thought to myself “What’s better than a warm cup of coffee to bring people together on a chilly Sunday at your child’s game?”

I began to think there was a potential design opportunity for **Millennial parents** with young **children** who participate in **outdoors sports and activities**. I then extended my target market to also include picnickers, Tailgaters, fishers, campers, vacations, play dates, and other outdoors activities.

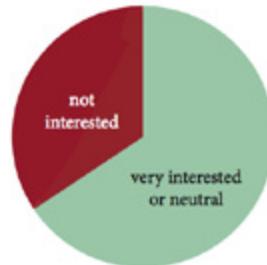
After a survey and some interviews with my target market, I learnt they had **concerns** and needs I had not thought about quite yet.



Do parents bring and share coffee to their kids events?



Do you wish you could bring a coffee or hot chocolate maker to these events?



How interested would you be in this kind of machine?

“Small place to hold powder cream and sugar”  
“Different cup sizes”  
“Easy to use and tastes great”  
“Battery operated and no need for a power source”

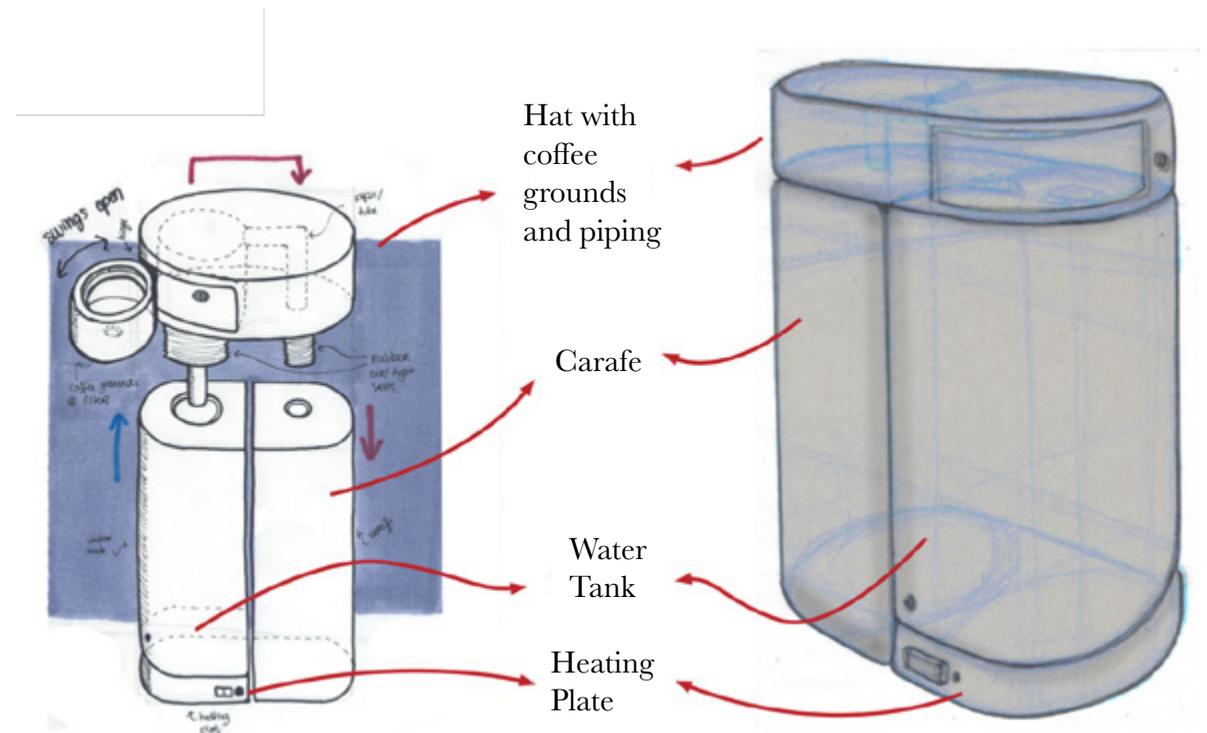
“Spill-proof”  
“Free-standing so no need for a table”  
“Spot to hold coffee and tea”  
“Dishwasher safe”  
“A caddy for extra cups”

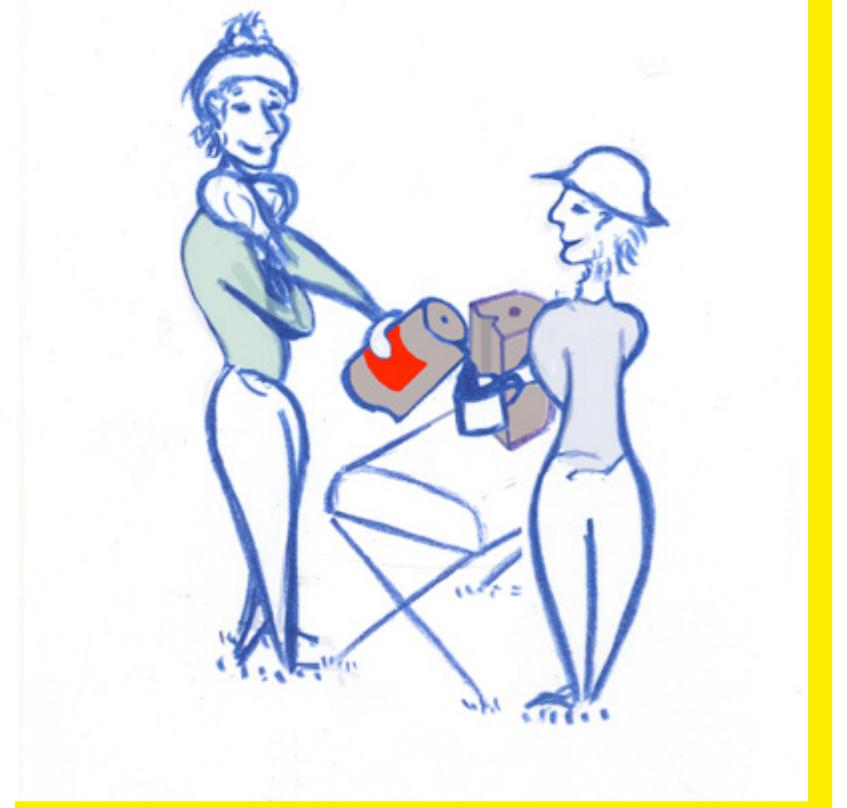
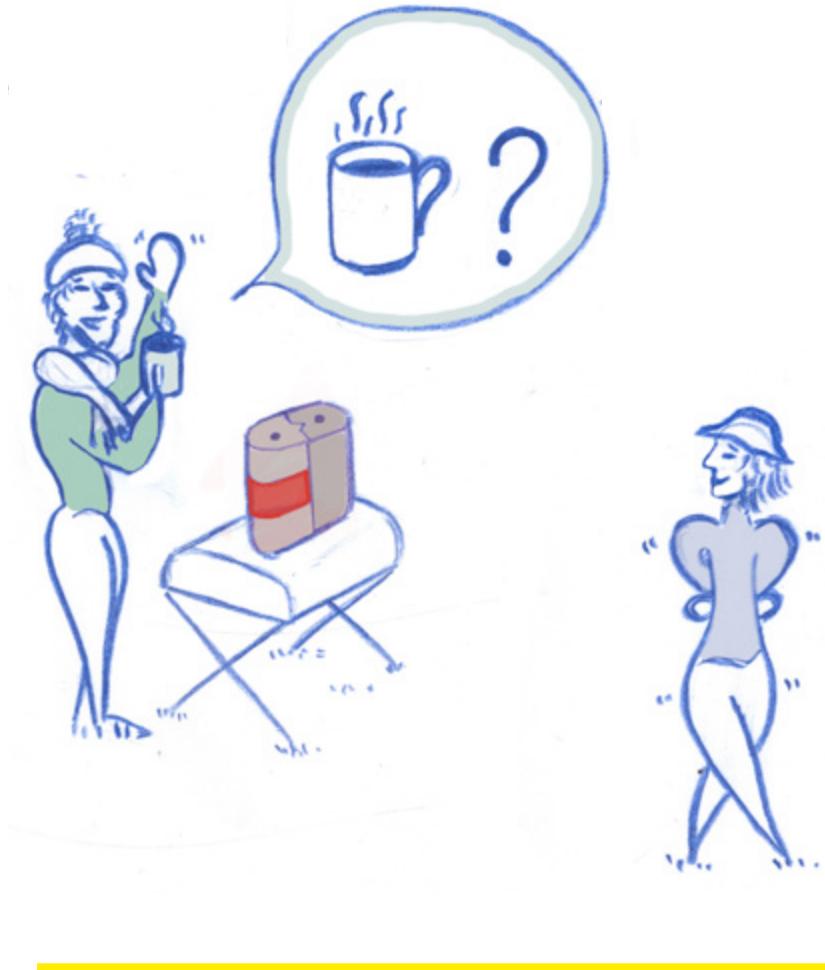
“*Brio: Italian for vivacity, liveliness, and wit*”

