

# Tom Burns Portfolio

Fall 2024

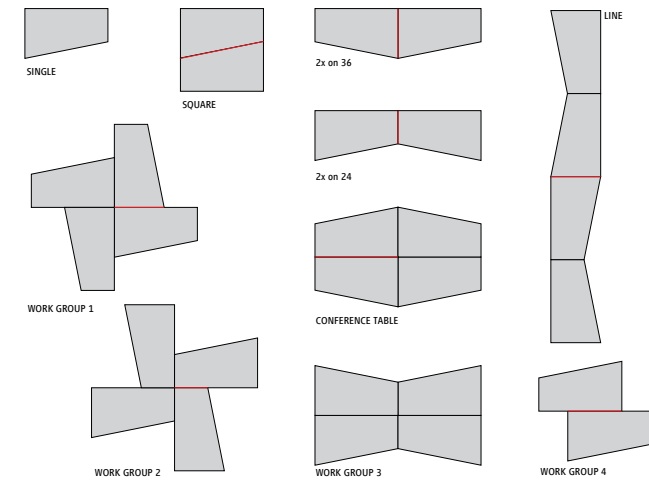
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## Heartwork Square Desk

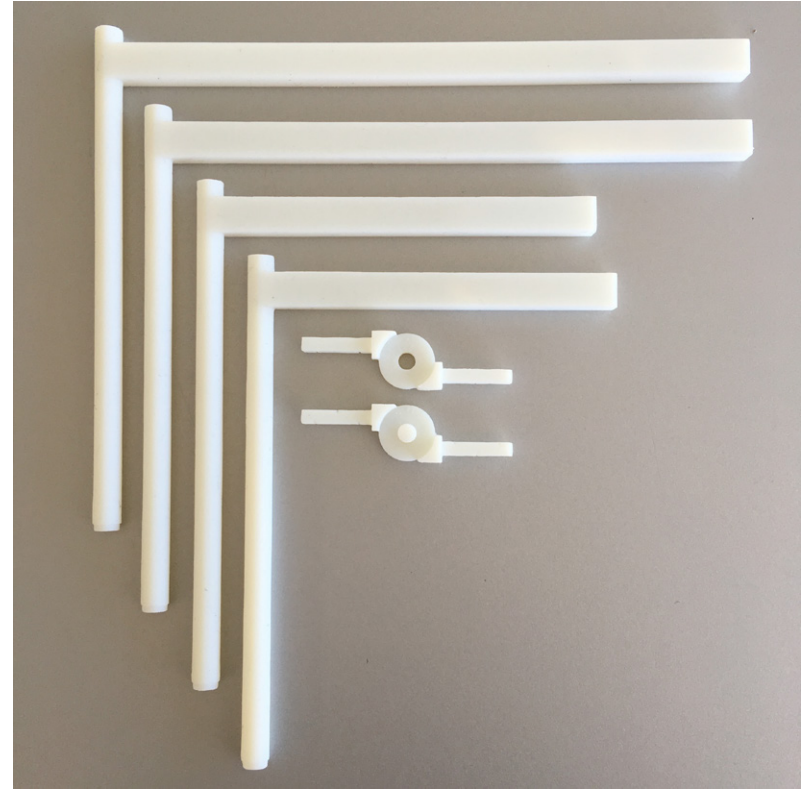
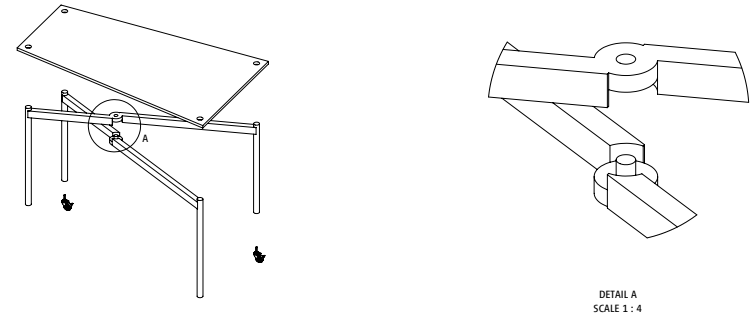
Developed at ALM Project

2017 - 2019





various arrangements of the table top reveal a discreet number of unique connections



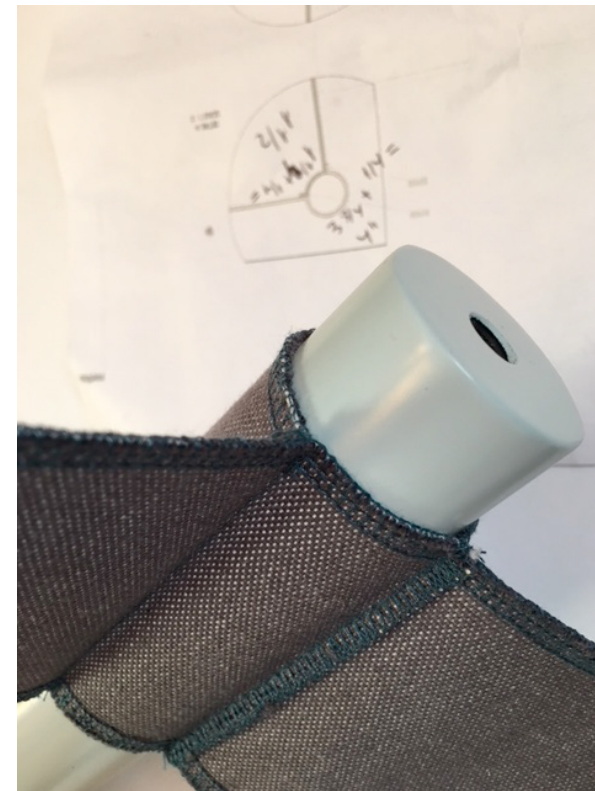
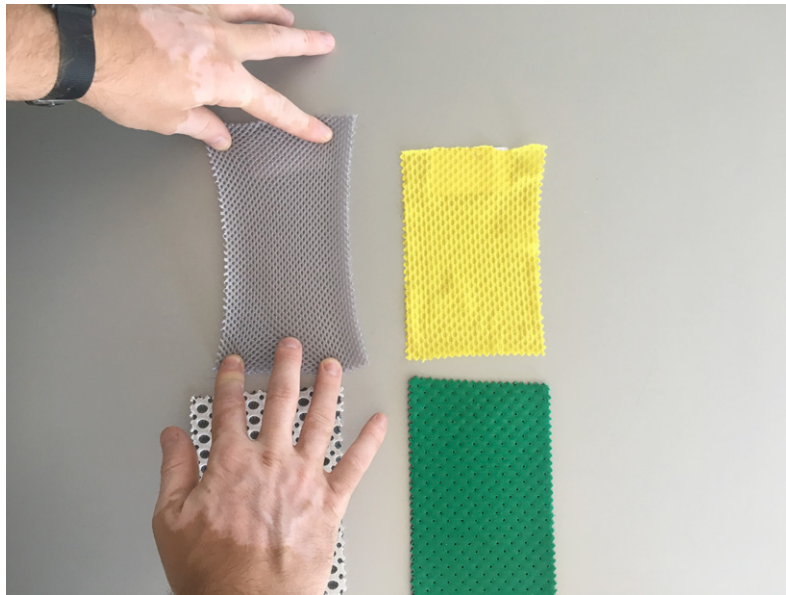
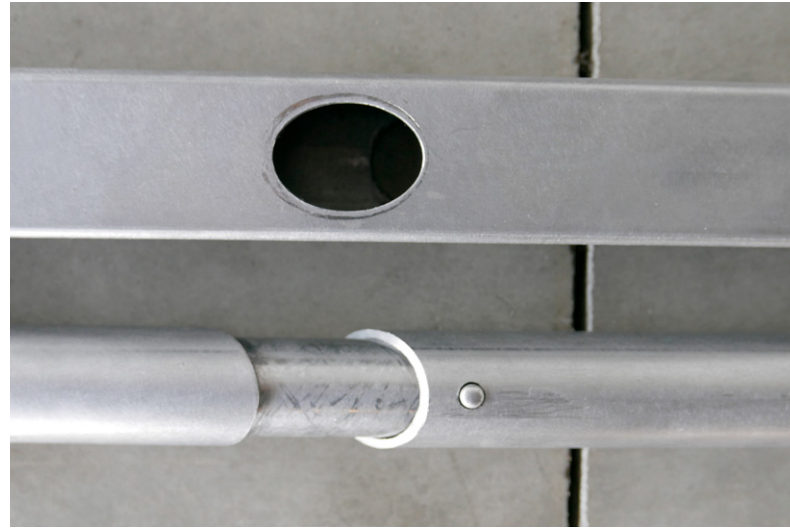
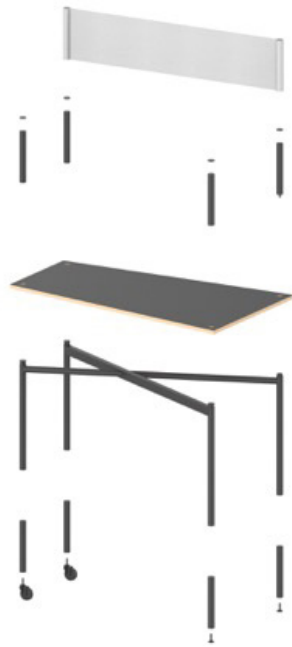
Heartwork manufactures and sells American made office products like bookshelves, lockers, and trestles, mostly using powder coated sheet steel.

My boss had recently become Creative Director for the brand, and I was tasked with developing a desk system based on the shape of a trapezoid that could be paired and form a 60" square.

These images show the first viable prototype which planned to use a central cast hinge to connect four L shaped weldments. The frame could fold flat and fit around the plywood tabletop, good for shipping. This cast hinge would later be cost budgeted out, but it is nice, and informed the subsequent direction.

The final frame was made from weldments alone, and would incorporate extenders which could be added to gain height, or to add an optional privacy screen.





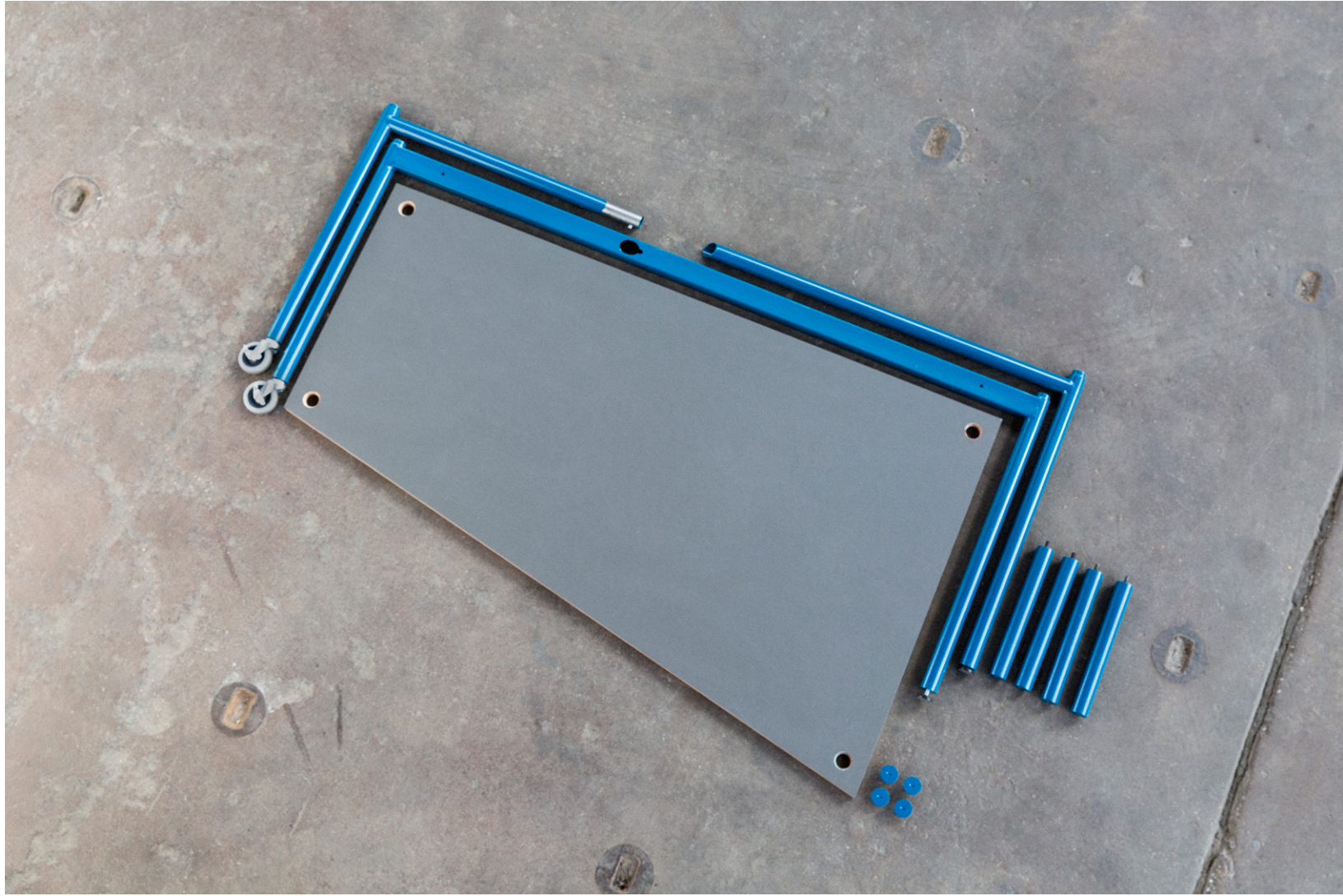
a: second round prototype with added "extenders"  
b: second prototype pierced frame detail  
c: first article back from heartwork d. sit vs standing  
versions e, f, g: testing for privacy  
h: cable management



this page: Square product launch at Heartwork headquarters, NY Design Week 2019  
following pages: photo shoot by Trevor Dixon











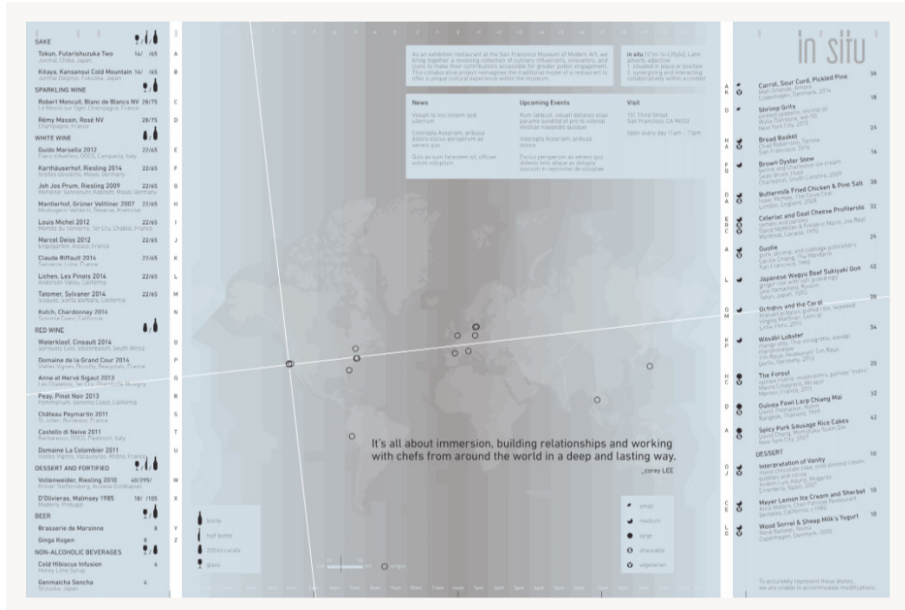


## Axial Tilt "Share plate"

Table setting for In Situ

2015



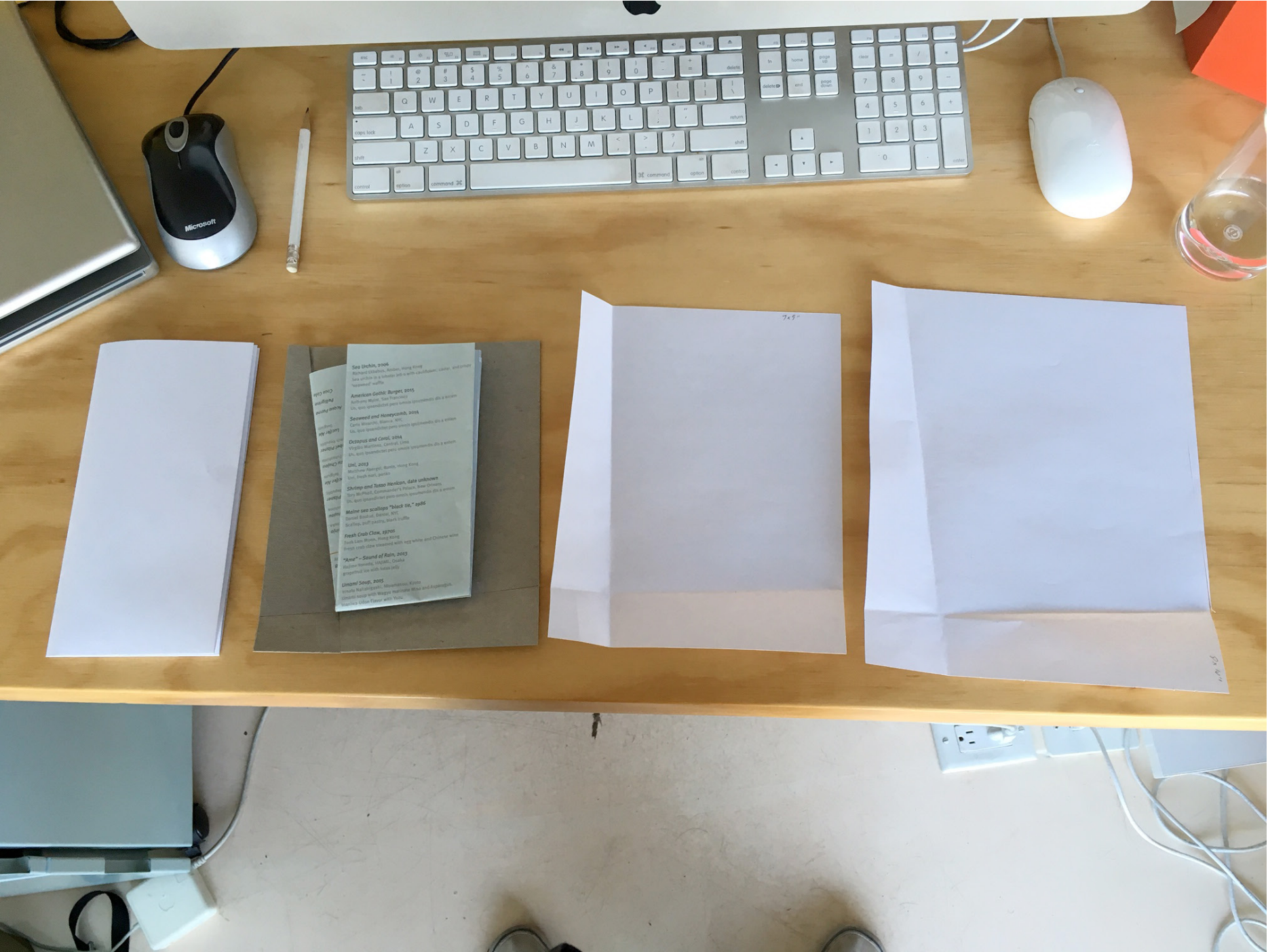


My first day at ALM I jumped on a project that was already mostly complete, Corey Lee's restaurant In Situ at SFMoMA was under construction but still needed a few items.