## How it would work

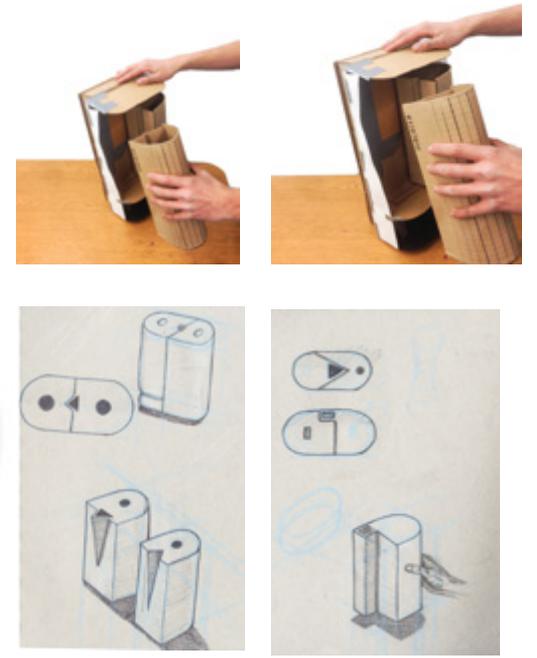
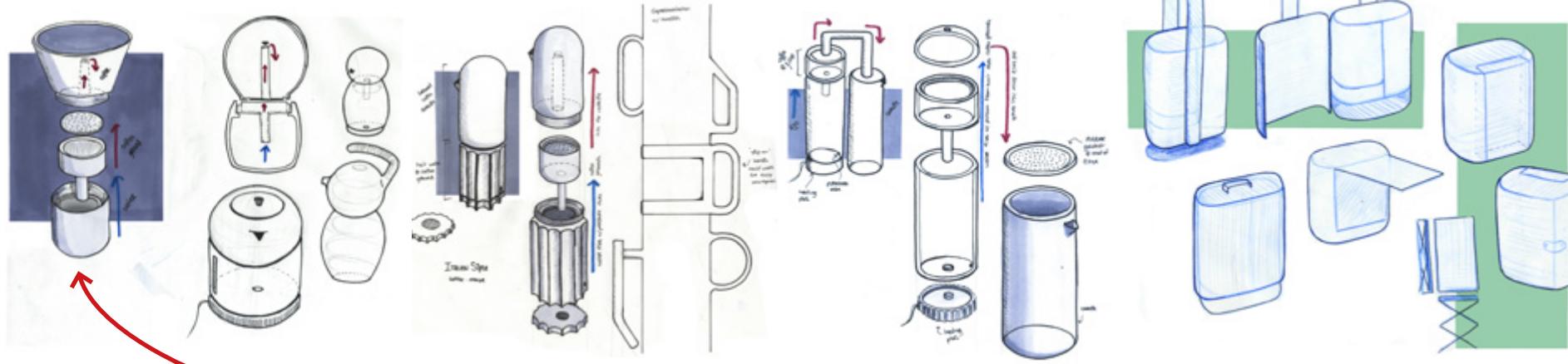
I had decided early on that I wanted an Italian-style brewing method because I believe it creates the most flavourful and strongest coffee. I kept the basic brewing system but adapted it to a more original form.

Inspired off the Bialetti coffee maker, the water boils and pressurizes the water tank. With the pressure, the water moves up through piping and the coffee grounds. The brewed coffee moves through the piping and down into the carafe.





Ideation

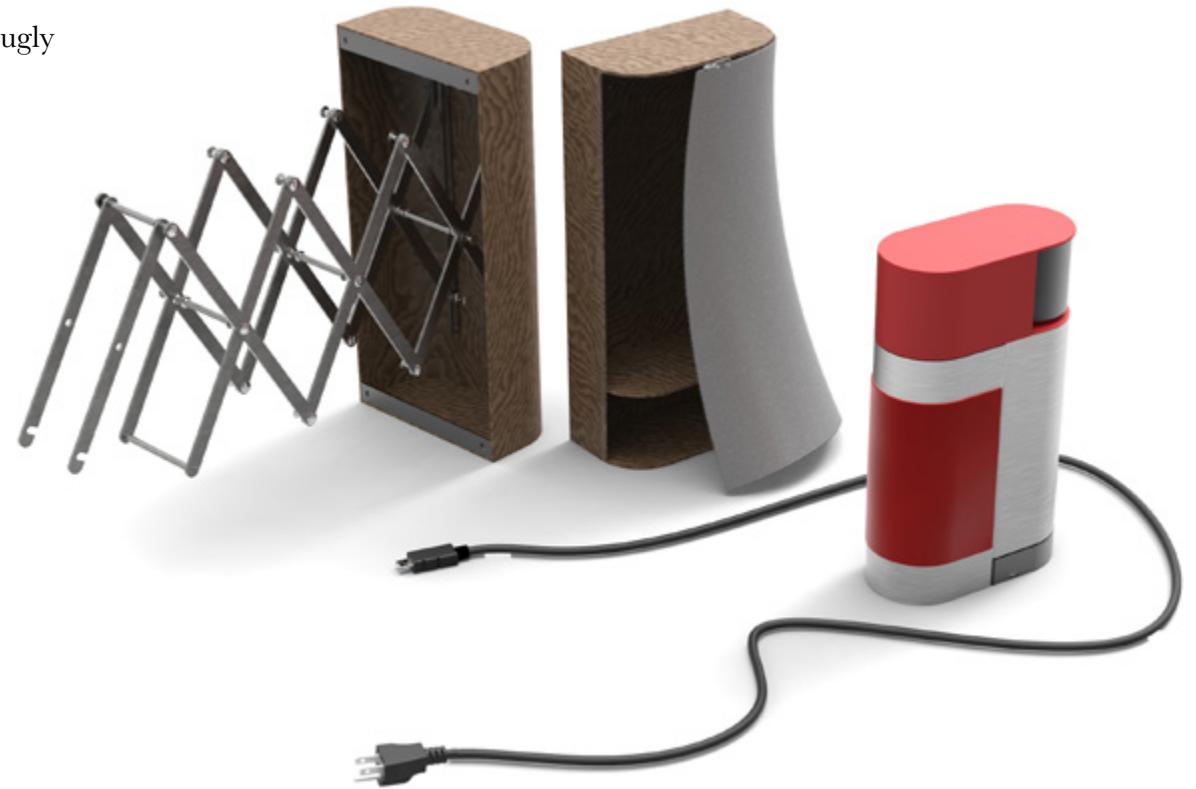


Bialetti Italian-style coffee brewing system

Half of the carrying case breaks off and the legs folded into it extend out to create a small table

Other half of the case holds the coffee maker snugly

Compartment for storage



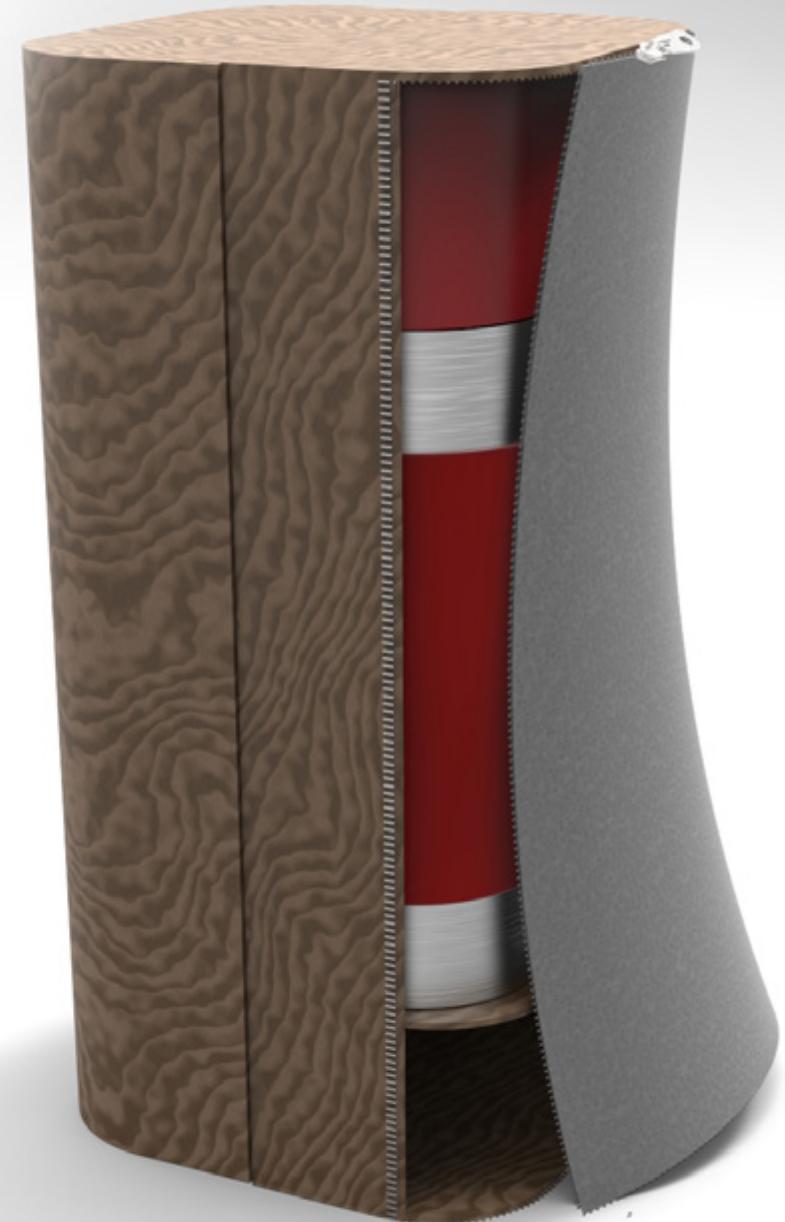
# BRIO BREW

## *Why Brio*

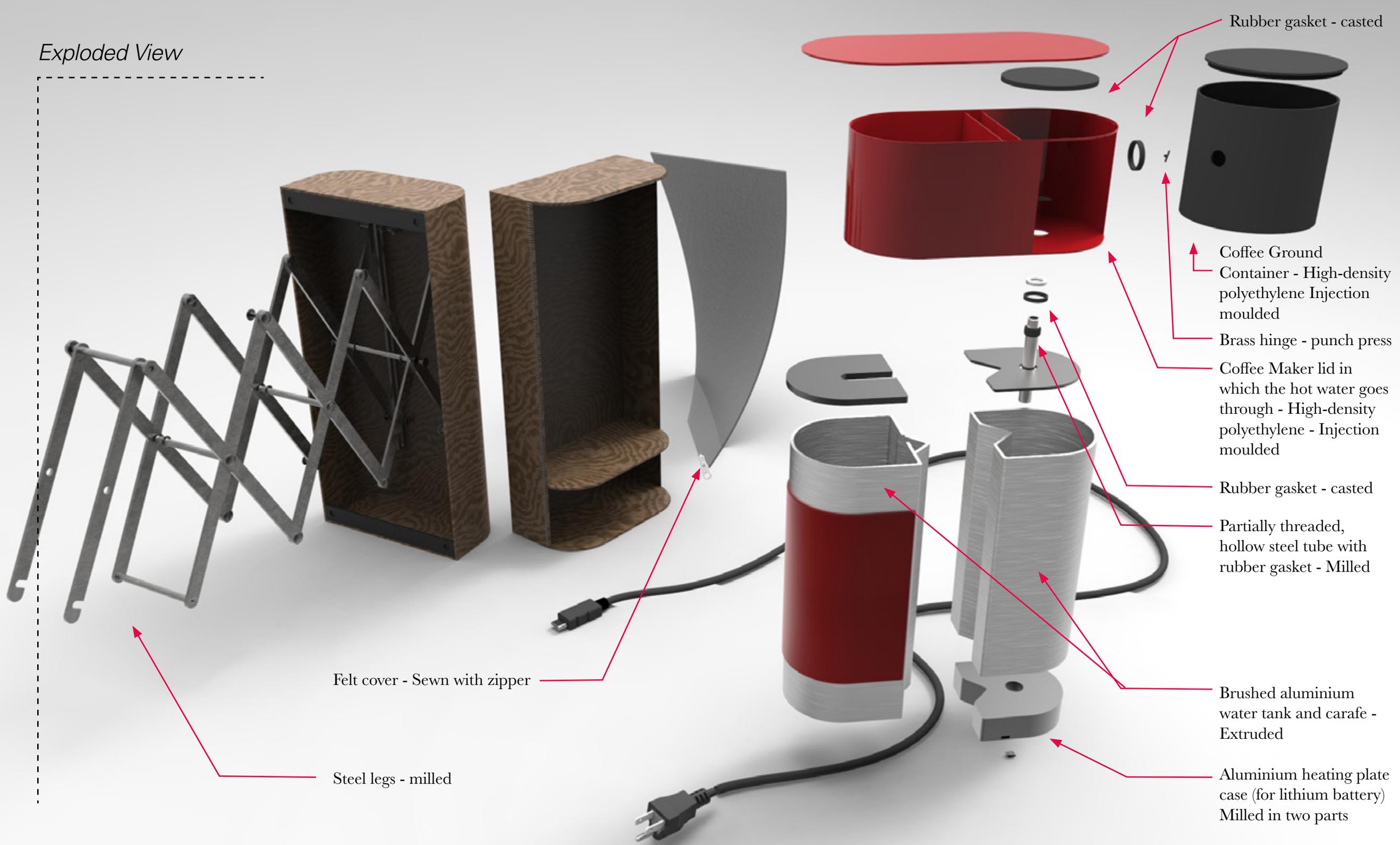
Brio is a portable italian-style coffee maker that carries in a beautiful and functional wooden case. Half of the case breaks off and extends as a small table on which Brio can stand if desired.

Brio helps us believe that the experience of brewing and drinking coffee brings people together and helps create valuable relationships.

Brio was designed for the outdoors. Whether that's a rainy rugby field, a dewy morning in the forest, or the back of a pick-up truck. The extendible table creates a resting surface for any necessary environment, but can be used for other purposes. A comfortable shoulder straps makes Brio easily transportable for coffee-lovers on the move.



*Exploded View*



Rubber gasket - casted

Coffee Ground Container - High-density polyethylene Injection moulded

Brass hinge - punch press

Coffee Maker lid in which the hot water goes through - High-density polyethylene - Injection moulded

Rubber gasket - casted

Partially threaded, hollow steel tube with rubber gasket - Milled

Brushed aluminium water tank and carafe - Extruded

Aluminium heating plate case (for lithium battery) Milled in two parts

Felt cover - Sewn with zipper

Steel legs - milled



# AUTONOMOUS DRIVING

Group Project\* | 8 weeks | Fall 2017

*UX Design*

*“How might we use autonomous driving to help streamline commuting and tourism experiences, while improving public transportation in terms of efficiency and dependability?”*

\*Roles:

Project leader

In-Bus Experience Axure Prototype

In-Bus Experience Graphics & Renderings

Crafting Personas



# DESIGN OPPORTUNITIES

*“Not another Tesla-inspired project”*

## Preliminary Research

We were asked to pick an existing autonomous driving vehicle and redesign it in some way. Determined to step away from Tesla and Google, we chose Olli.

Olli is a self driving, cognitive vehicle that launched through Local Motors in June 2017 in Washington DC. The whole process took 3 months and was entirely manufactured in the US via 3D printing.



## Insights



Through research on current trends (available [here](#)), it becomes clear that future cars will be fully integrated into the Internet of Things (IoT), and that autonomous driving is a crucial part of that trend.



In urban areas, car sharing and/or autonomous driving have huge potential, but have to be followed closely by major improvements on city infrastructure.



As we started to think about autonomous driving environments, we wondered how public transportation and e-hailing could come together to create a semi-private experience in urban and suburban areas



**Names:** Mike, Betsy, Aubrey

**Ages:** 70 years old

**Lives in:** NYC, NY

**Uses AutoBus for:** Tourism in Paris

A group of 70 year old friends from NYC are visiting Paris for the first time. They speak little to no French, but are interested in a private tour of the city to see all of the local attractions and landmarks.

They are already exhausted from their first day, and don't know if they can walk around the city any longer.

Lucky for them, they decided prior to the trip to buy the weekly pass for AutoBús, so that whenever they feel too tired to walk, they can e-hail it and continue their tour of the city on wheels.

### Challenges:

- How do we ensure safety for the elderly?
- What if there is a medical urgency?
- How do we keep the interface minimal enough that it doesn't discourage seniors to use it?



**Name:** Valerie

**Age:** 27 years old

**Lives in:** San Francisco, CA

**Uses AutoBus for:** Commuting

Valerie is a 27-year old, college-educated, Columbian who works at Waymo in downtown San Francisco. Valerie owns a mid sized car, but as of recently has decided to join several of her co-workers in subscribing to the autonomous cab service for transportation to and from work.

The cab picks up 6 people in a 10 mile radius of neighbourhoods near her apartment. She is the 5th of 6 stops in her commuter party that arrives promptly at her apartment at 8am every morning during the week. She enjoys not having to drive herself and being able to sleep, eat, and look over ideas with her co-workers on the way work.

### Challenges:

- How do we allow commuters to do work or sleep during their trip?
- How do we convince commuters to share their ride in the morning when they could drive alone?
- Public transportation must be impeccably punctual