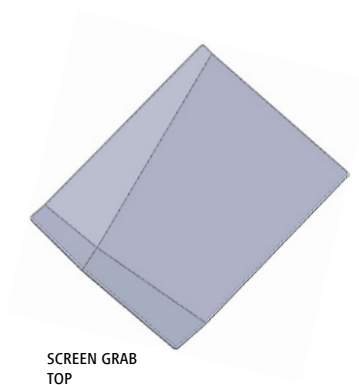
The menu layout had already been completed (above) and suiting the theme of the restaurant it had been designed to be folded like a map, and featuring an "X marks the spot" feature that divided the menu and denoted the baseline of the grid layout.

I created a few preliminary thumbnail sketches, but quickly moved into creating some physical mock-ups based on folding and the X.

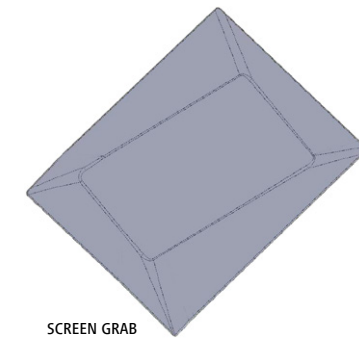
Pictured right to left: First paper mock-up, second with the size adjusted, third made from tag board with the tilt adjusted to align to the menu.



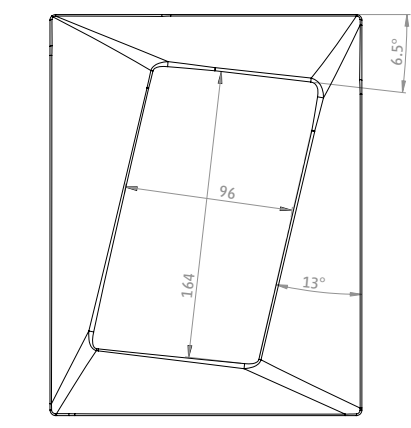
confidential In Situ Sharing Plate March 3, 2016 © a | m project



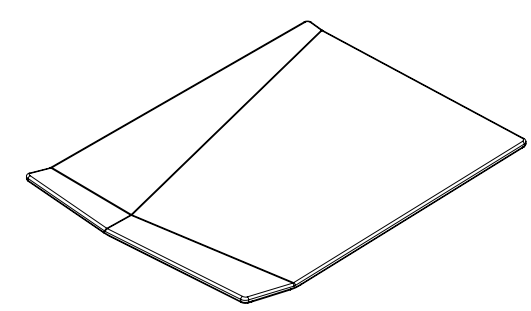
SCREEN GRAB TOP



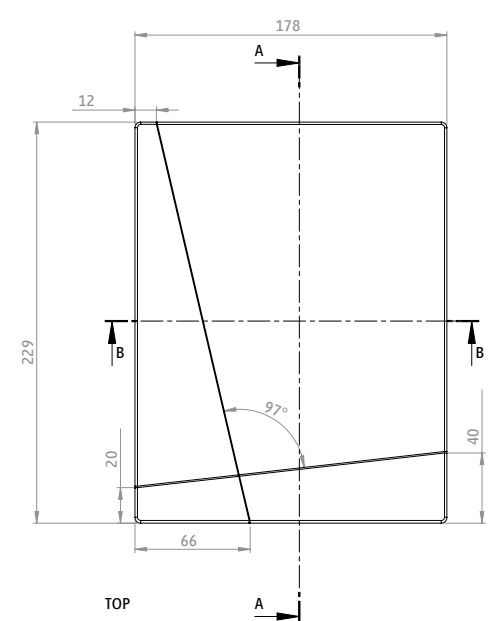
SCREEN GRAB BOTTOM



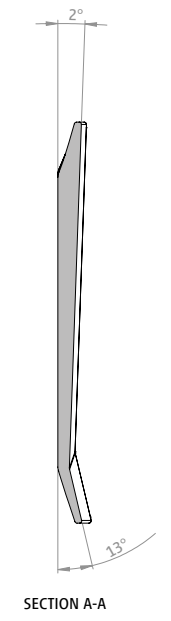
BOTTOM



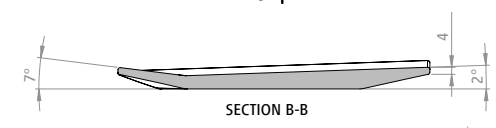
ISO



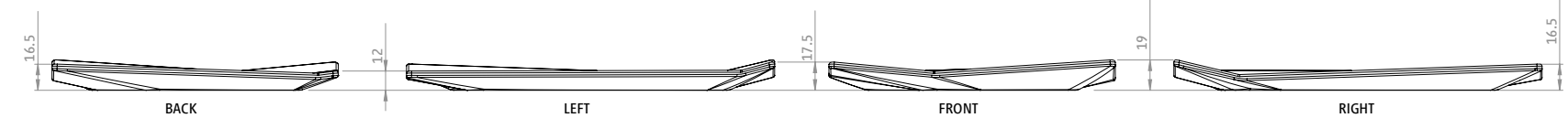
TOP



SECTION A-A



SECTION B-B

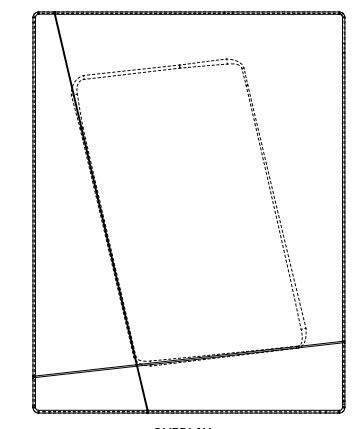


BACK

LEFT

FRONT

RIGHT

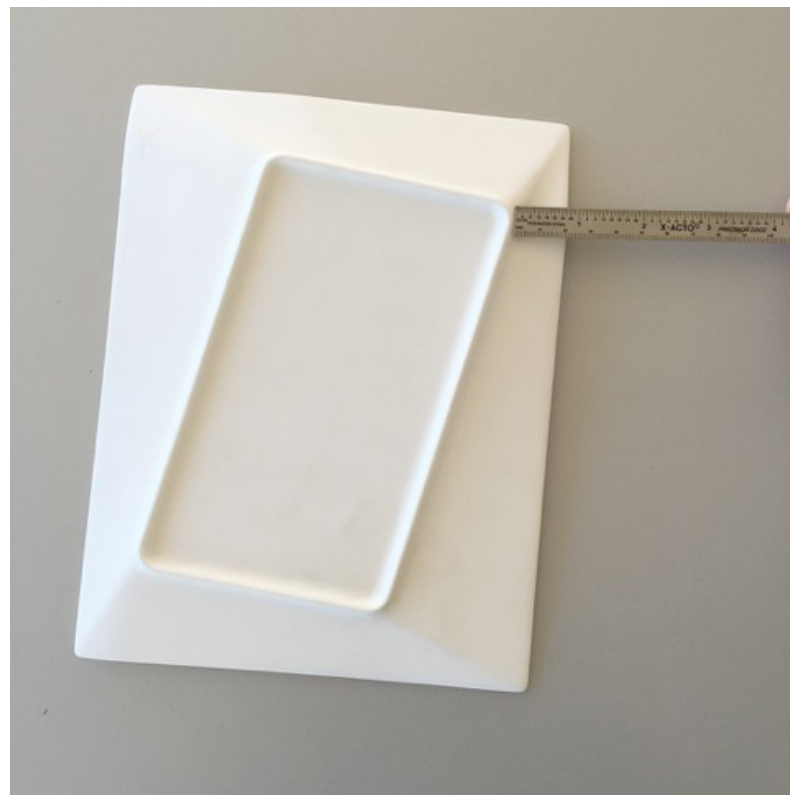
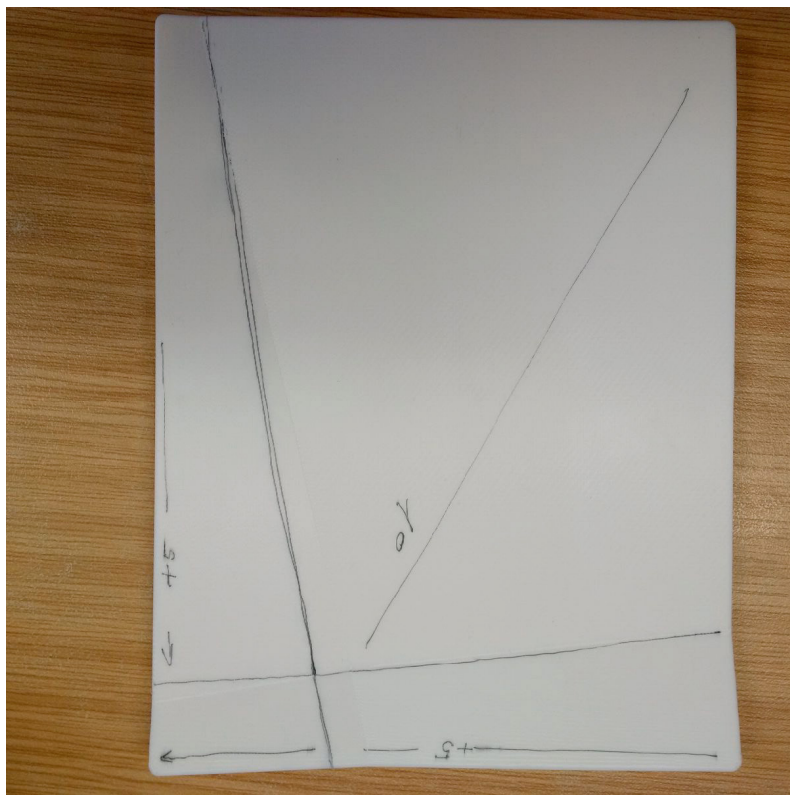


OVERLAY

Scale 1:2  
All dimensions in mm



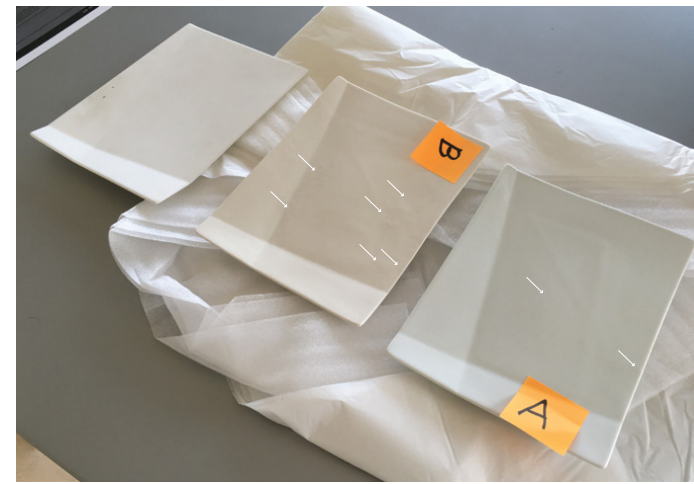
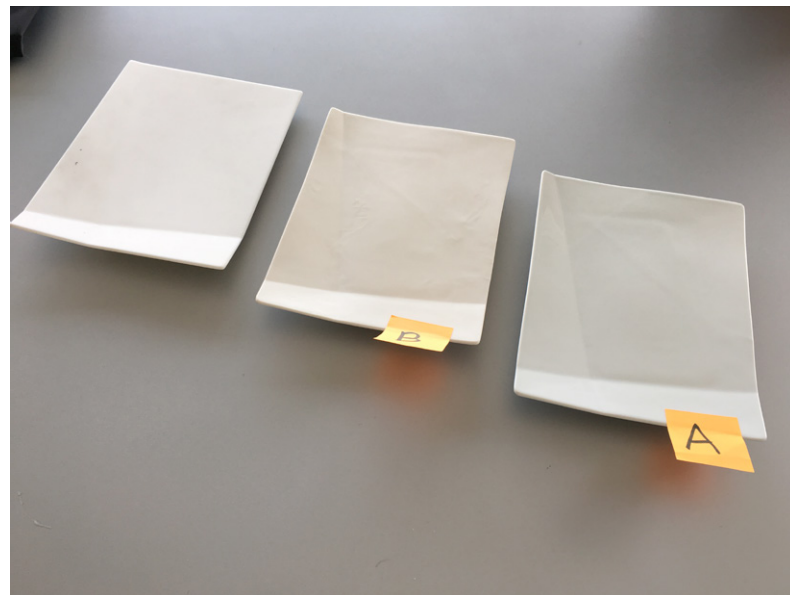
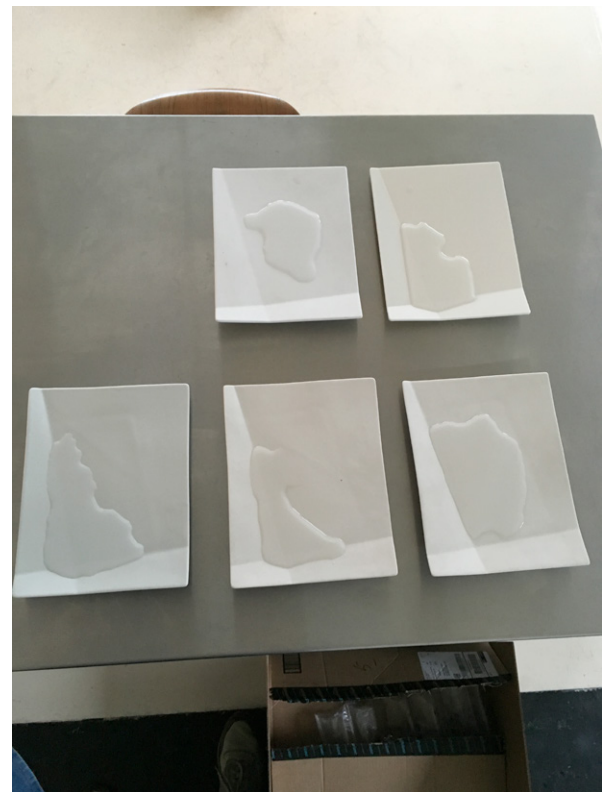
technical drawing to pass to factories



ALM Comments on Samples Received 01/15/16

Thank you for the glaze samples, we will need to see how they perform and how easily they can be cleaned before making a decision. However, we have some other concerns with the shape, the surfaces are not as smooth as they need to be.

The KwangJuYo samples have a lot of sink marks on the surface. These can not be here on the final products. Perhaps if the dryfoot on the underside was more petit it would not show so much on the top surface.



Strange irregular bumps (not smooth)



Linear markings on both plates that should not be there.