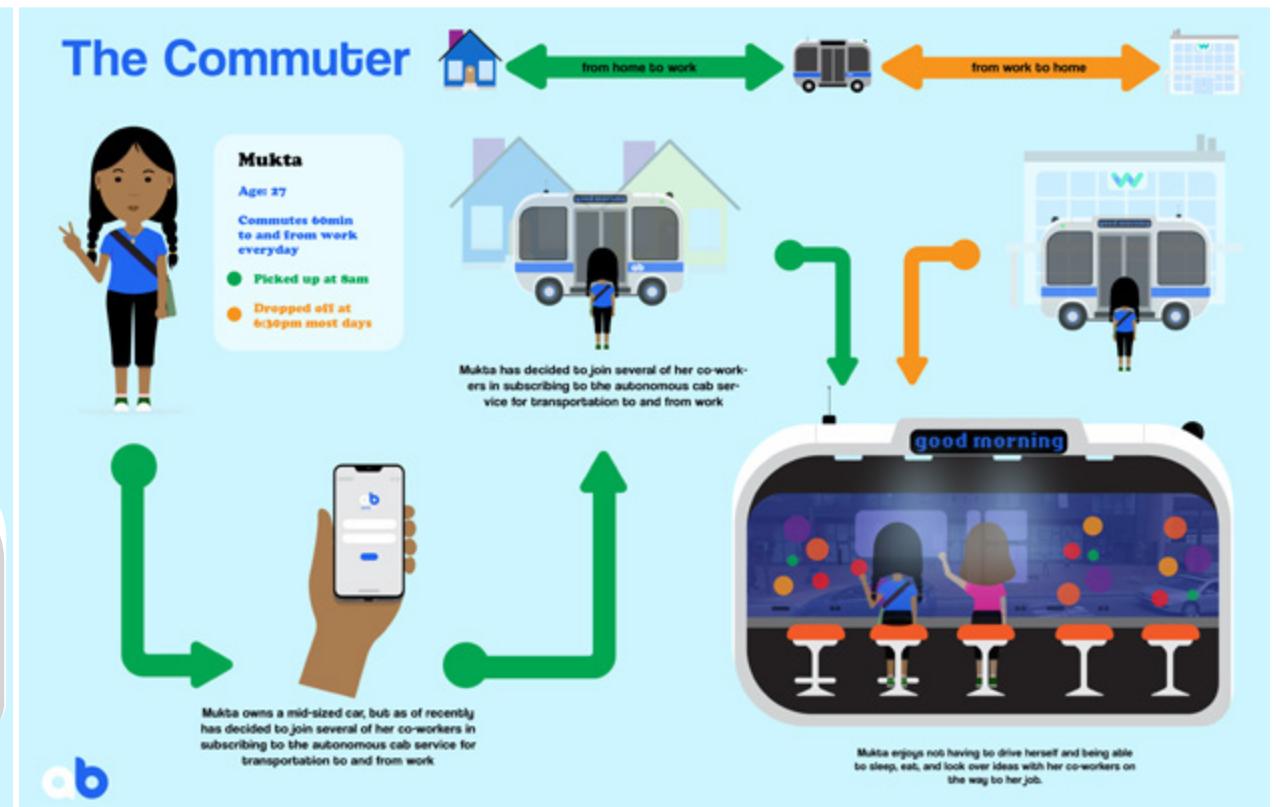
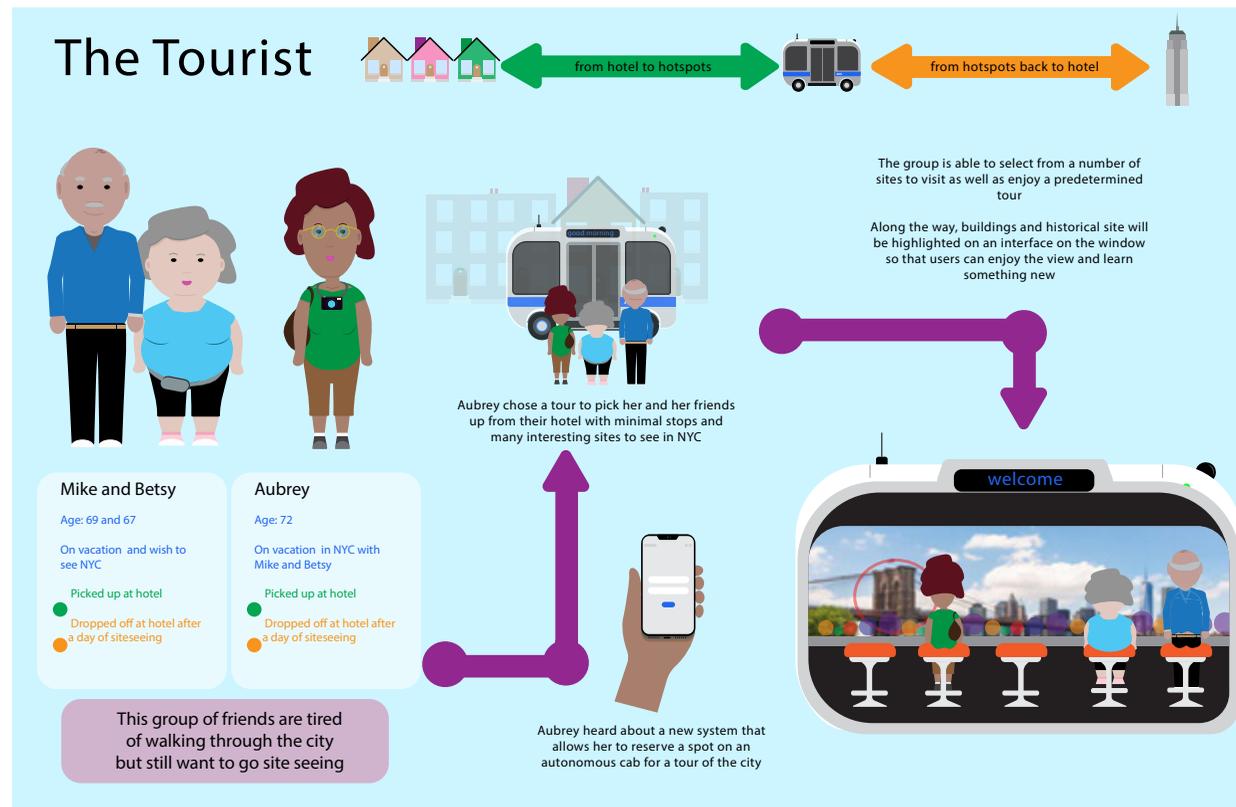
# SOLUTION

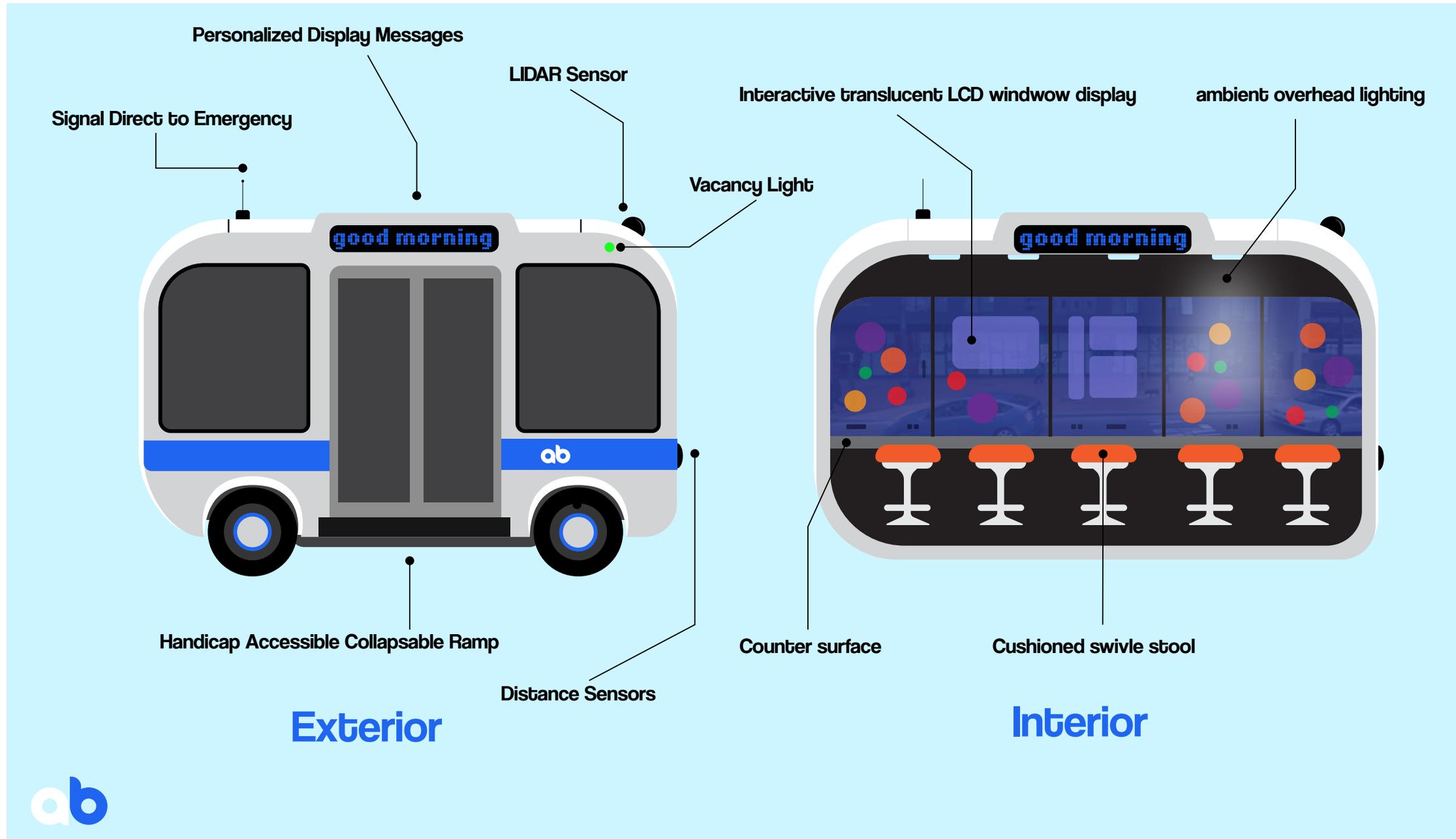
**AutoBús** is a small self-driving bus and service designed specifically for tourists and commuters.

**Tourists** can choose between a Day or Week pass for AutoBús. Depending on what they wish to see, AutoBús will create a route and drive them for as long as they wish.

**Commuters** have the option of signing up for a monthly plan that allows them to choose custom pick-up and drop-off times to and from work. AutoBús creates a route that picks up up-to-5 other commuters in the area and drives them to work.

Depending on the plan, the user gains more access to a wide selection of entertainment, and bonus content available on board AutoBús (particularly applicable for commuters).

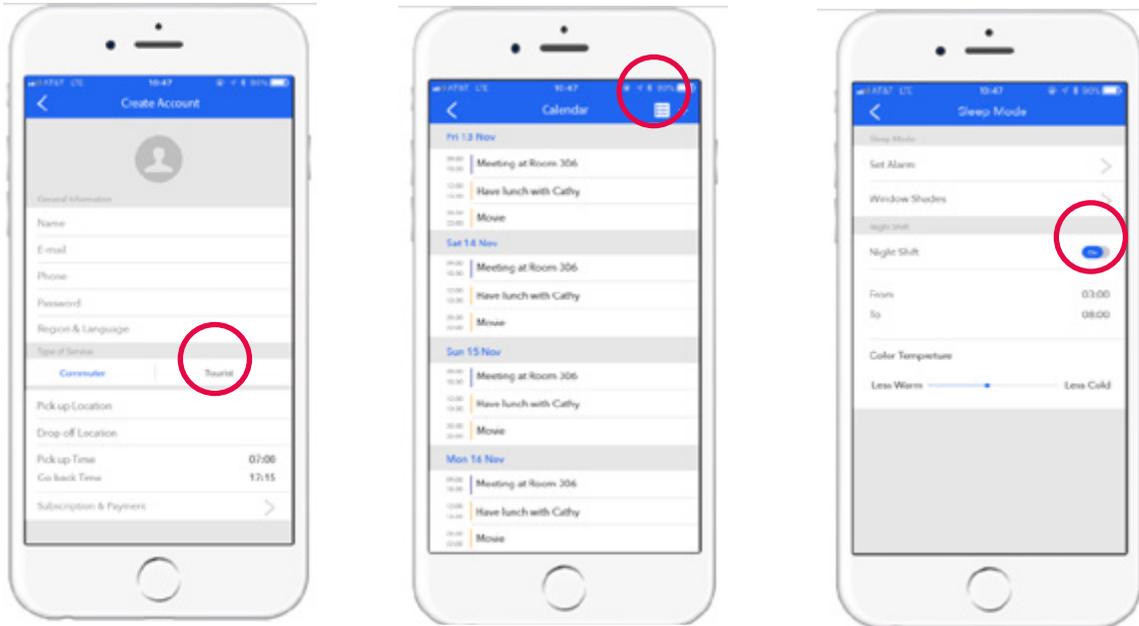




## Wireframes

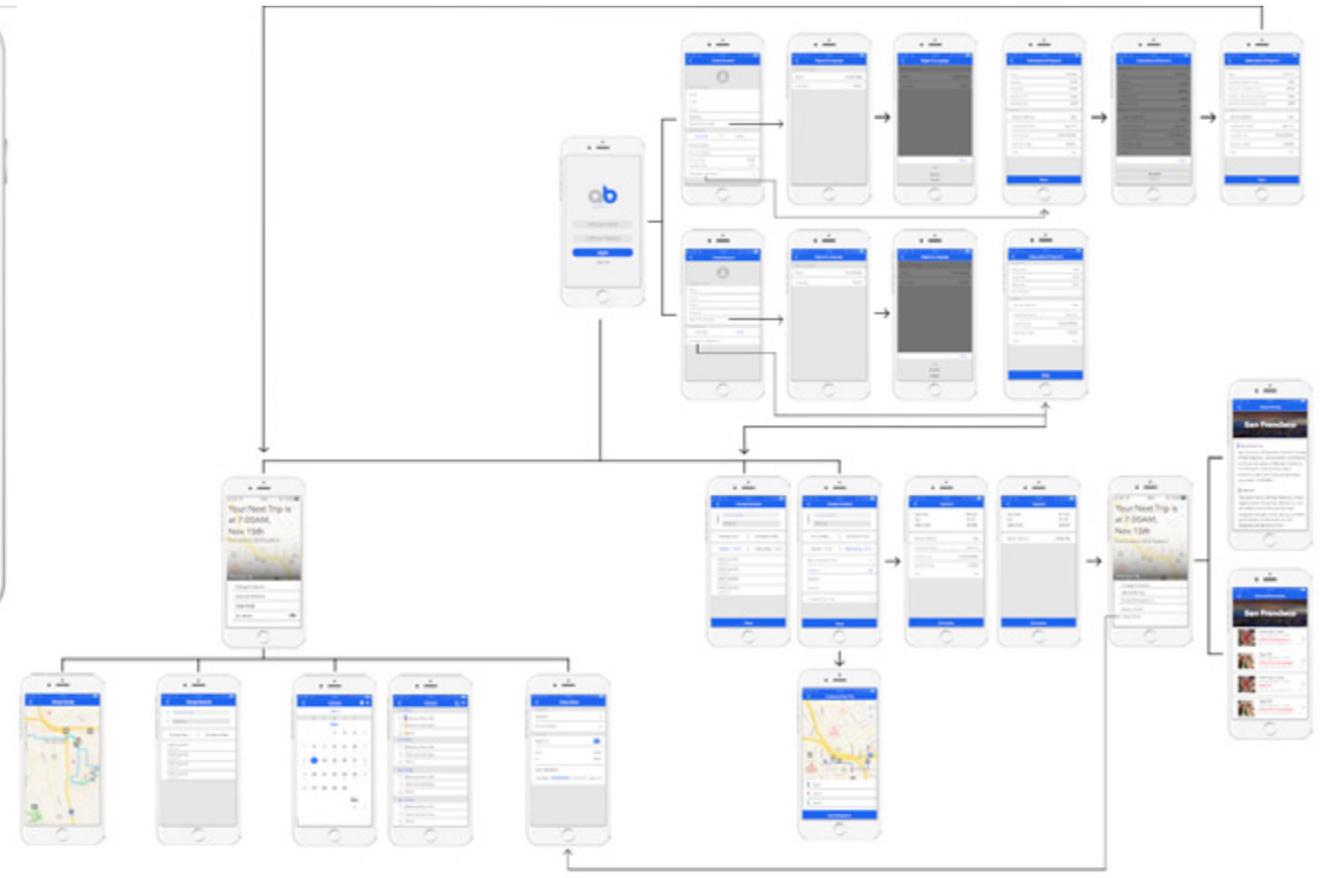
We envisioned two digital interfaces for AutoBús. The first is the AutoBús app, the other is the windows in the bus which are actually touch-screen, transparent LCD displays.

Click [here](#) for the full Axure Prototype of the app



On the app, riders can choose between the Tourist and the Commuter experience.

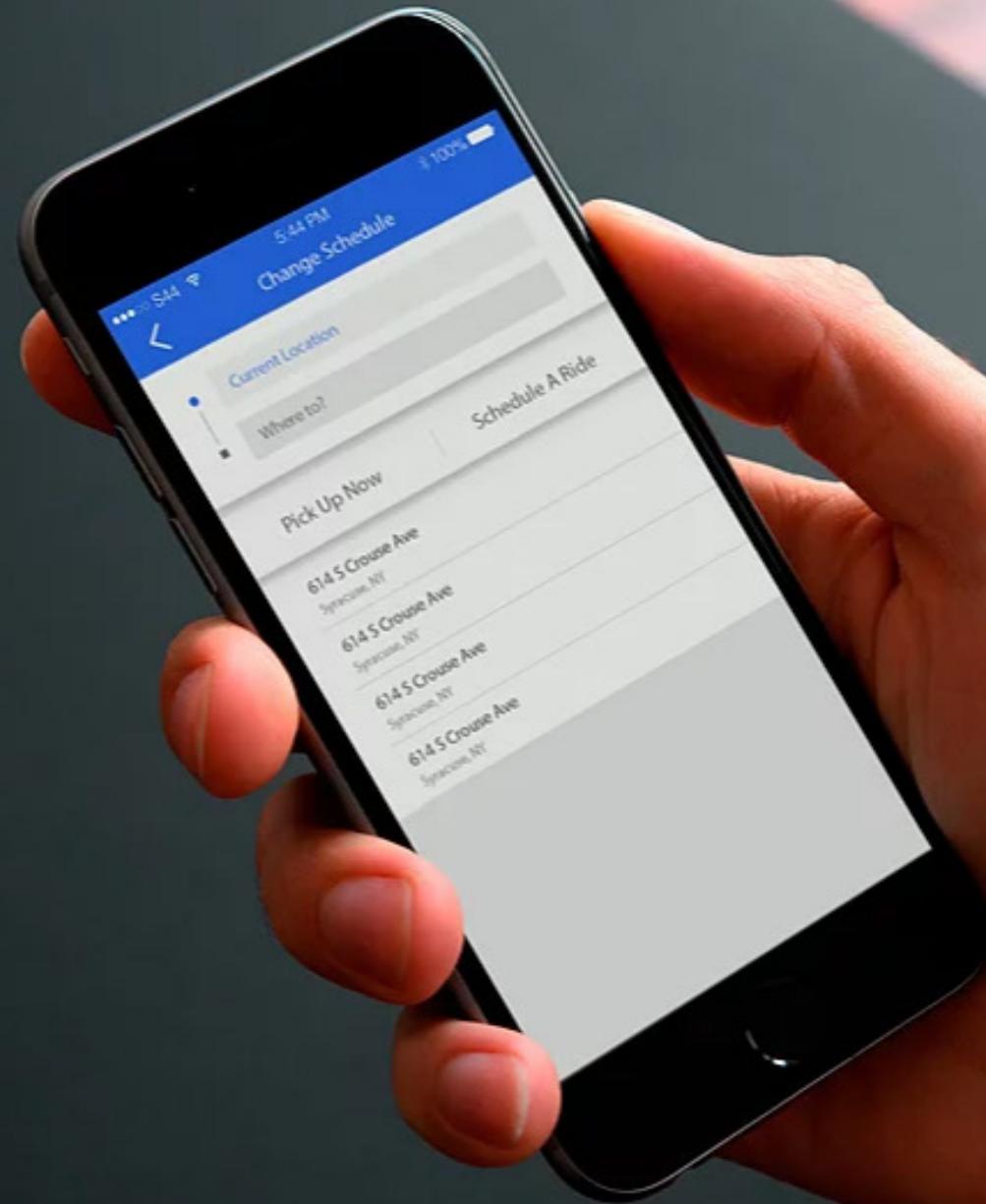
Riders have a variety of available content depending on whether or not they choose a premium subscription plan or pass. Commuters can sync their calendar and AB will ask to pick up at different times based on events in the calendar.