A difficult aspect of manufacturing the plate is the presence of sink marks on the top surface, resulting from the foot of the plate and inconsistent wall thickness. Ultimately we paired with Rosenthal, who's expertise could overcome this short coming.

this page: prototype, initial output, and typical sample comment sheet  
 following page: photos of production plates



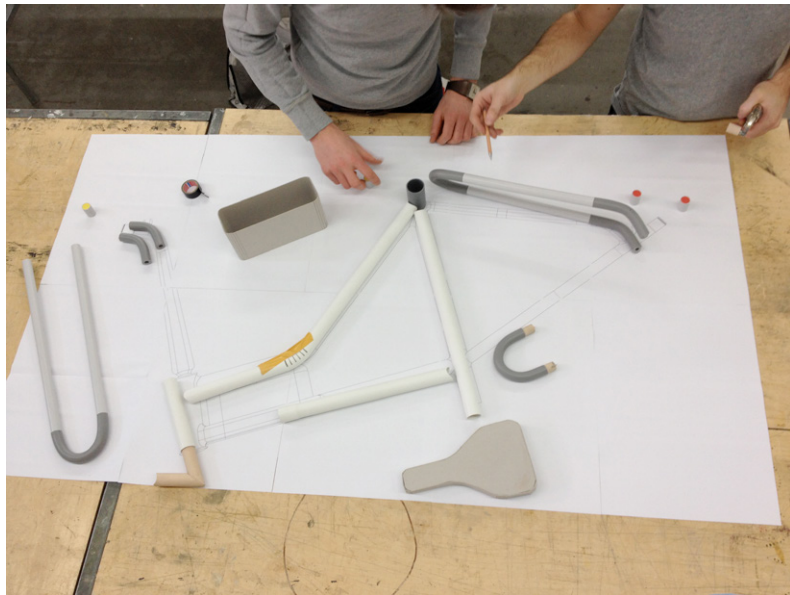


## Commuter Bike With Storage

ECAL for Scott Bicycle  
Group project: Tom Burns, Kasia Kempa and Lucas Frank

2014





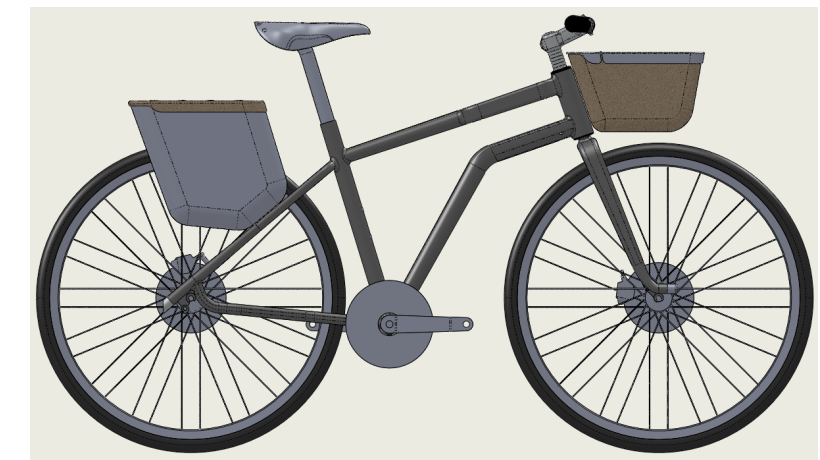
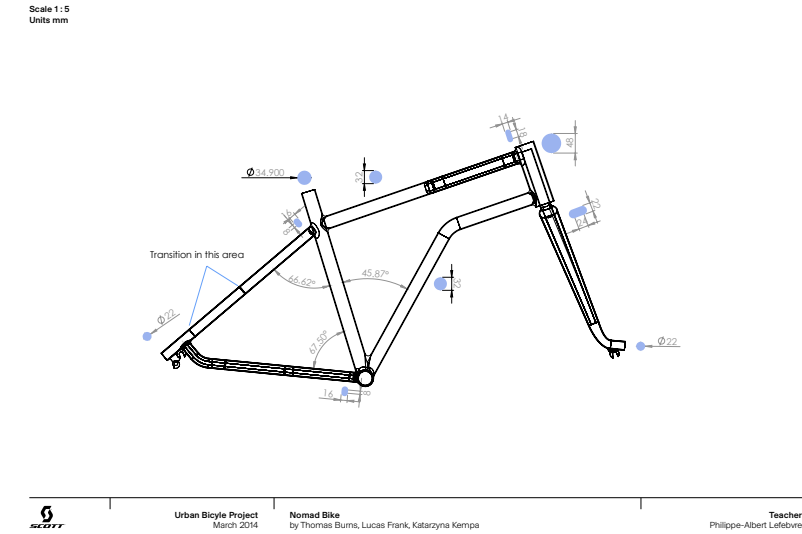
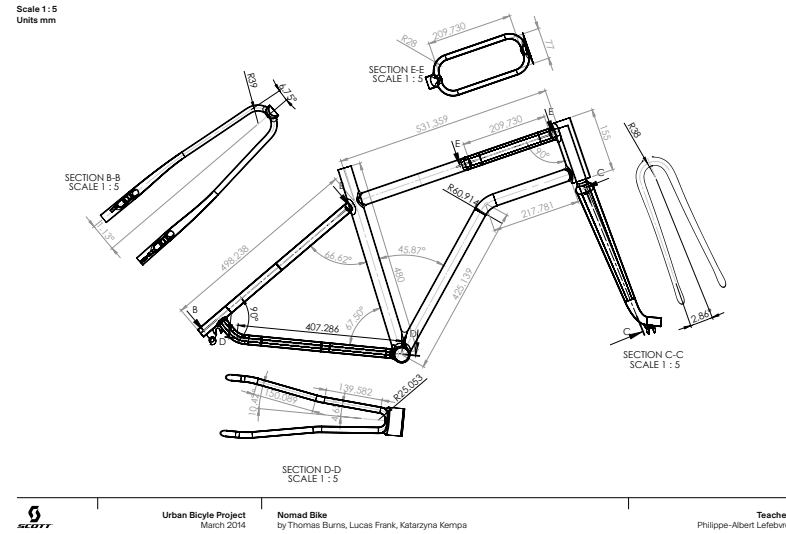
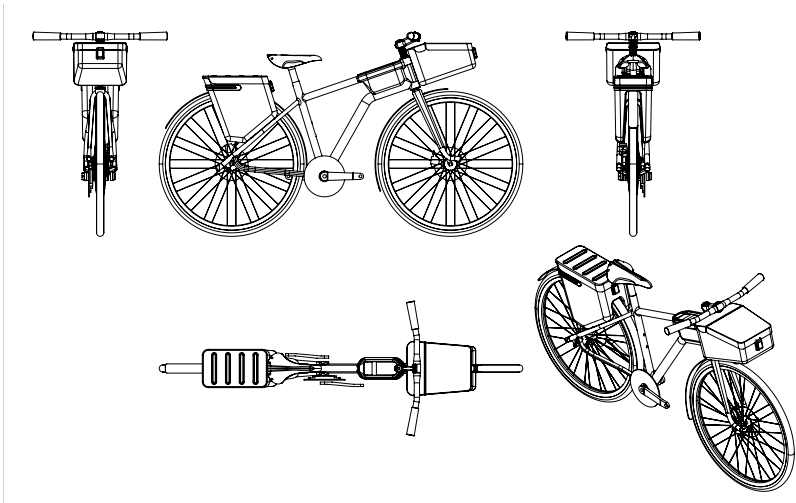
Swiss bike manufacturer SCOTT partnered with 1st year Master in Product Design students to develop new concepts for urban commuter bicycles.

This was a complex project with a very short time line. The students were divided into teams and had to present clearly defined concepts early on for approval.

The first project presentation to Scott would take place only two weeks after a visit to the company's head-quarters. We would have to present a specific concept and show a full scale rough mock-up.

As there were six groups working on this project, each had to have a very clear idea of their project, ours was "the one with storage"

I like to look for inspiration in adjacent product types, and in this case I wanted to put a glove box on the bike.



Urban Bicycle Project March 2014  
 Nomad Bike by Thomas Burns, Lucas Frank, Katarzyna Kempa  
 Teacher Philippe-Albert Lebloune

Urban Bicycle Project March 2014  
 Nomad Bike by Thomas Burns, Lucas Frank, Katarzyna Kempa  
 Teacher Philippe-Albert Lebloune

After the initial presentation, we had to move towards a final "looks like" prototype.

At the outset of the project, Scott said they hoped to fabricate the frames through Aluminum Hydro-forming. By week four we submitted the final frame to Scott, but by that time they had a change of heart, or maybe there was no longer enough time, and it ended up that the frames were not aluminum. We had them printed by an outside vendor in France in a white nylon PA12.

The frames were then sanded and painted and fit with a mix of other prototype parts, and existing off the shelf components.

The containers are designed to be made from PET felt, a material commonly used in the trunk area of cars, and fit with heavy duty waterproof luggage zippers. We also incorporated LED lights in the front fork, and rear stays, both powered by the brakes.













## Pivot Coffee Tables

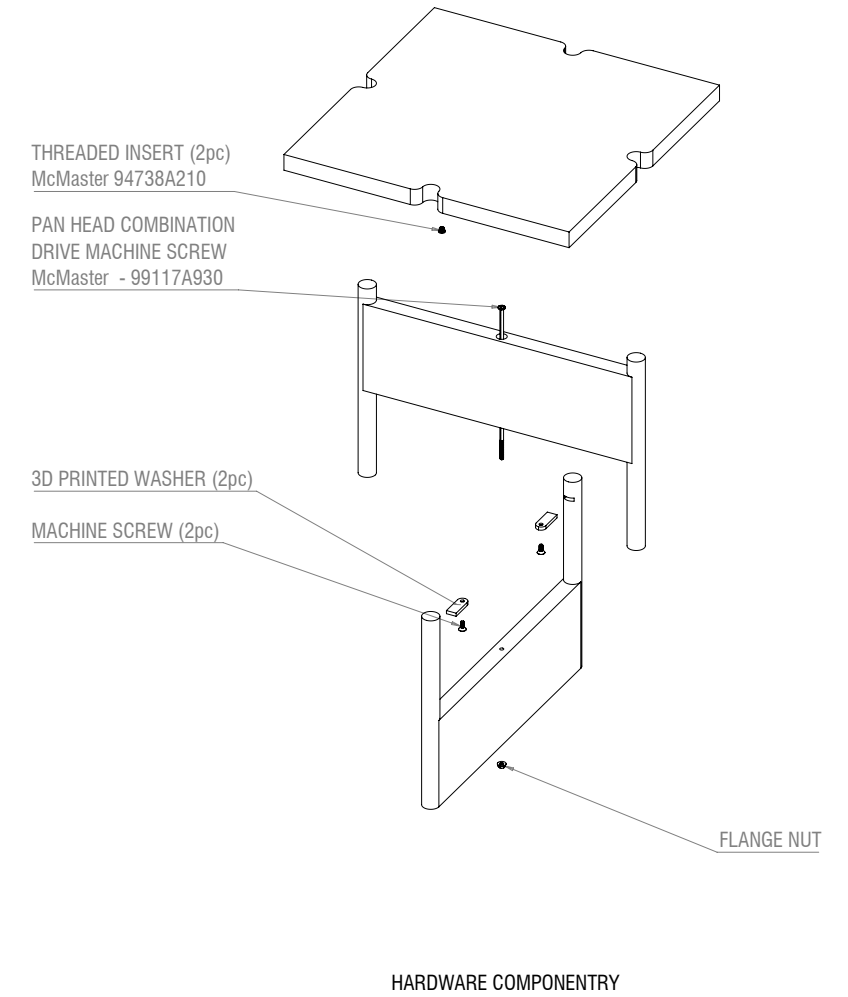
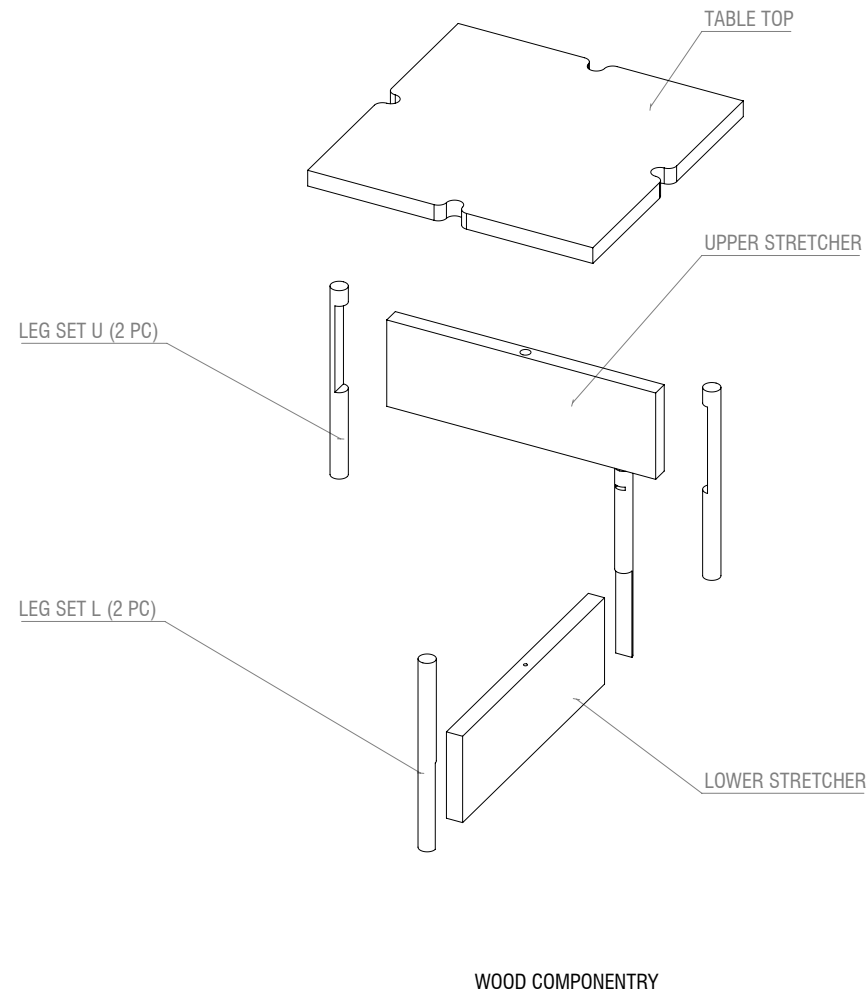
Self motivated project

2019



**Burns Office**  
 X Coffee Table for Spec  
 December 29, 2019  
 BO\_2019-1229\_XCoffeeTable  
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3



At the outset of 2019 I had put together a short pitch deck for a coffee table design. The images here are taken from that deck.

The idea was a simple table, folding base, reduced parts, all the same thickness and easy to fabricate.

This table assembles with a few pieces of hardware, can fold flat, and once assembled would be strong.

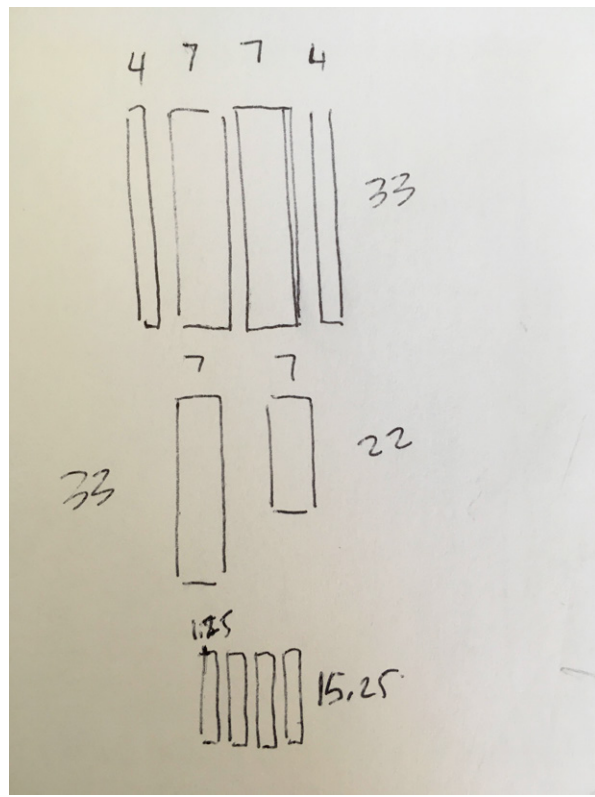
A few months later the Covid-19 pandemic began, and I decided to fabricate a couple of the tables to keep myself busy.

5 Components

**Burns Office**

X Coffee Table for Spec  
 December 29, 2019  
 BO\_2019-1229\_XCoffeeTable  
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prototyping,  
miniatures exploring alternate shapes,  
round version built for the arrival of my daughter 2021



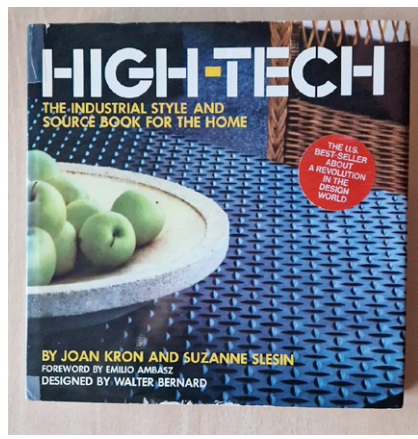


**e-Salon's Polychromatic Dye Dispenser**

Developed at ALM Project

2018





eSalon is a company with an established subscription based business model, offering hair dye that is custom mixed based on the users biometric information.

They approached ALM Project to develop a retail location and with it a kiosk or machine that would mix and dispense the custom dye on demand in front of the user.

This essentially would be a miniature version of their factory line. The production line already actually mixed all outgoing product to the clients needs.

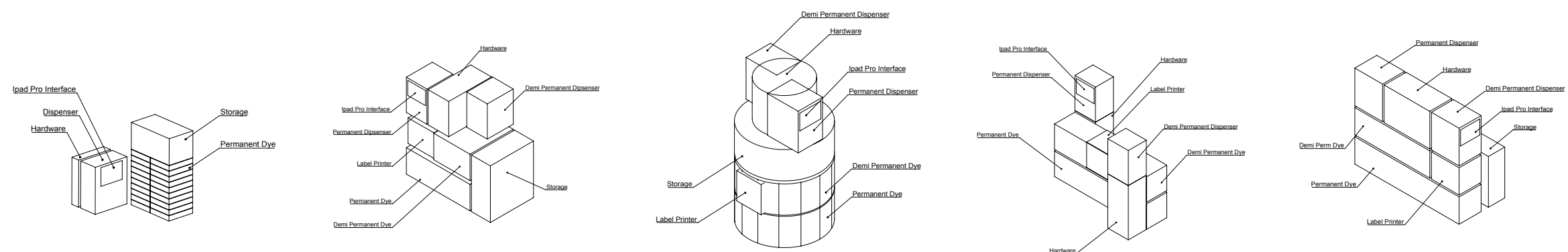
Working with eSalon's flow engineer we developed the Polychromatic Dye Dispenser, aka "Polly" for short.

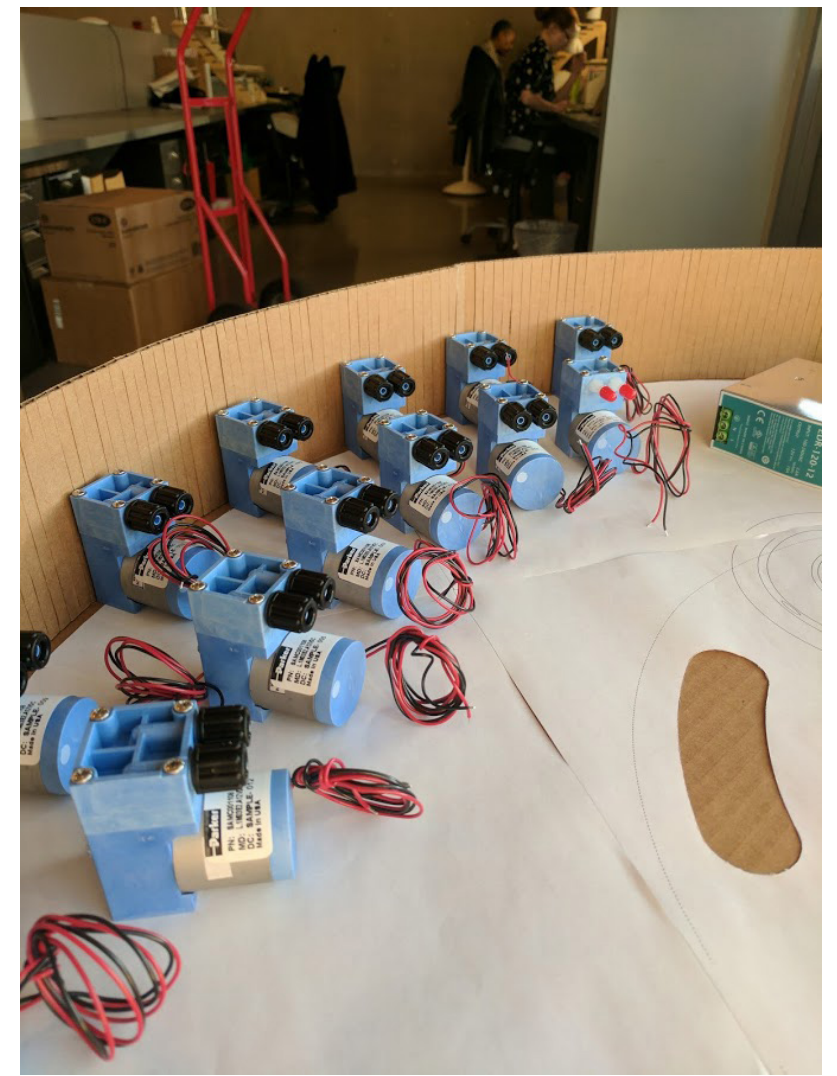
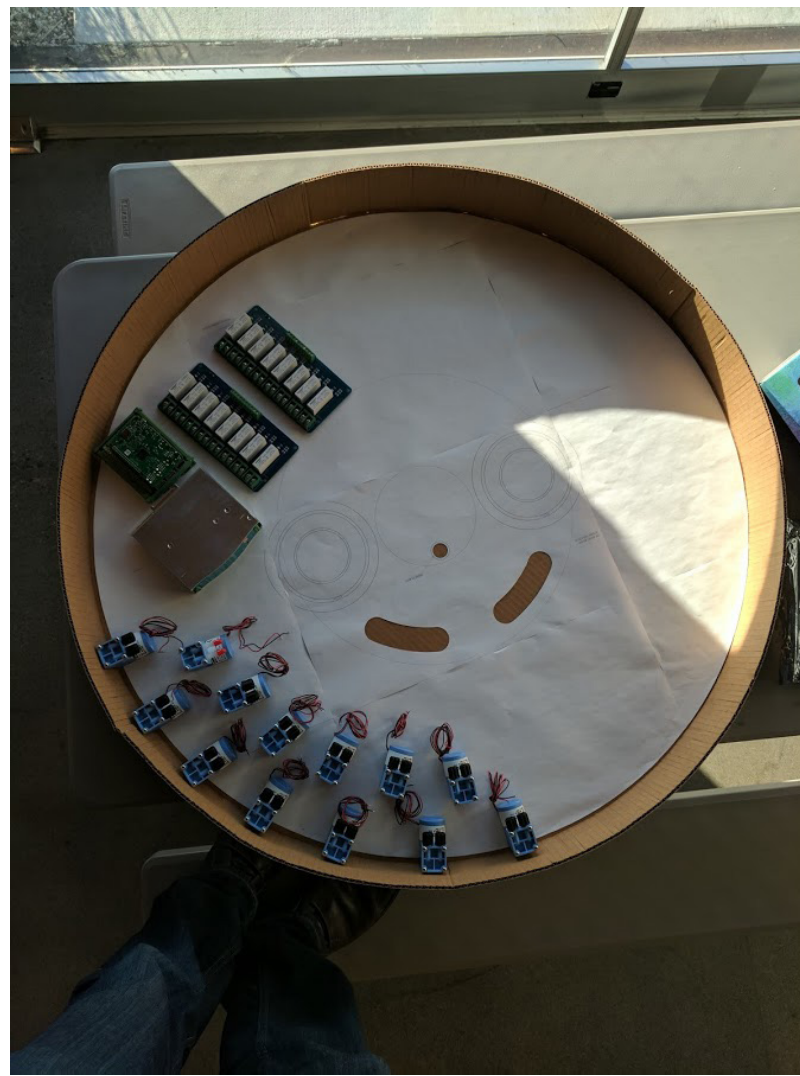
The machine is run by two raspberry pi micro-computers which drive 26 stepping motors that pump from 26 different bags of colored dye, 13 permanent and 13 demi permanent.

The user would bring up their account on the interface, make their selection, a printer would spit out a label, which would be affixed to an empty bottle, and then placed on a scale where it would be scanned by the machine and the custom mix would dispense.

We used component dimensions, dye volumes based on a projected consumption and target frequency of maintenance, and created early studies of arrangements of the components.

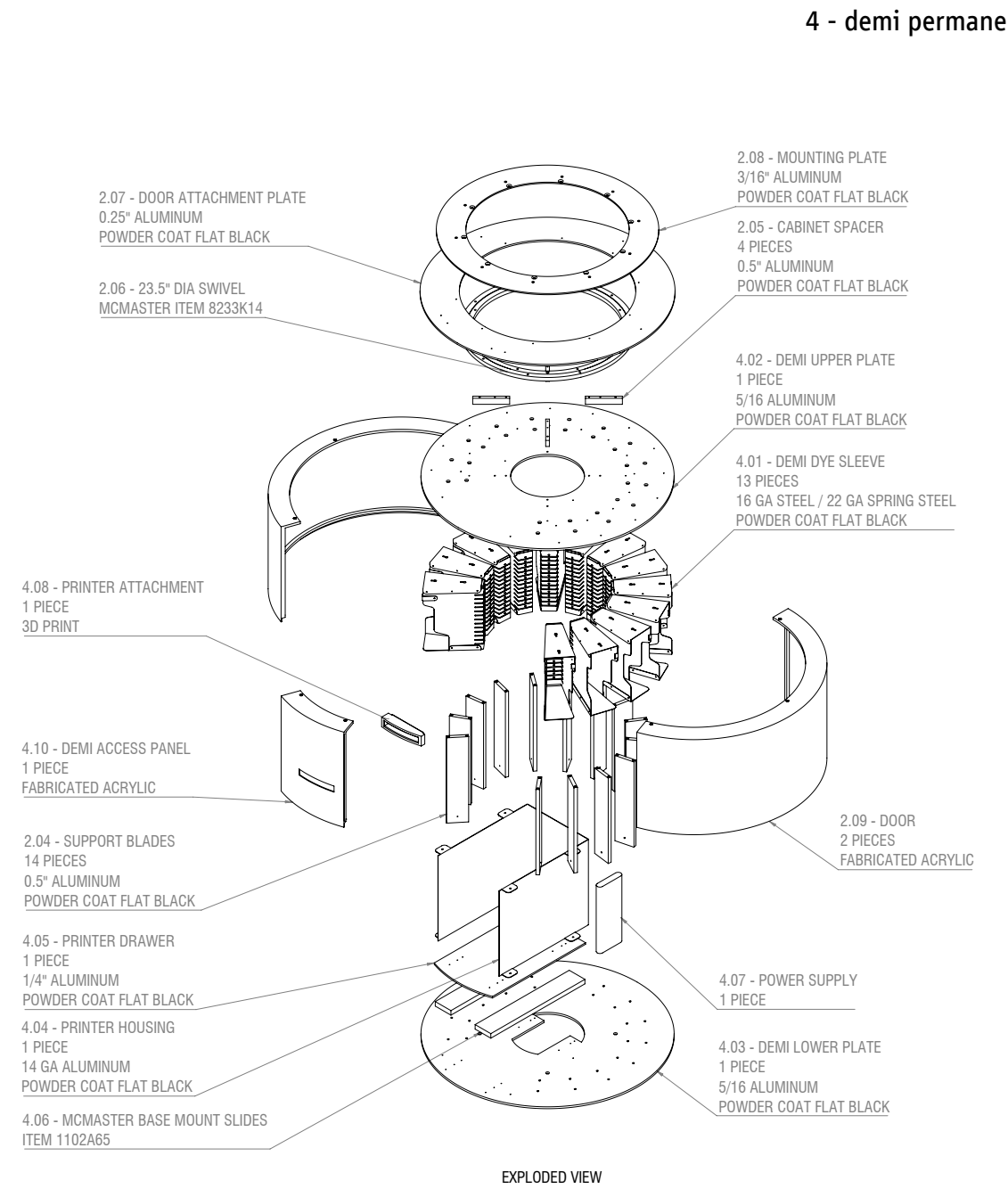
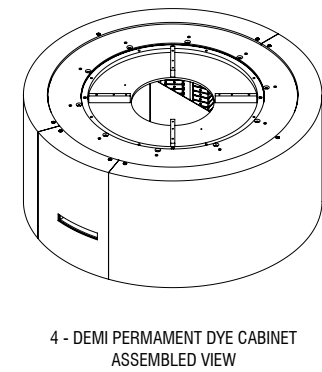
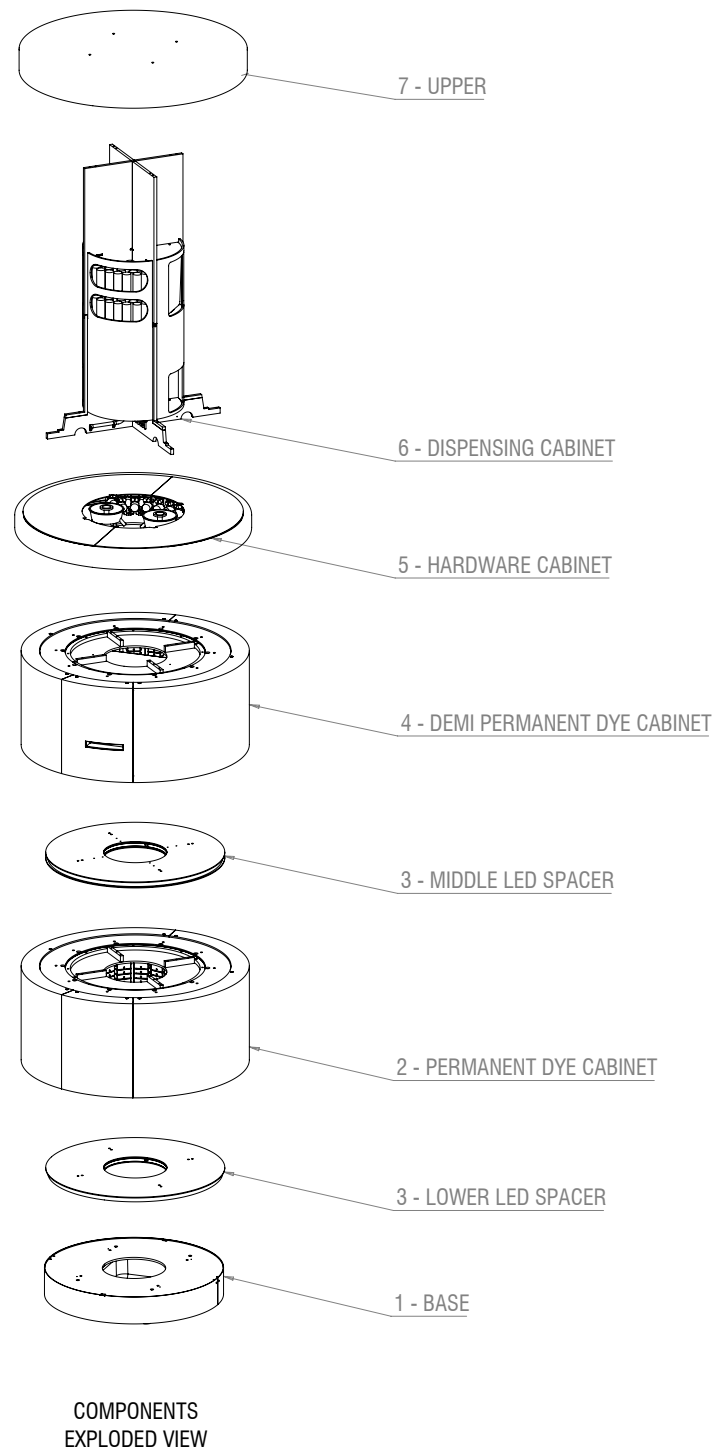
With the first round of dispensers, the client wanted a "trophy piece," something that would stand out. For this reason a cylinder orientation was selected, which could stand alone, and dispense dye to two customers at one time.





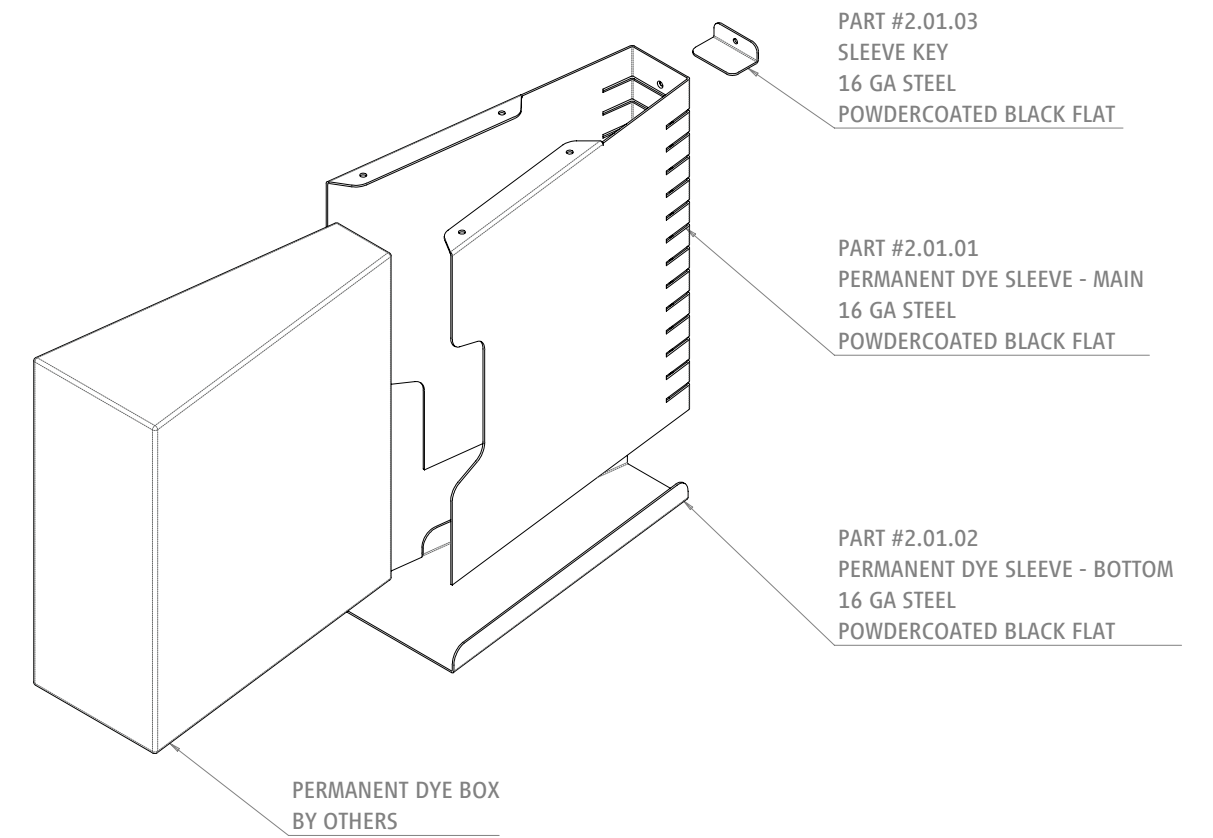
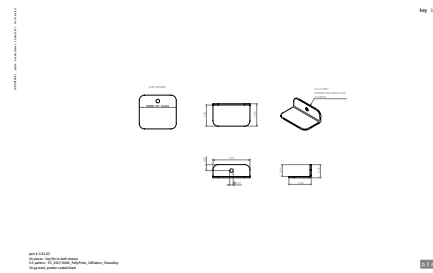
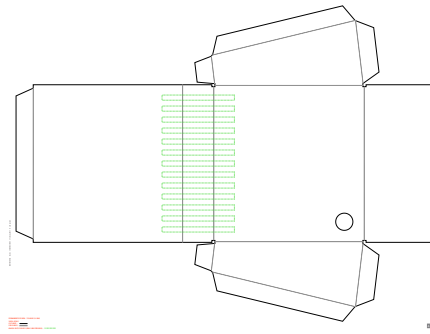
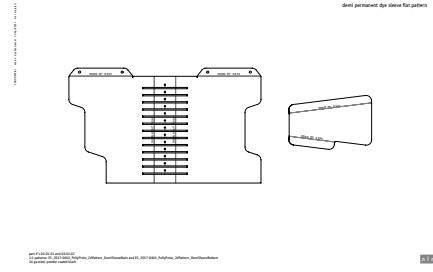
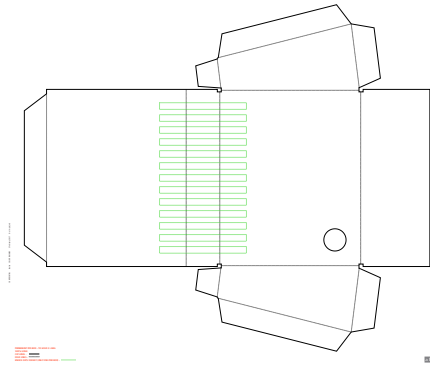
Cardboard mock-up for the polychromatic dye dispenser

This was used to test human factors, we wanted to make sure that everything was within reach for even the 10% woman.