## Video

Click [here](#) for a video that illustrates the screens inside the Autobus



# MEDITATIVE MOULDING

Group project \* | 5 weeks long | Spring 2016

*Industrial Design*

*“Can drawing inspiration from meditation help create visually calming furniture out of wood veneer?”*

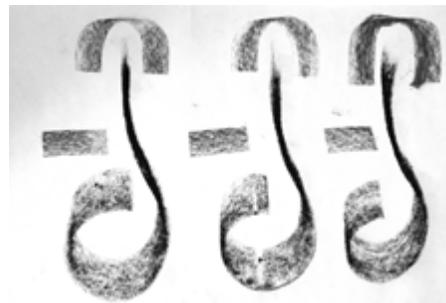
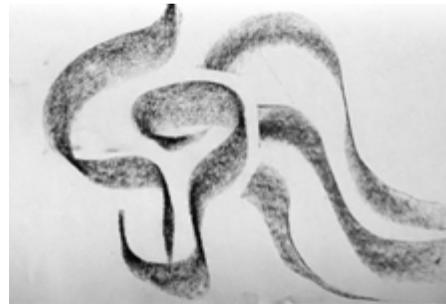
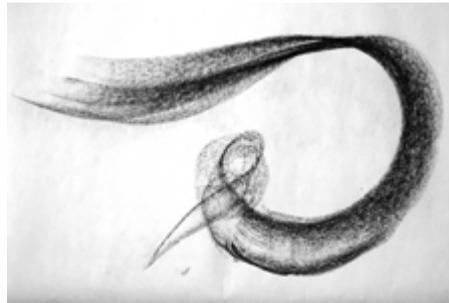
\* Group project in Ideation | Individual Project in Deliverable



# BREATH IN ... BREATH OUT

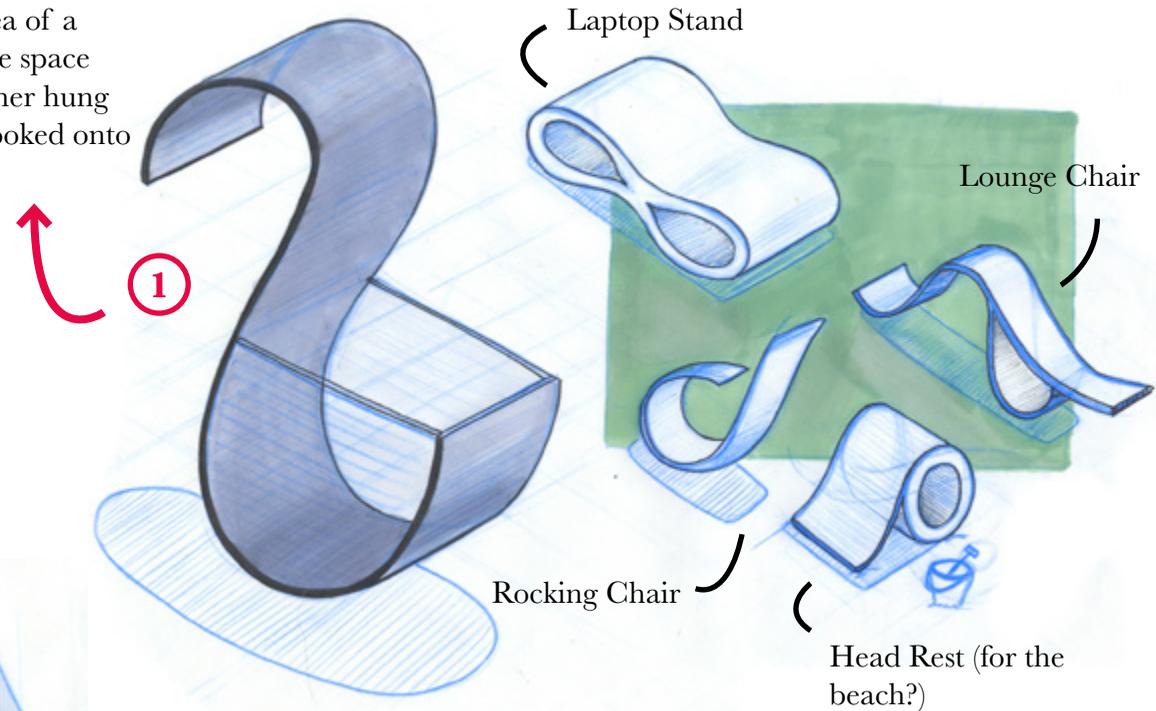
*“Most of the class fell asleep during our 8am yoga session”*

*Gestural Drawings Based on Yoga Session*

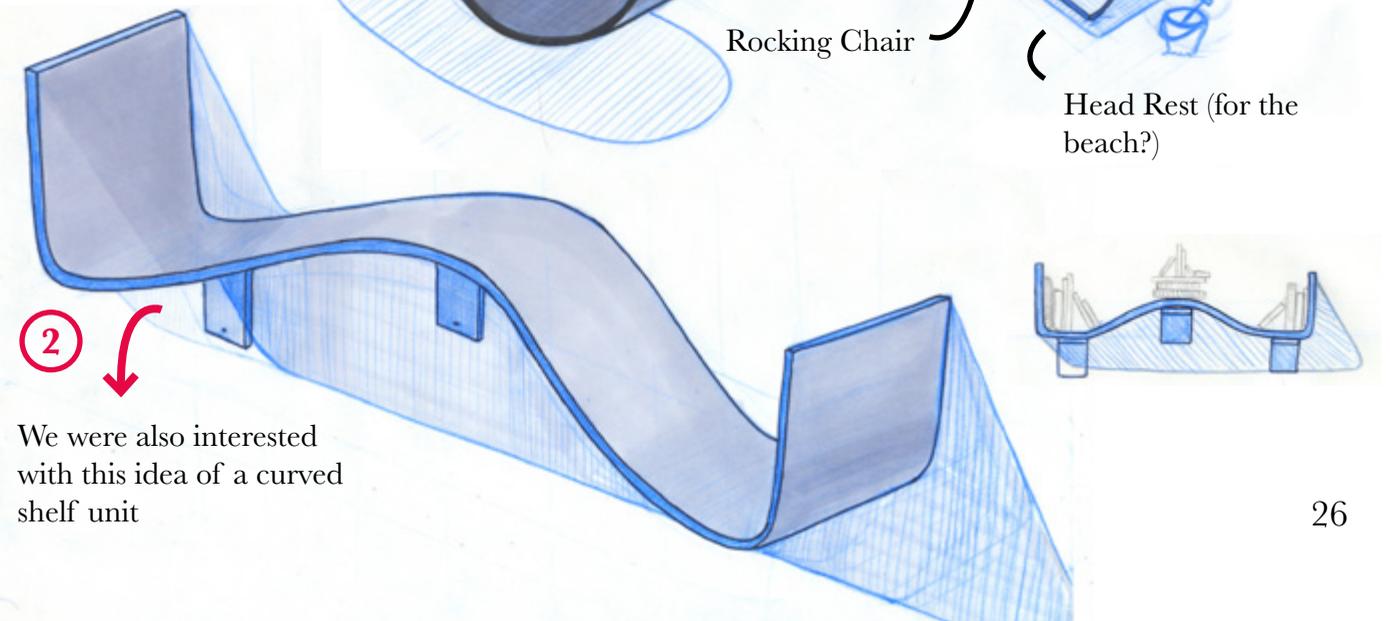


*Ideation Sketches Based on Gestural Drawings*

We loved this idea of a planter or storage space that could be either hung on the wall or hooked onto something

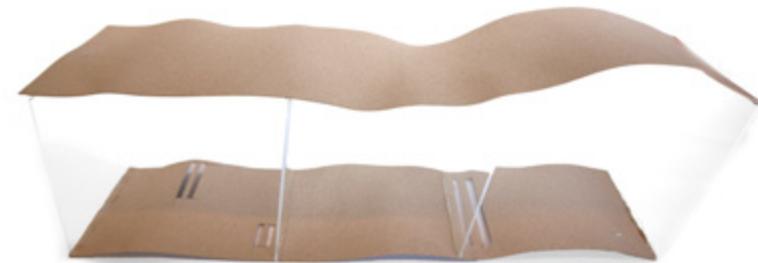
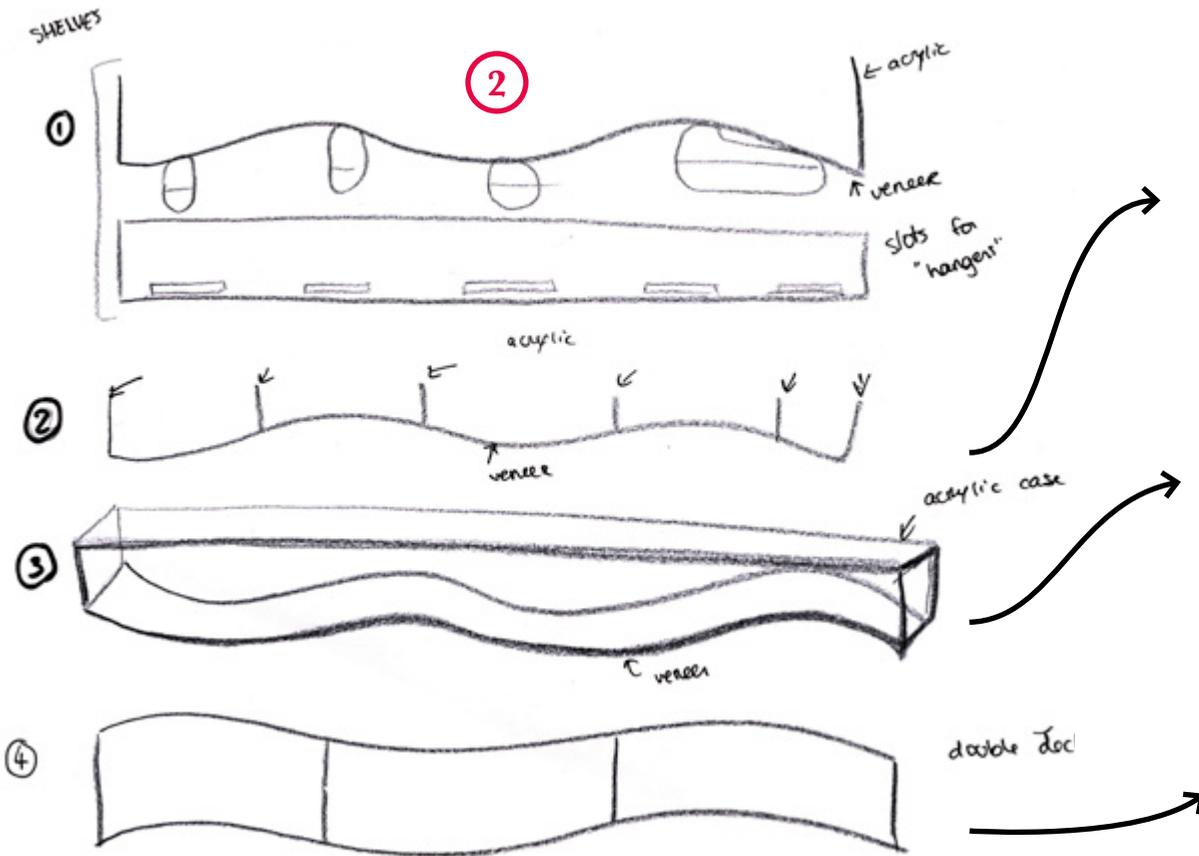