The final dispenser had about 75 unique parts that needed to be made. Keeping production organized was a big part of the project.

I divided the piece into layers which would each attach to the layer below. These drawings show the layer breakdown (left) and one layer's components (right).

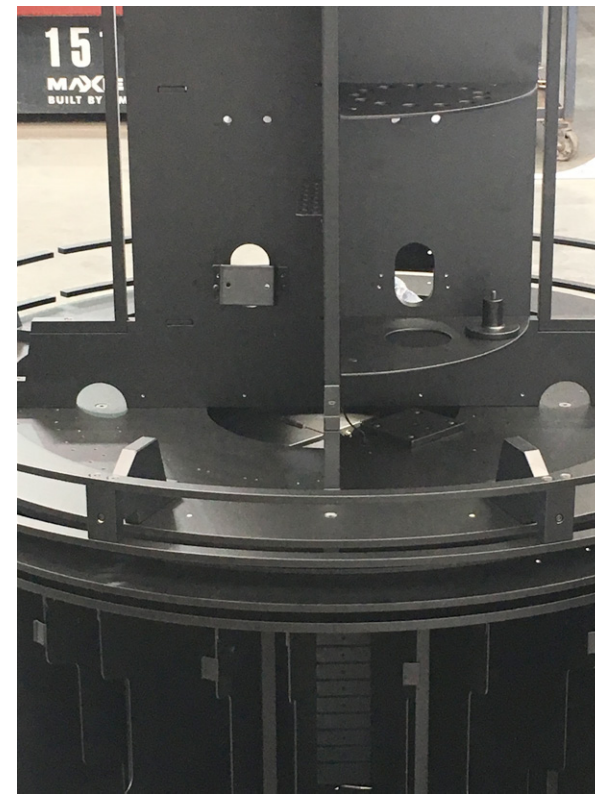
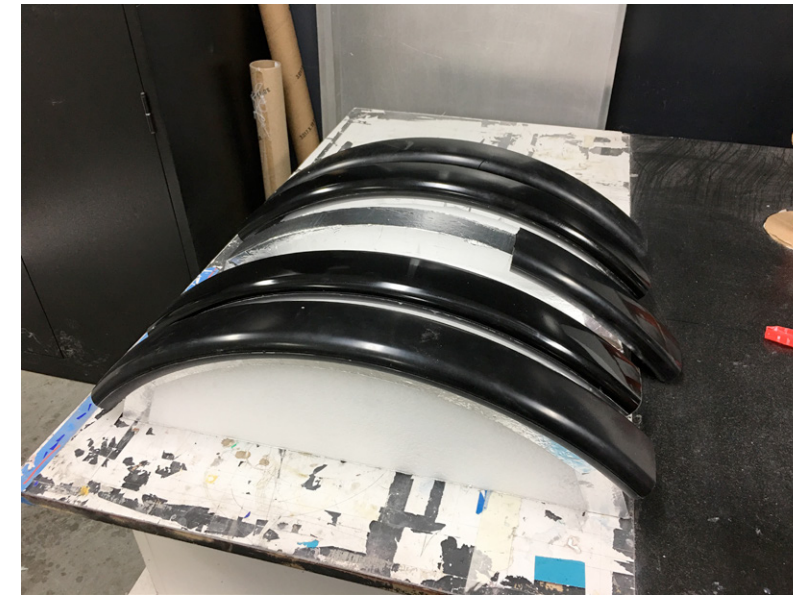
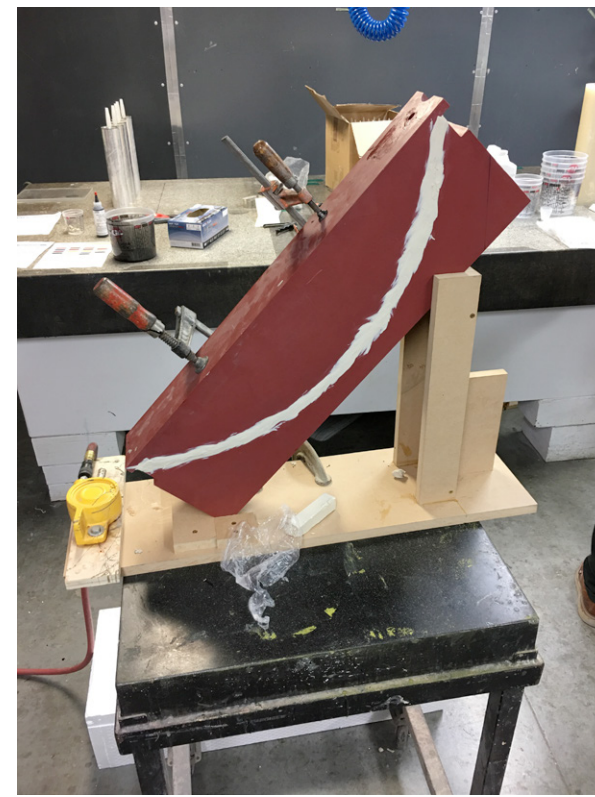


An example of problem solving that went into the dispenser was figuring out how to create a redundancy that would insure the refill dye boxes be put into the correct slot.

I devised a system by which each slot would have a bent tab attached on the inside face, and this tab would slot into the dye box in a breakout area, different for each dye.

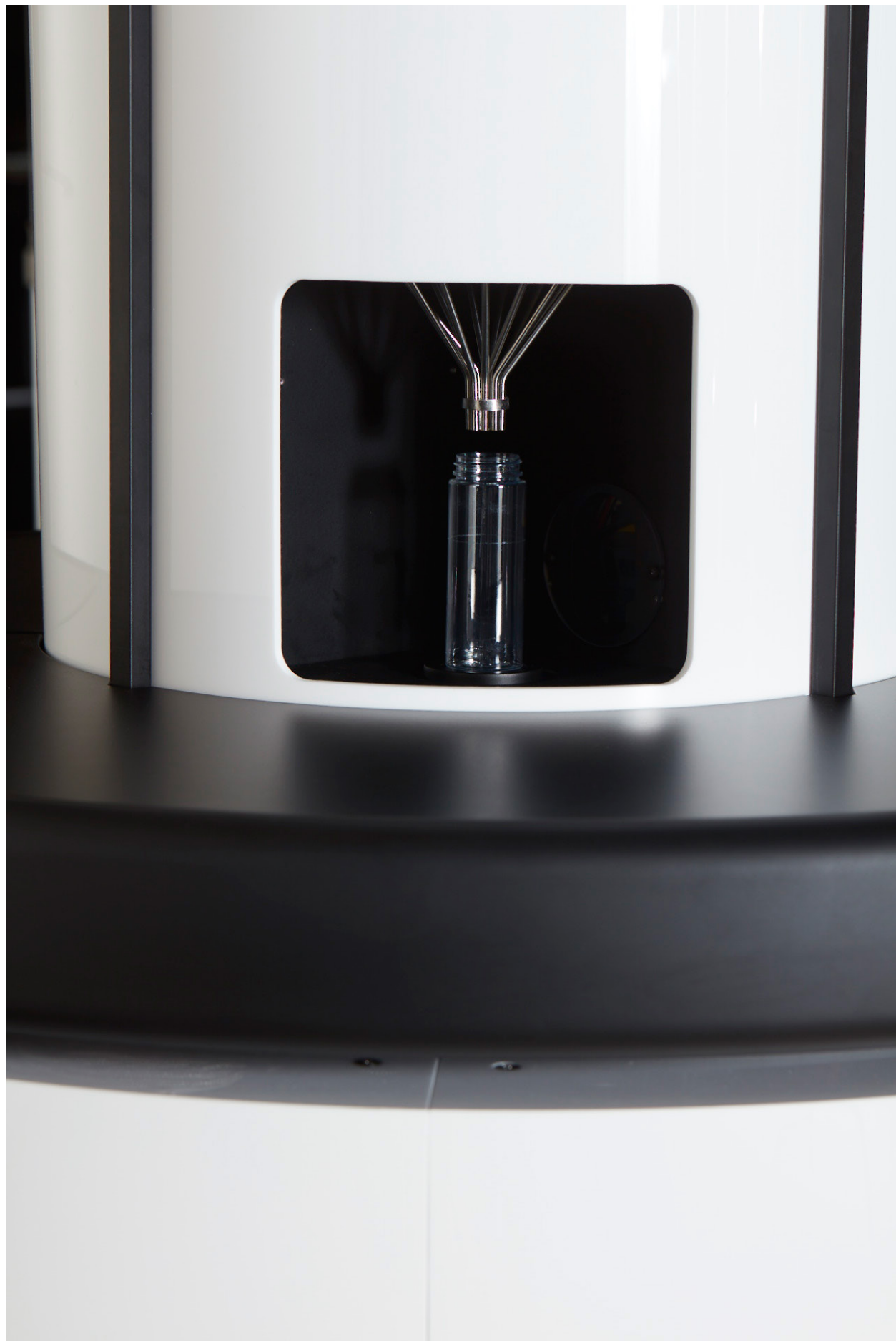
This tab system acted to double confirm dye placement and avoided individual slot manufacturing.

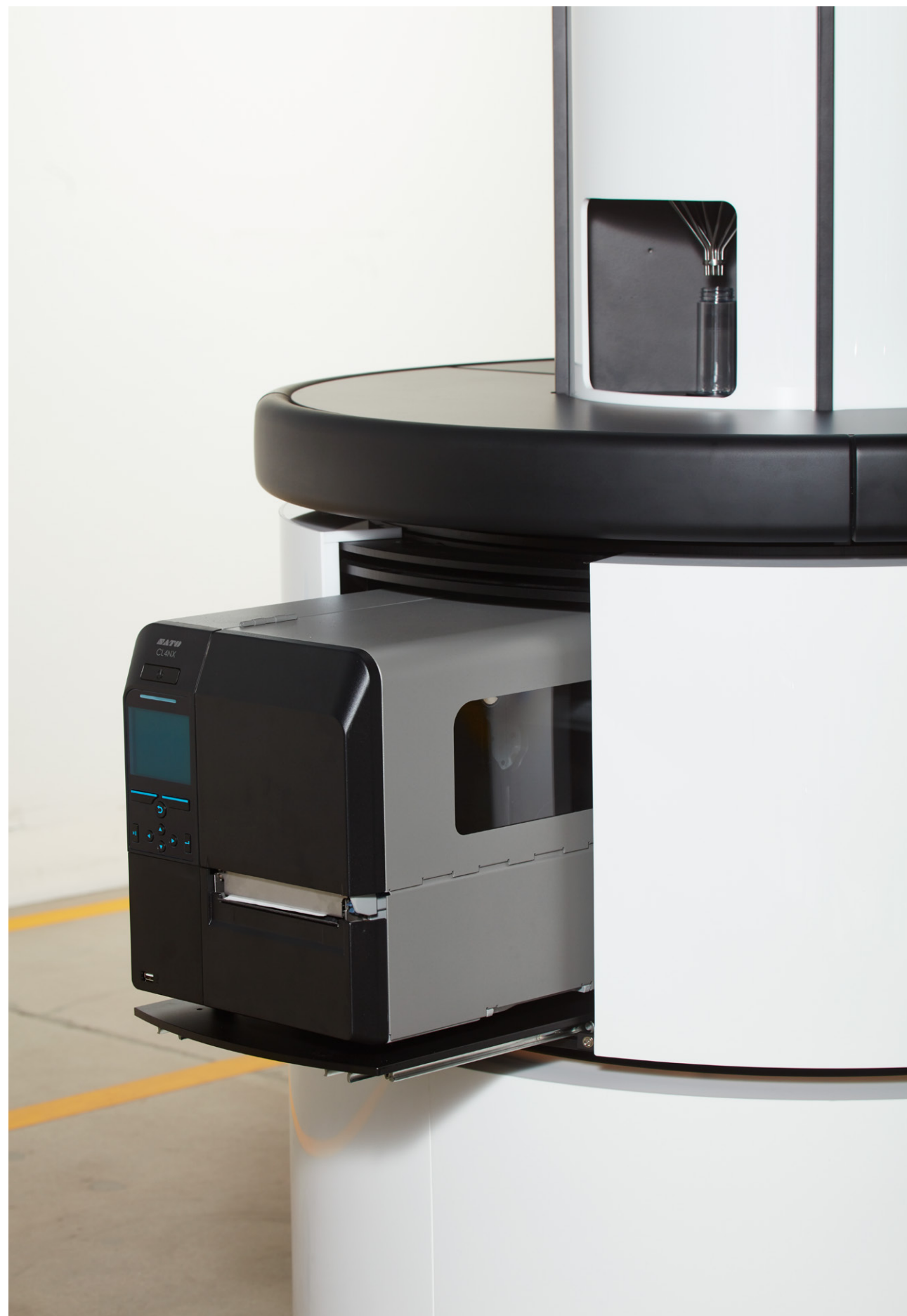




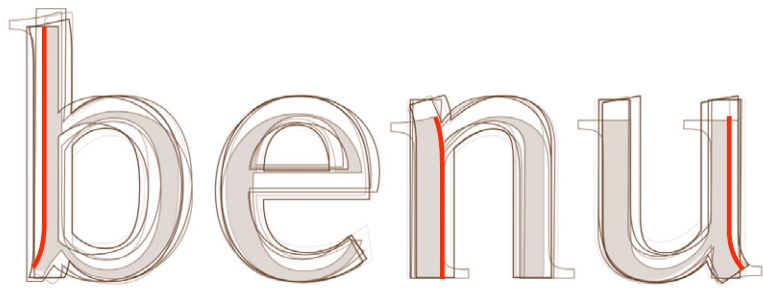




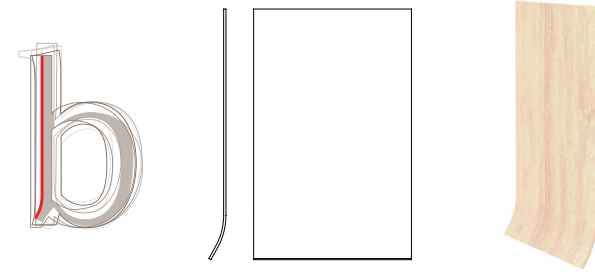








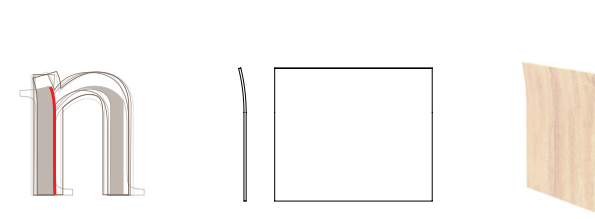
CONFIDENTIAL - Benu - 4/16/2016 - 10:00 AM - 0.1 m project



shape origin 4

alm

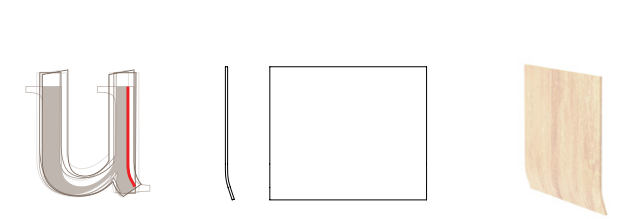
CONFIDENTIAL - Benu - 4/16/2016 - 10:00 AM - 0.1 m project



shape origin 5

alm

CONFIDENTIAL - Benu - 4/16/2016 - 10:00 AM - 0.1 m project



shape origin 6

alm

## Benu Paneled Interior Wall

Developed at ALM Project

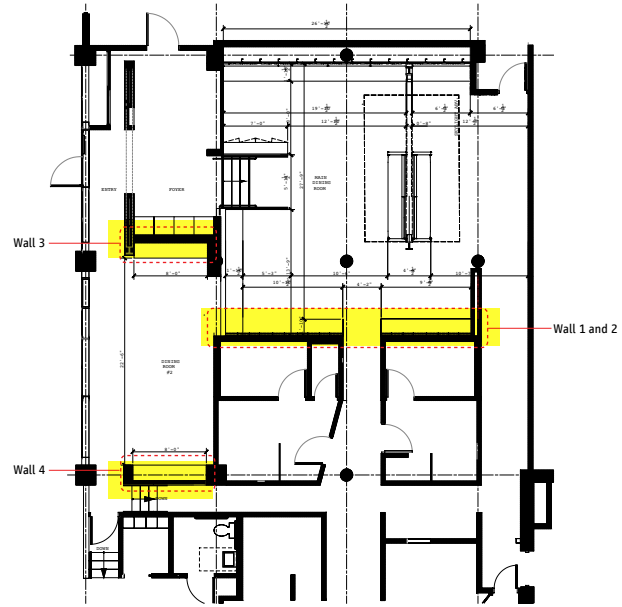
2016

I was tasked with creating a decorative facade that could cover four interior walls at Benu. Because of its decorative nature, my boss Andrea wanted there to be some "coding" element that would justify the form of the elements.

The logo of Corey Lee's restaurant Benu had already been created by layering the most famous fonts from the countries of the various dishes served.

I extracted the three longest straight segments and thought up how to apply them to the wall. With some prior experience with bent plywood, the concept of panels with shallow bends came about quickly.

pl:



CONFIDENTIAL. Item: design room wall. 10 January 2016. © A | M project

NOT FOR CONSTRUCTION.



Birch plywood with white washed finish of varying opacity; attached to opaque white subframe.

scheme 1 3

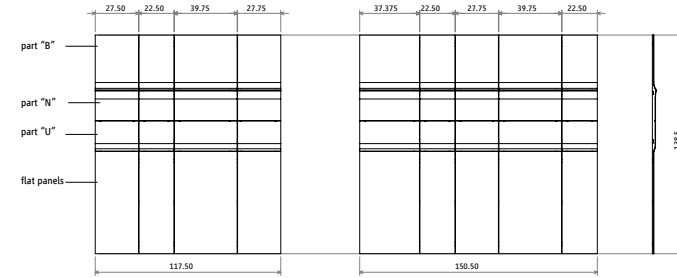
a | m

CONFIDENTIAL. Item: design room wall. 10 January 2016. © A | M project

NOT FOR CONSTRUCTION.

Scheme 1  
Bent plywood wall panels in varying widths.

Please note there should be a 25" gap between all panels, and also from the wall and ceiling.



scheme 1 - overview 4

a | m

CONFIDENTIAL. Item: design room wall. 10 January 2016. © A | M project

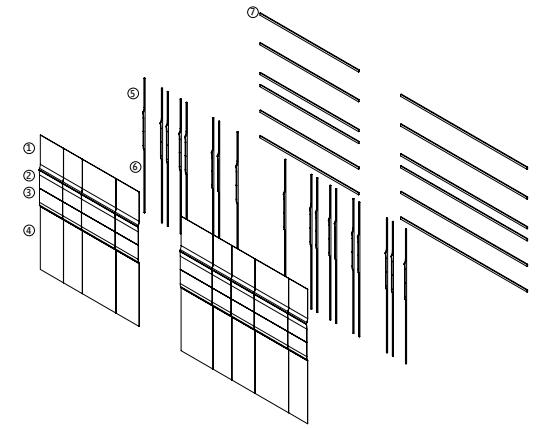
NOT FOR CONSTRUCTION.

Both the left and right walls are comprised of 7 parts with variations in width for parts 1-4

Part 1 - "B" - 9 Pieces varying width  
 Part 2 - "N" - 9 Pieces varying width  
 Part 3 - "U" - 9 Pieces varying width  
 Part 4 - Flat Panel - 9 Pieces varying width  
 Part 5 - Vertical Rib with Profile - 18 Pieces  
 Part 6 - Vertical Rib Straight - 18 Pieces  
 Part 7 - Horizontal Rib - 12 Pieces

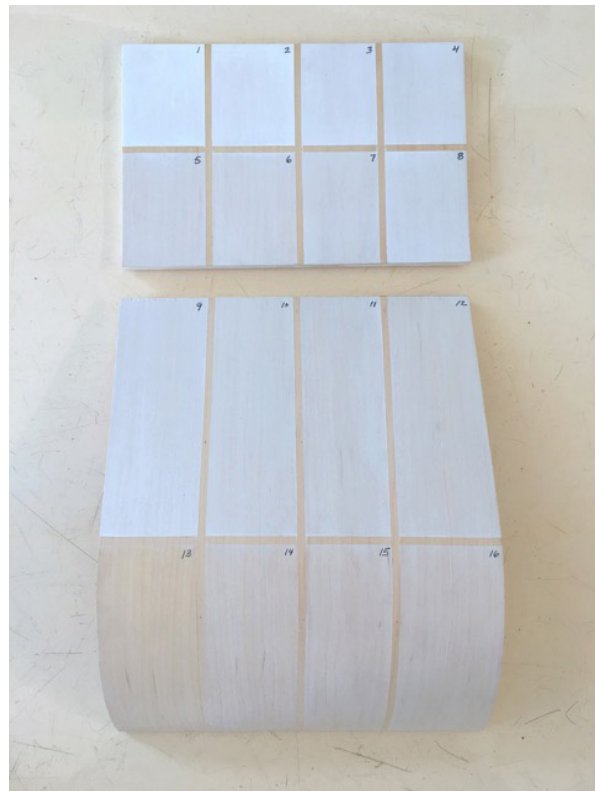
Assembly - Letter parts (B, N, and U) are attached to vertical ribs. The horizontal ribs are recessed into the vertical ribs and attached from behind; and the horizontal structure is attached to the wall.

The structural ribs and horizontals can be divided into separate sections, as needed, as long as it is not apparent from the front.

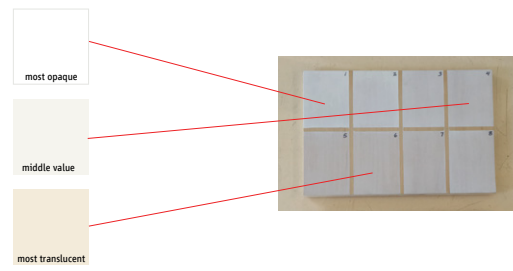


scheme 1 - overview 5

a | m



CONFIDENTIAL. Item: design room wall. 10 May 2016. © A | M project

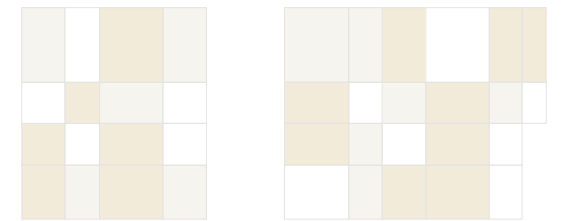
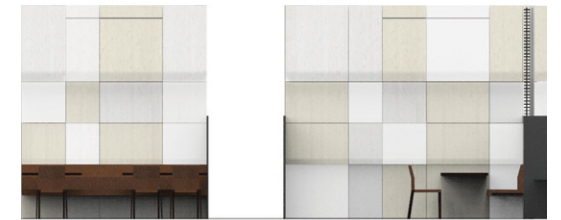


colors 23

a | m

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colors walls 1 and 2 24



a | m

plan, construction drawings, and selecting finish





my initial cardboard mock-up vs fabricator first mock-up





final installation and details





## Ittoryu Gozu

Restaurant Design at ALM Project

2019





Gozu is a Japanese steak and whisky restaurant in San Francisco's bank district led by Marc Zimmerman.

The restaurant is thematically centered around the open flame, over which wagyu beef is cooked.

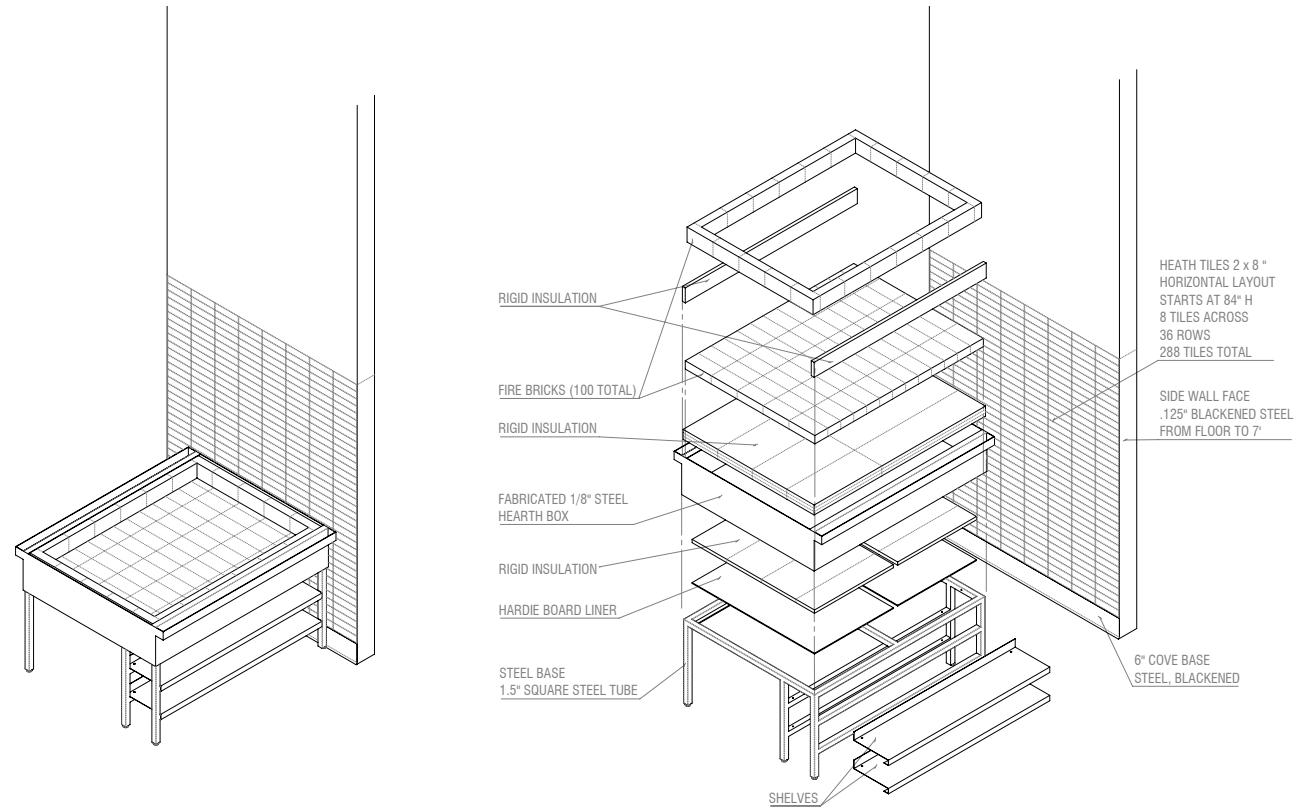
The mood is dark, minimal, and visceral.

A dining bar of blackened steel and Japanese cedar surrounds a custom hearth where the patrons can watch their food being cooked.

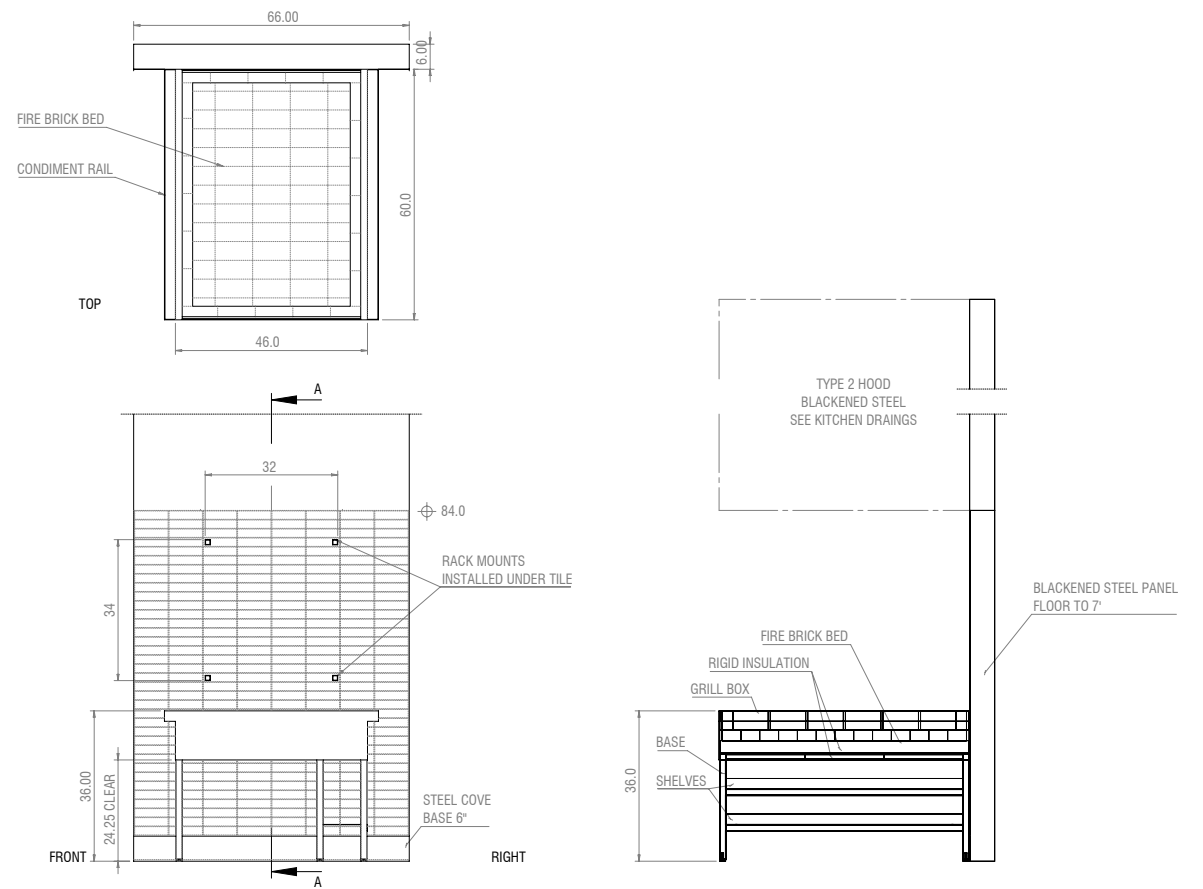
I was responsible for all drawing elevations and the design of custom elements like the open flame hearth, dining bar, and the private dining table made from a slab of marble that resembles steak.

For seating we had the furniture brand E15 develop a stool version of their Houdini chair, which they had not previously offered as part of their assortment.





components 5



layout 6

Grout #370 Dove Gray  
field verify all dimensions  
provide shop drawings prior to construction



Tiles are Heath M08 Slate Blue 2 x 8"  
Grout #370 Dove Gray  
1/4" = 1"  
all metal powder coated flat black

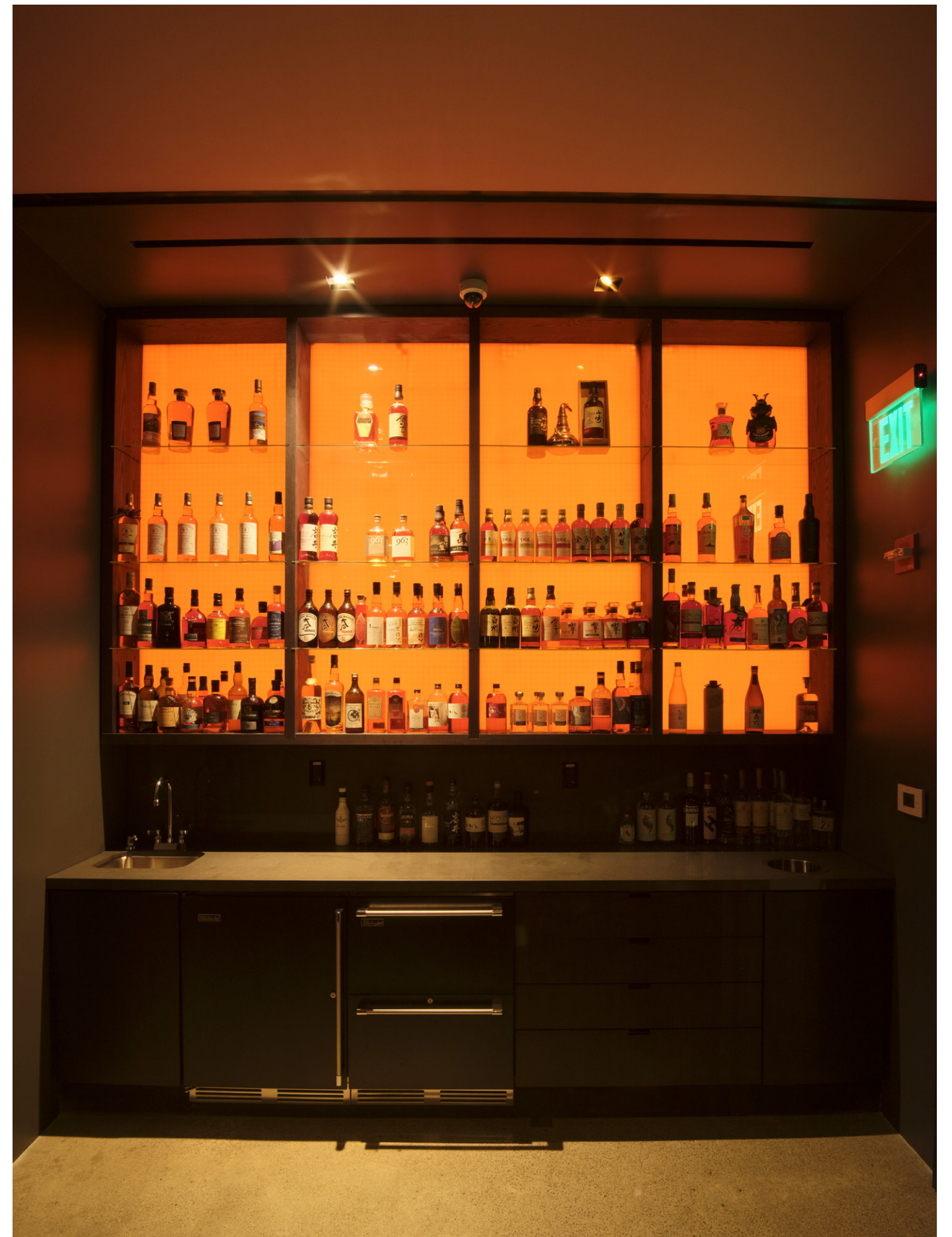














## Giro

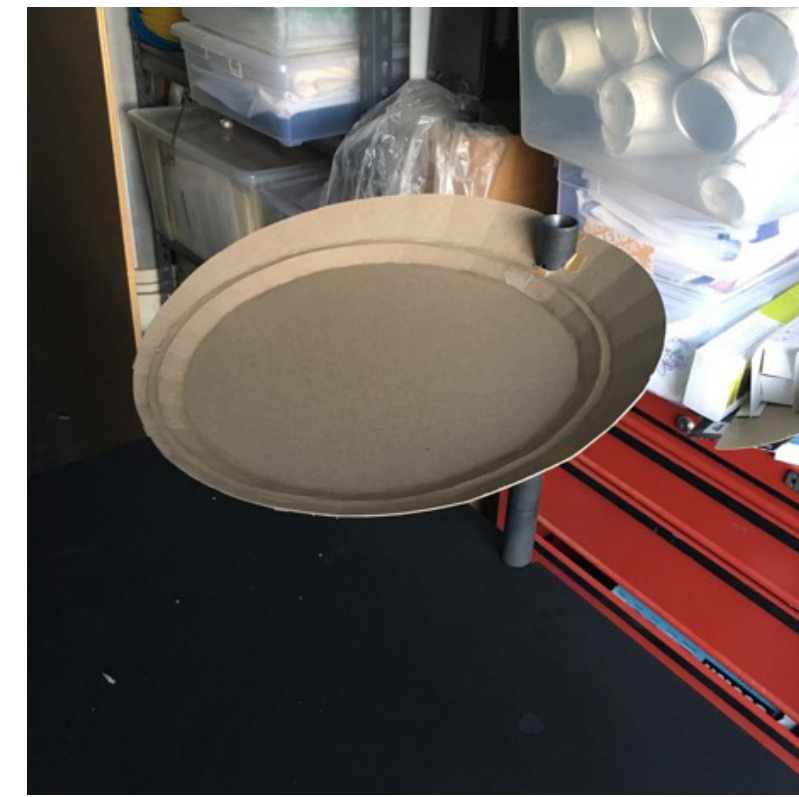
### ALM Project for Pizzana Restaurants

*Dev. 2017*

Starting in 2017 ALM Project began designing all elements of a high end, fast casual pizza restaurant chain in the tradition of Naples, Italy.