② We were also interested with this idea of a curved shelf unit



## Set of Exploration Models Based on Sketches

After a couple of rapid cardboard models of our favourite sketches, we chose to pursue the idea of a curved shelf. We explored ways of matching the veneer with acrylic for both functional and aesthetic purposes



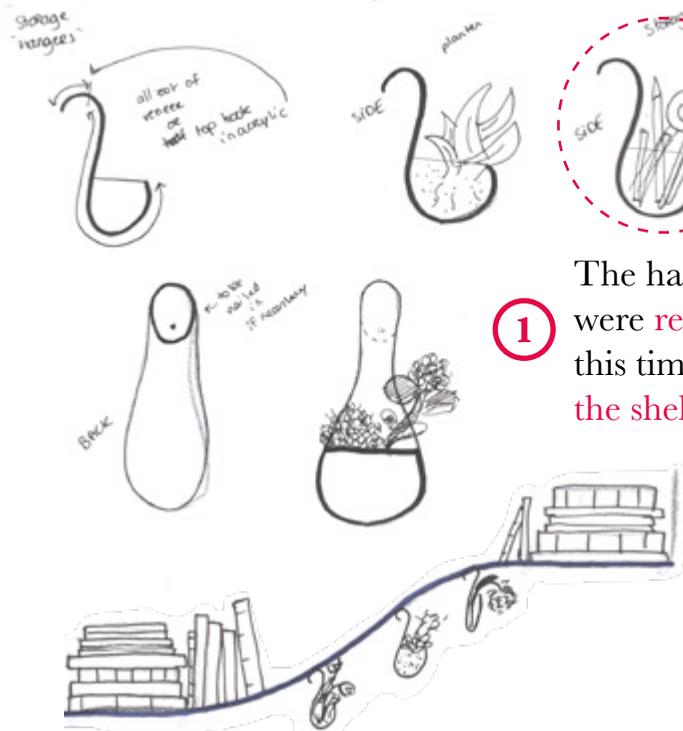
# ROADBLOCK

Getting stuck and finding a solution

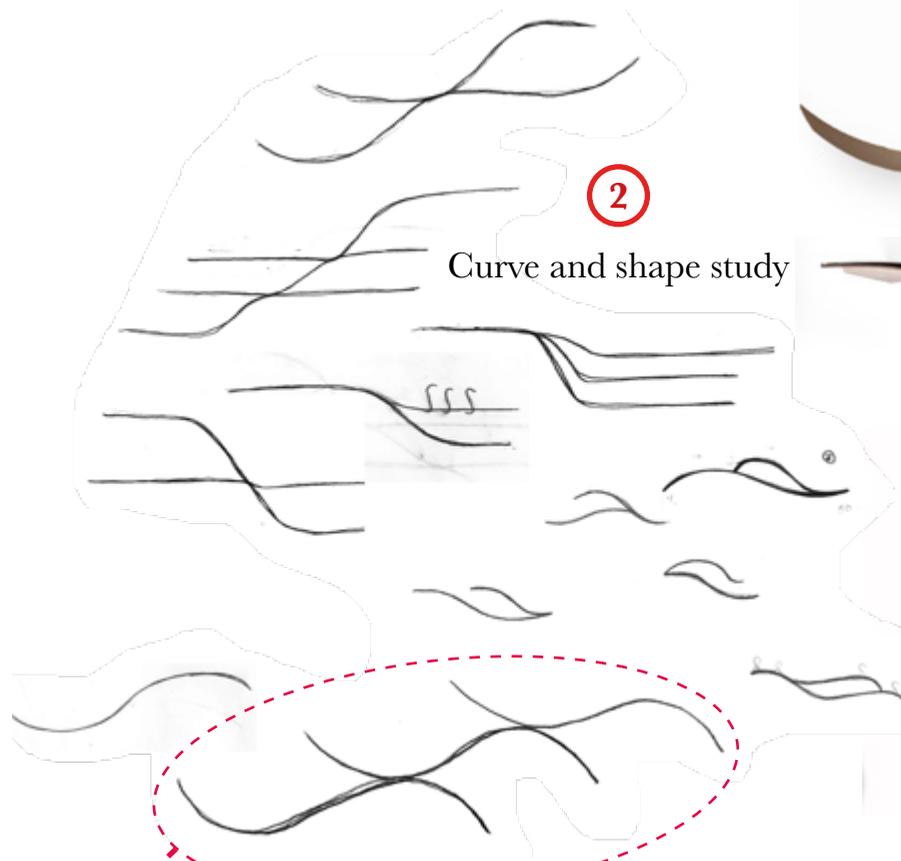
We were very unsatisfied with how our idea had developed. Our models were not exciting and we felt like our concept had gone downhill.

## SOLUTION

We went back to our original sketches and worked on a new batch of models to better understand what we liked about our initial idea, and how that had gotten lost through our ideation.