When we were working on the first Pizzana it was clear that we would have to solve the problem of the pizza taking up room on this small table.

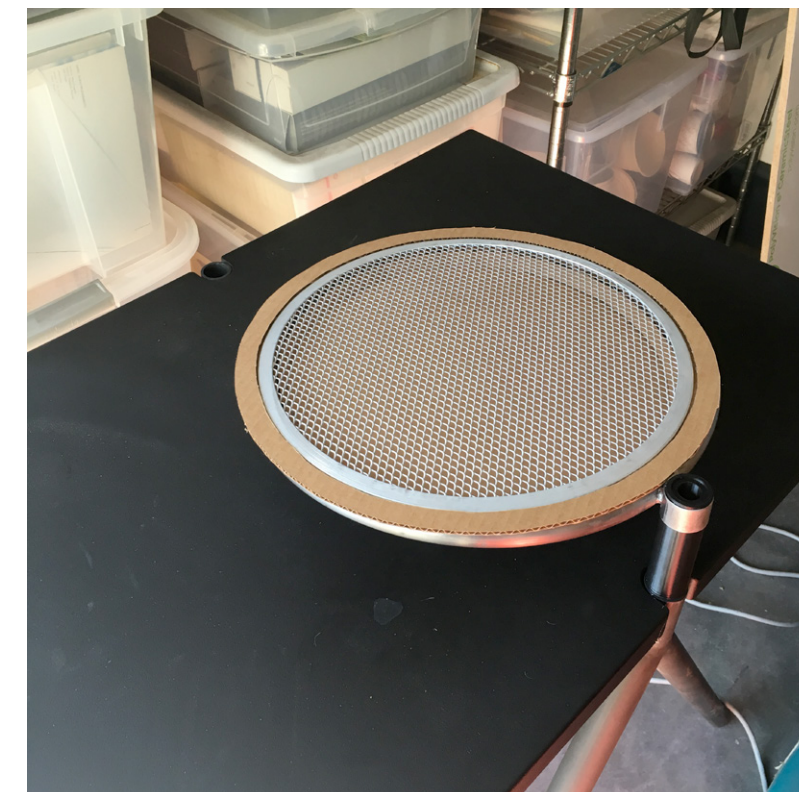


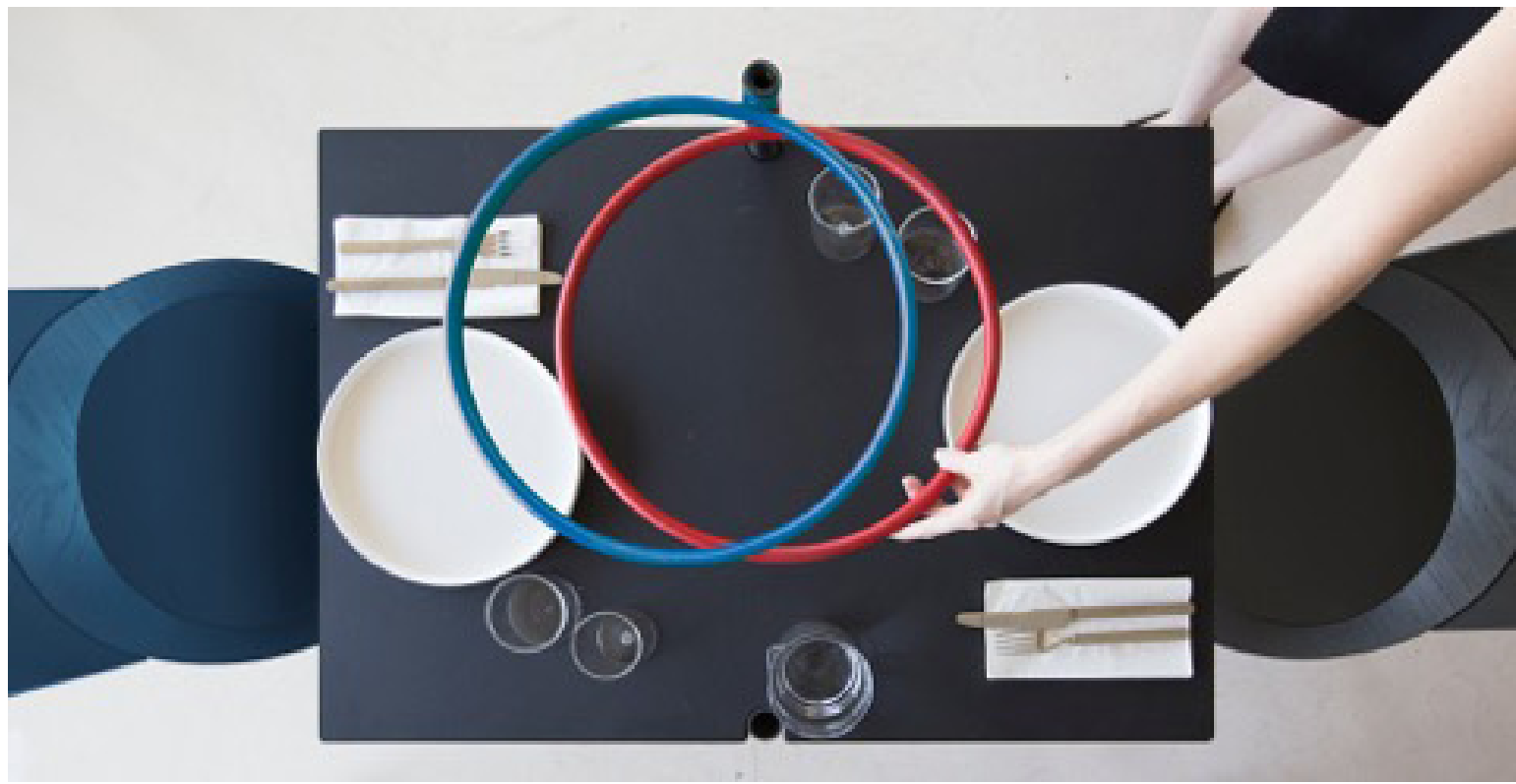


Our criteria was to fit the more than one pizza on a table, the stand needed to clear a water glass, and also we had to consider how the staff would bring them out, plug them in, how the customer use them, and staff remove and store in kitchen.

The idea came very early to plug the pizza stand into the frame of the table. I did some quick concepting and selected a design of the table which we could test various platform designs, knowing that the table would likely change later.

At first we heard from the chef that the pizza would come out on a screen, and it would need to sit on a surface, but then he found a pan and screen set that he liked, and we moved away from a spun pan and decided to go with a rolled tube.





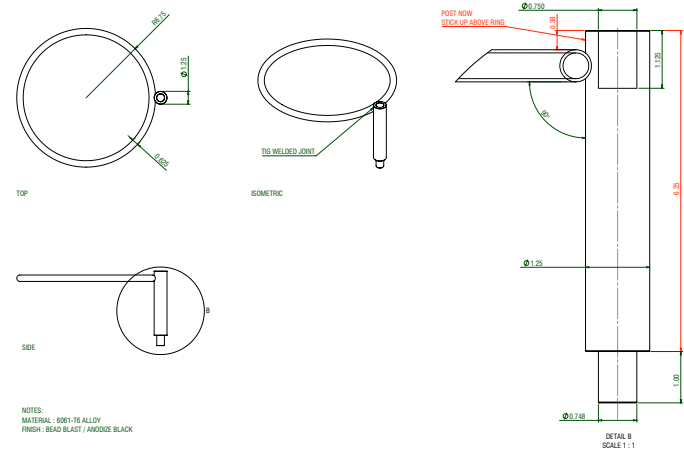
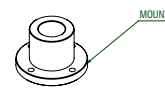
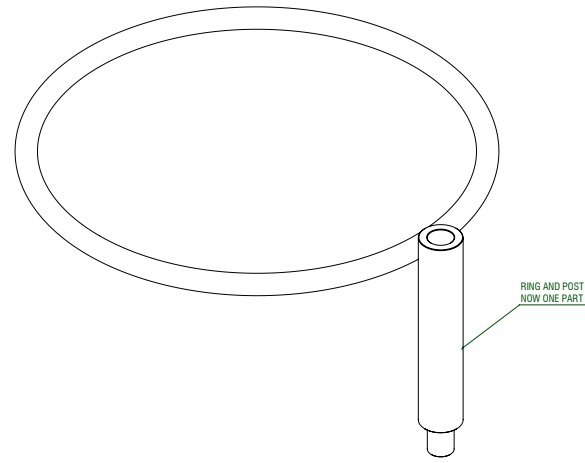
The kitchen coordinator asked that the ring and post be developed so that they could be separated, in order to save space.

However, after the first restaurant opened, they realized it would be harder to have the separate pieces in two spots, and so the final stand is a single aluminum post welded to a rolled aluminum tube, anodized black.

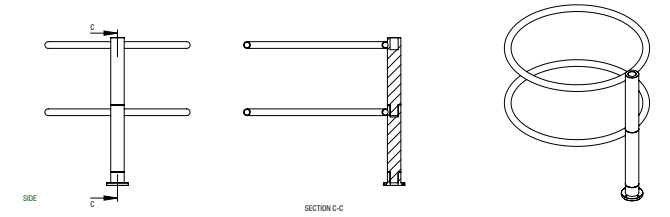
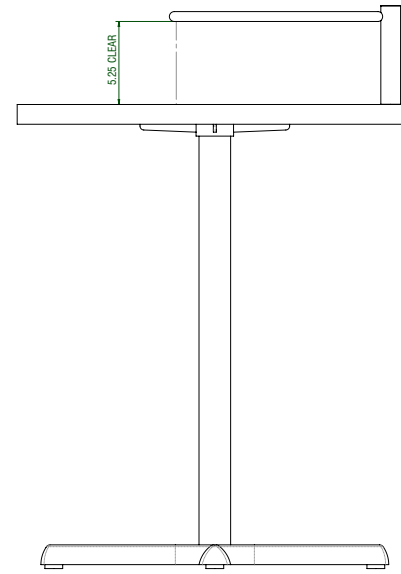
With the first prototypes there was trouble keeping the rings level. I saw that poor tolerances would result in a compounding tipping of each additional element; post, ring, post, ring, etc. So I explored different means of attachment to the table.

Ultimately a good fabrication partner was able meet a the correct tolerance, and the final pieces just slot in, cylinder to hole, and turn easy.

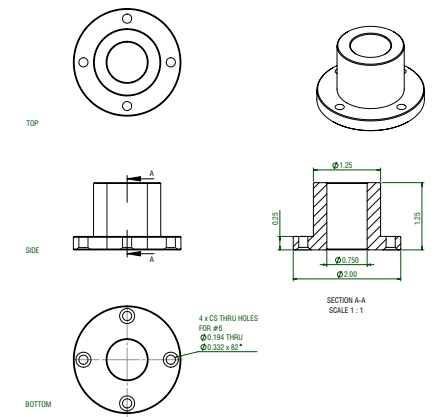




NOTES:  
MATERIAL: 6061-T6 ALLOY  
FINISH: BEAD BLAST / ANODIZE BLACK



NOTES:  
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MATERIAL: 6061-T6 ALLOY  
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## Cite Radieuse: Mistral Fan

**ECAL / Appartement 50 at Le Corbusier's Unite d'Habitation  
Designed by Tom Burns & Kasia Kempa**

The preserved apartment and occasional gallery space invited ECAL's master class to design and exhibit pieces inspired by and specifically made for the 1952 monumental building in Marseille, France.

Developed Winter 2014  
Exhibit Summer 2015





## Ventilation

Upon visiting the apartment, one of the things I noticed was that due to the location and configuration of the apartment (on the end of the building) it did not have the same cross breeze afforded to the rest of the building. Moreover, the upper area, where the kitchen and dining table were would get very hot and stuffy.

To address this, I proposed to design a fan to help with the air circulation, something that would sit on the shelf adjacent to the parapet wall.

Unknown to me, during the first pitches, Kasia Kempa also had the idea of ventilation for the exhibition. Because we both had the same idea, and had worked together before, the teachers asked us to develop the fan together.

While we were still there Kasia and I decided that on top of the parapet wall shelving would be best spot for the fan, so it would need to be a little tall in order to get airflow.