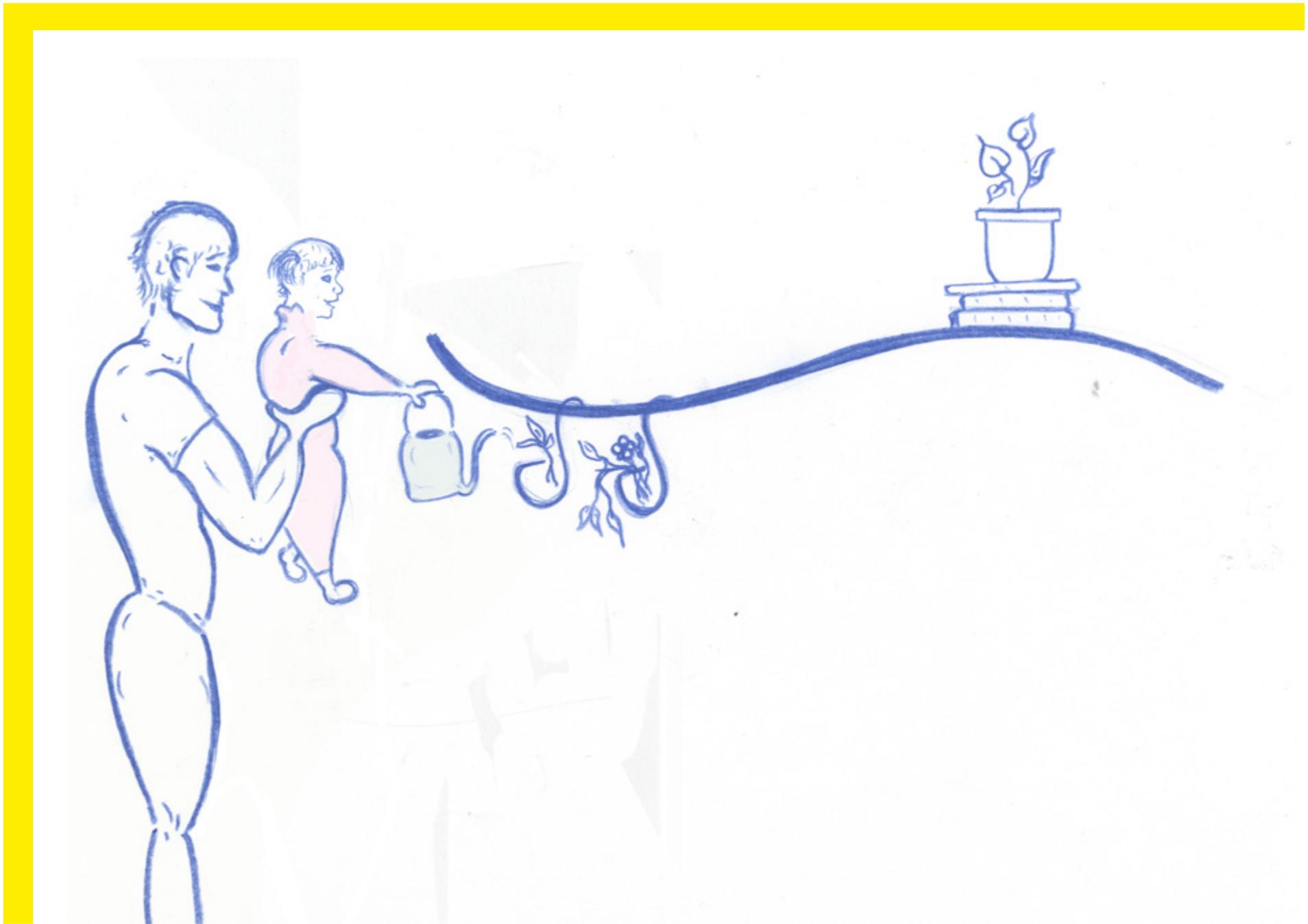


① The hanging planters were reintroduced, but this time as a part of the shelves



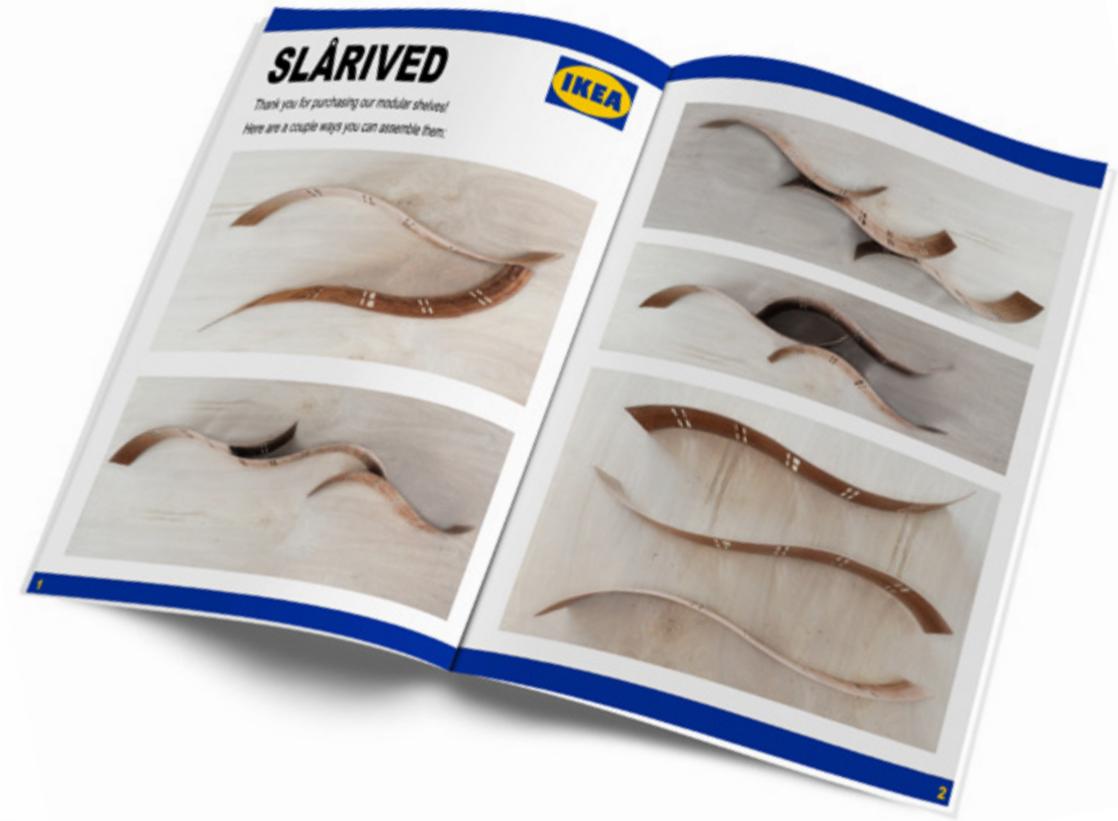
③ Our original excitement and enthusiasm was revived when we thought of a set of modular shelves with a simple curve on which our planters could hang.





# FINAL DESIGN

After going back and making new models, we fell in love with a system of modular shelves with simple curves. We imagined these well at IKEA, so we thought of a small handbook that would help the user pick their favourite combination.





# FORMING TASTE

Individual project | 4 weeks long | Spring 2016

*Industrial Design*

*“How might we improve the design of certain kitchen utensils so that they perform better and faster?”*



# FINDING THE PROBLEM

*“What do you mean you’ve never stared at a coconut and seen a design challenge?”*

## Exploration Phase

We decided to start searching for our problem by picking out a fruit and dissecting it



Half soft,  
half dry  
flakes



Tough and  
thick chunks  
cut out with a  
knife



Thin &  
soft flakes



I became most interested with the **scrapings** from the coconut. None of the utensils I had in my kitchen managed to successfully shave the concave shape of the fruit.

Rapid Prototyping



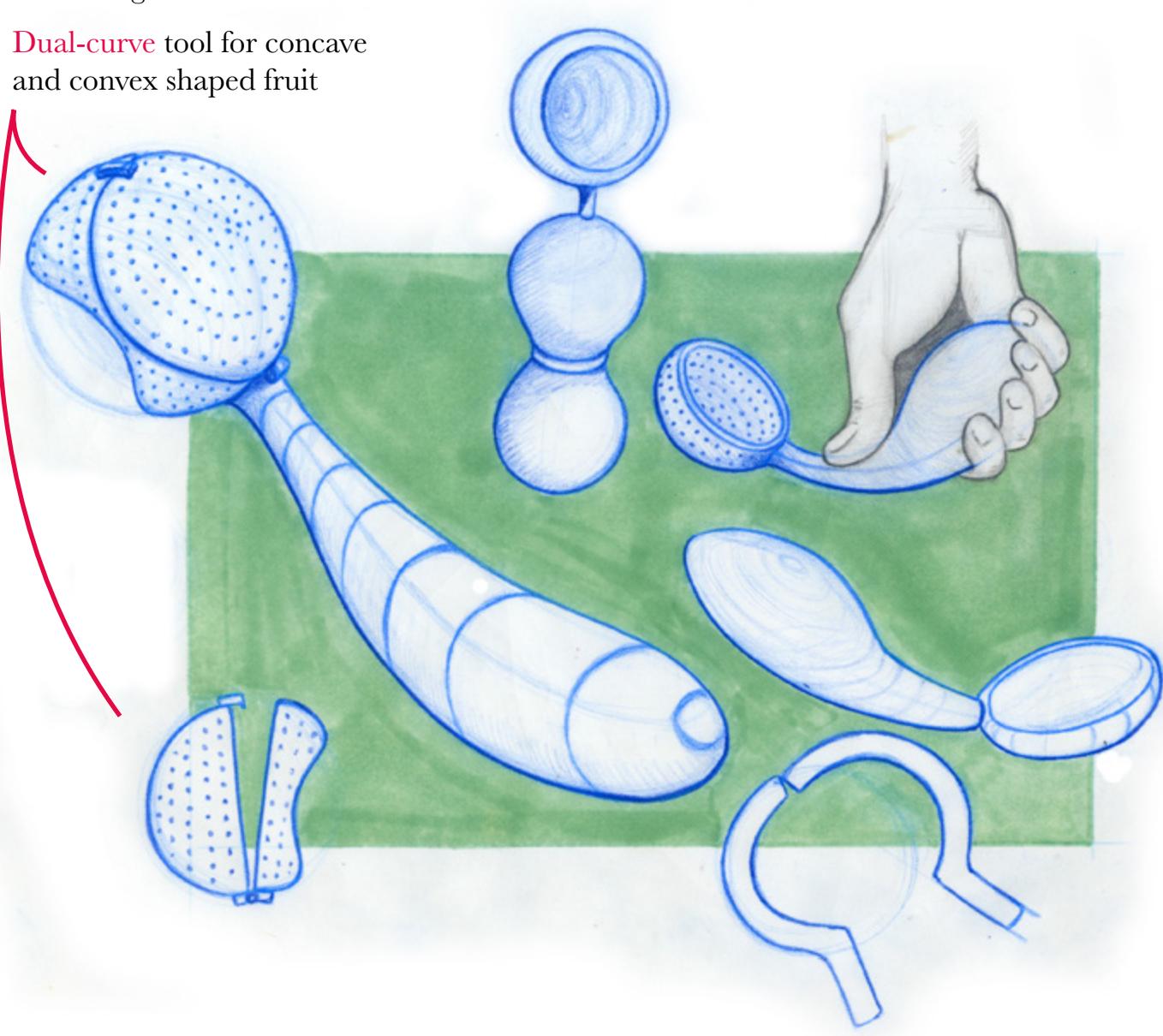
Prototyping Round 2



*Ideation*

Variations of a rounded scraping or shaving tool

Dual-curve tool for concave and convex shaped fruit



Prototyping, form, and material exploration based on surveys and peer reviews



# FINAL DESIGN

*“When life gives you lemons, design a zester”*

## Final Prototype Analysis

The head can zest and scrape anything from a lemon to a fresh coconut or cantaloupe



A very small hinge enables the concave half of the head to swing open and release the content of the head.

In manufacturing, the entire head would be cast together, with a living hinge as the mechanism.

The handle is large and comfortable to accommodate users over long periods of time

Anyone who enjoys cooking can have this utensil in their kitchen. It could even be used in a professional setting



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