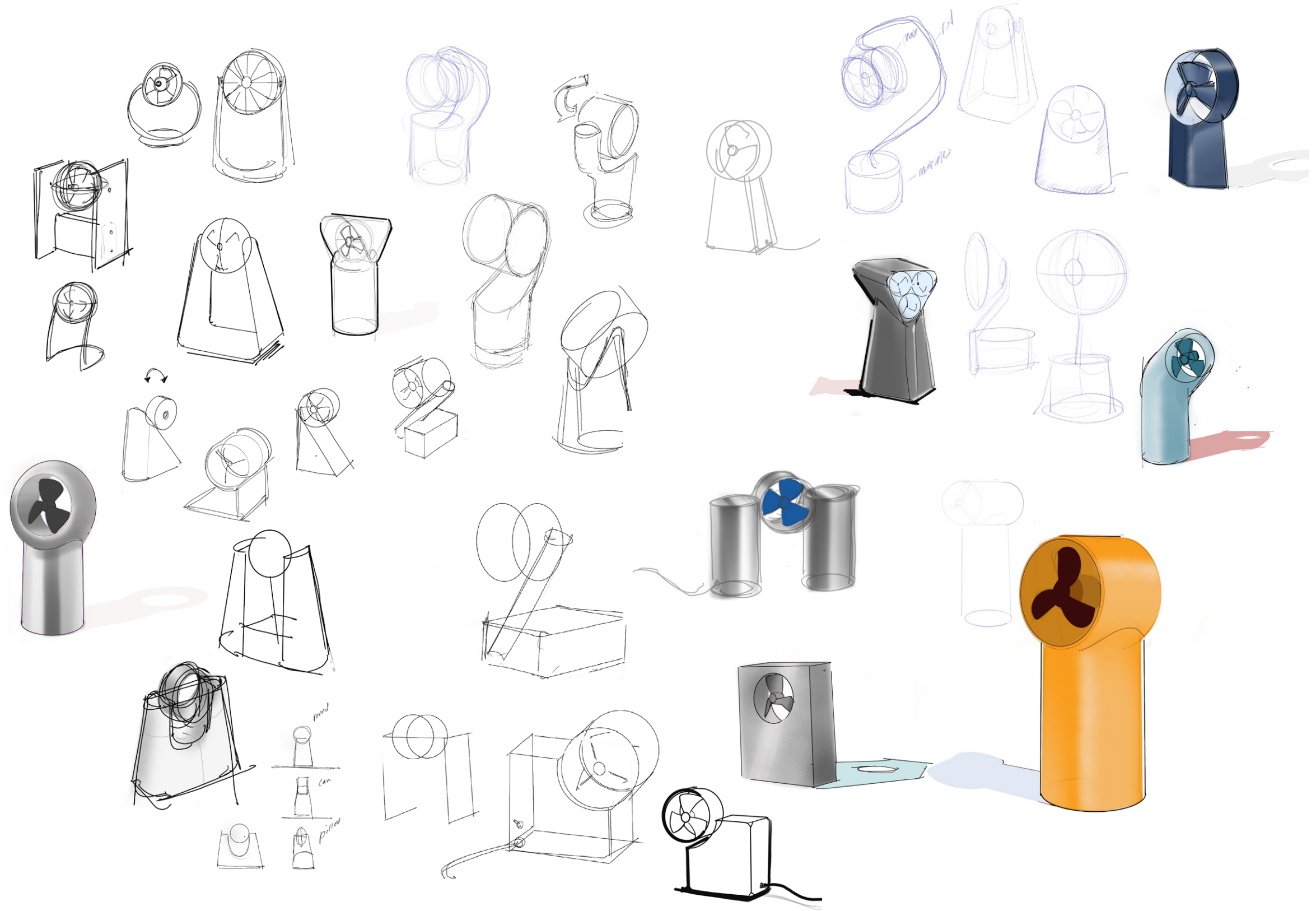


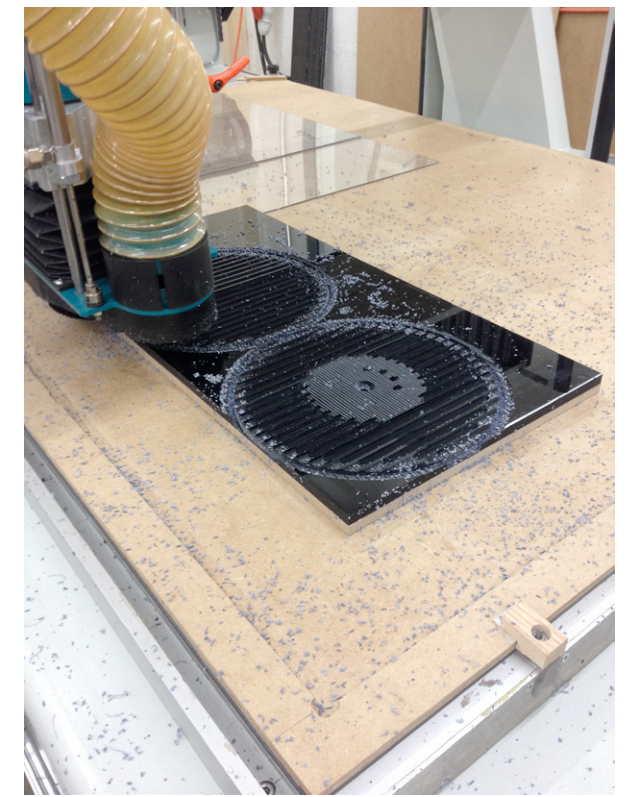
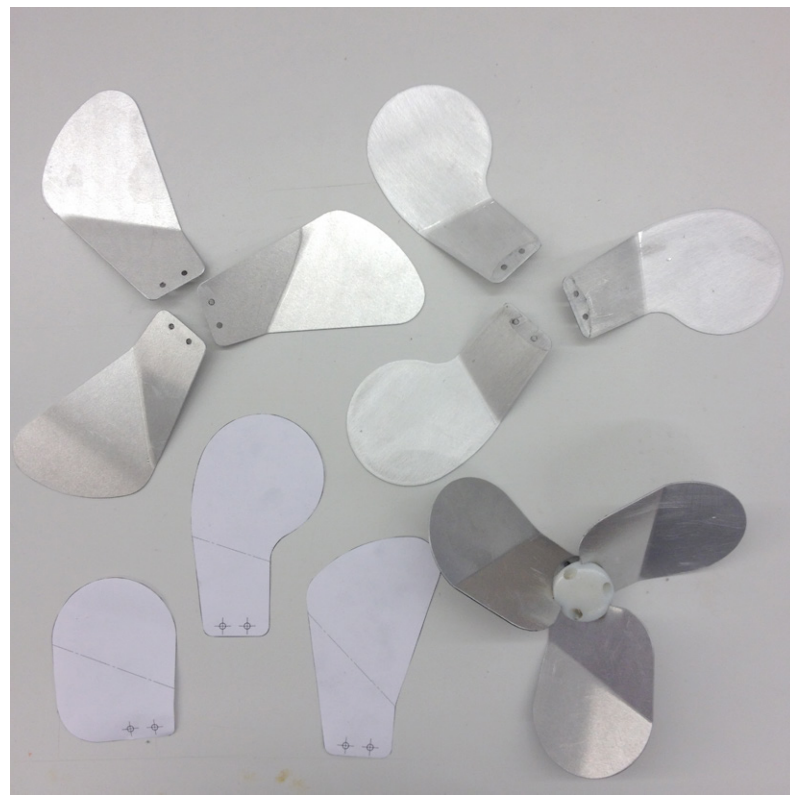


In our research we found that Le Corbusier had a fondness of oceanic steamships. We thought that the form of the ship's chimney could be good form inspiration for a fan.

I worked with Kasia Kempa previously on the bike project, and we had developed a method of 5 minute meetings, where we would sketch disagree or agree, and then meet again a few hours later.

We would always have to come to an agreement for us to move forward, and felt that this method seemed to bring out the best simple ideas.



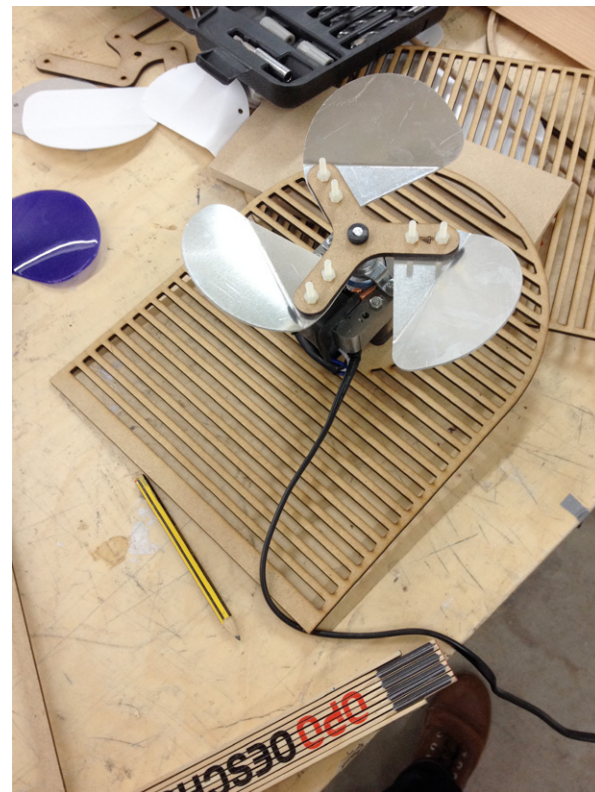


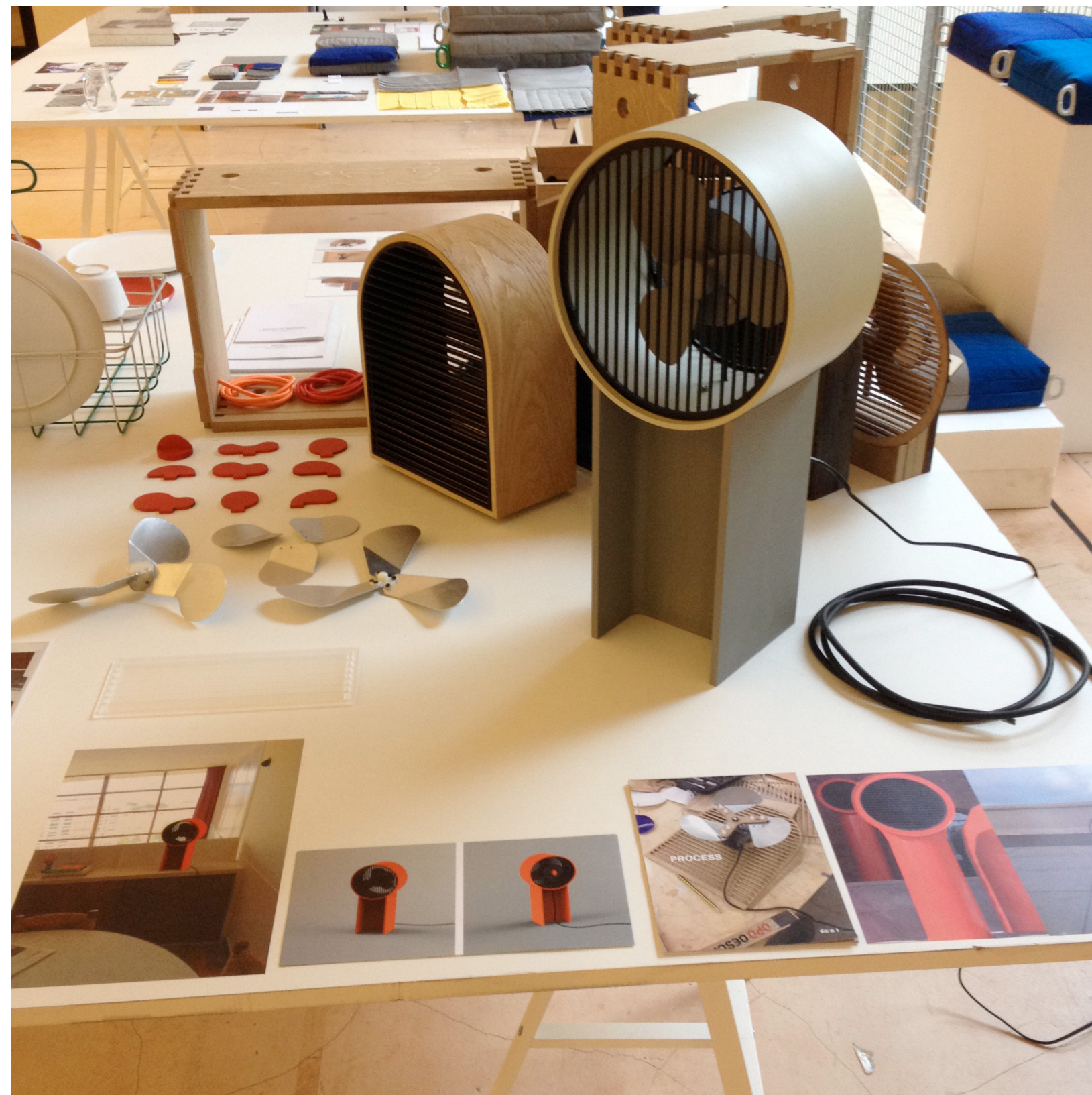
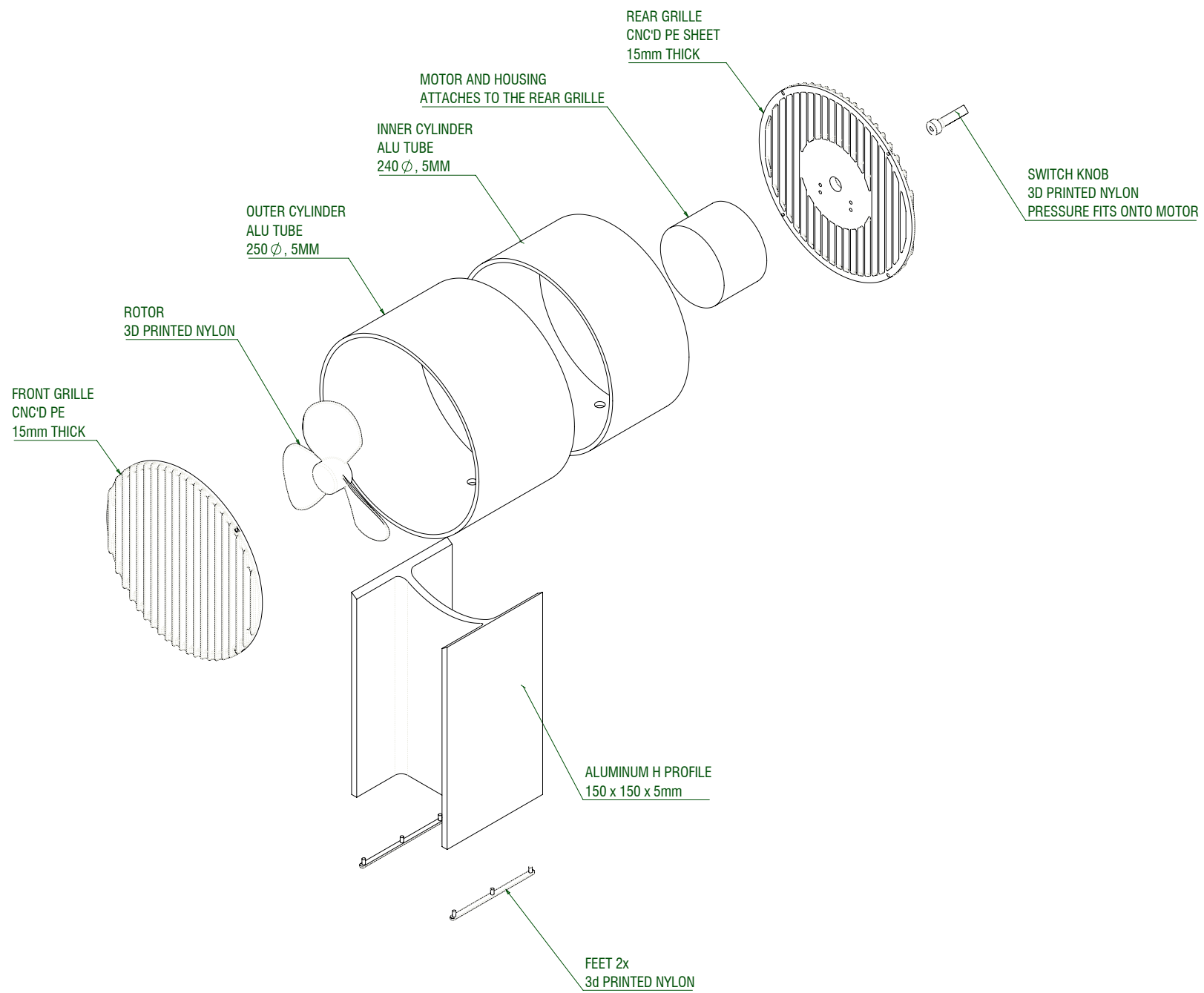
We moved to physical prototypes very early, layering laser cut pieces to build volumes,

This was a quick way to get out some forms, but we decided this form looked too much like an old-timey radio.

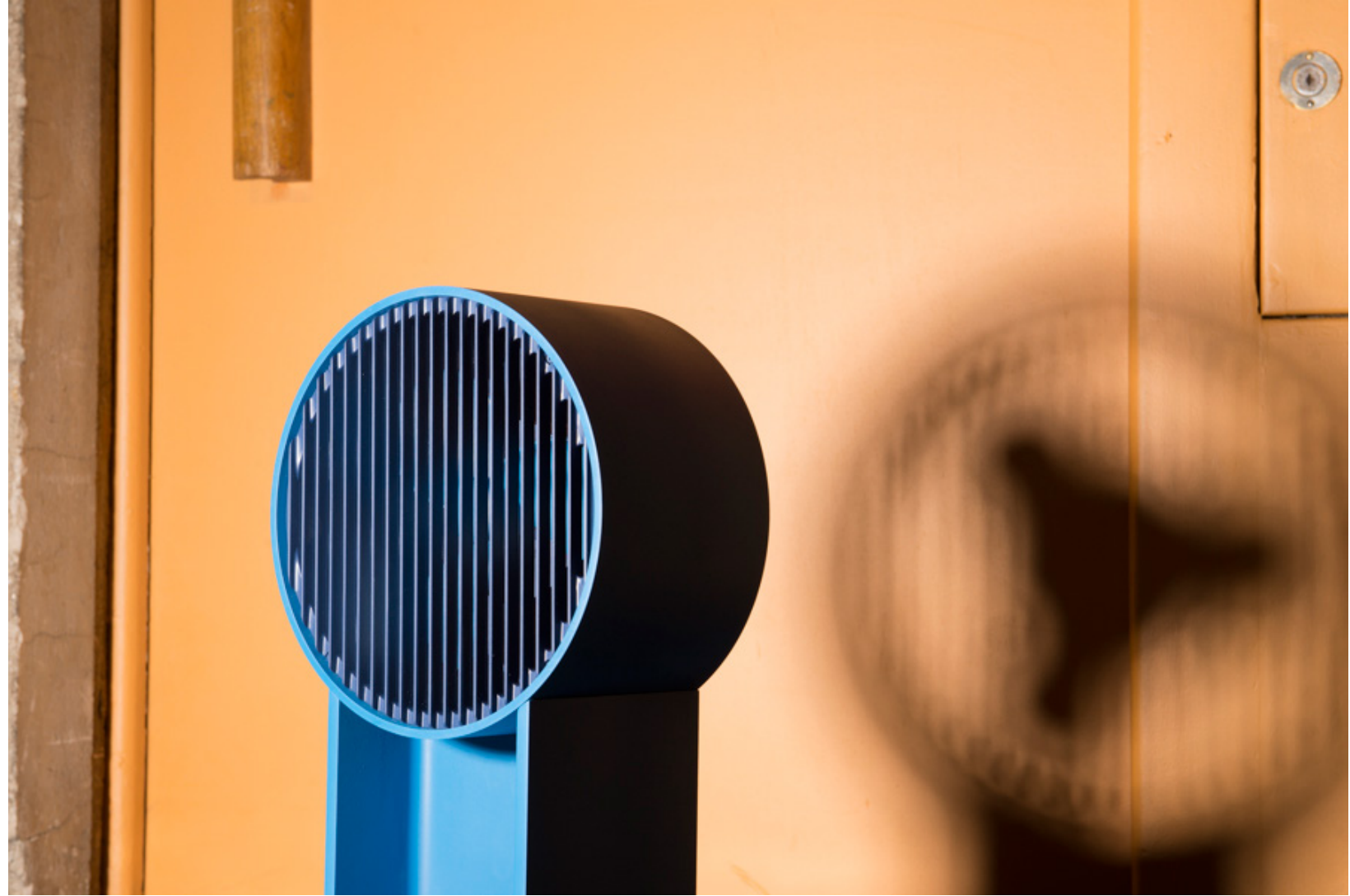
I also prototyped some custom blades, out of bent aluminum attached to a laser cut set of arms. And in one case a 3D printed hub. These didn't work as well as we had hoped and eventually we would use a 3d printed piece for the whole rotor.

The final piece leaned toward minimal architectural elements, a base from an I beam, and a simple tube for the head of the fan. We picked a couple blue tones from the Le Corbusier color palette, as the piece is meant to cool the room.













## About Tom

Tom Burns is an industrial designer with a passion for making physical things using traditional methods and new manufacturing techniques.

Tom grew up in a new-age community in the foothills of Colorado, son of a cabinet maker, and interested in art. In 2004 he graduated from the Rhode Island School of Design, earning his BFA in Industrial Design.

He began his career in Los Angeles, working for a kitchenware manufacturer that specializes in slip-cast china, and plastic goods. During the same period of time he began work with Studio 5D, a small design studio developing seating for office, hospitality, and residential settings.

In 2013 Tom traveled to Europe and earned a Master of Arts in Product Design from ECAL in Lausanne, Switzerland. While there, he was selected to represent his department at the Junior Design Research Conference, a nation wide forum on the importance of research in design and education.

After graduating in 2015, Tom moved back to southern California and began work as industrial designer for ALM Project, a small architecture studio focusing on high end, minimal works.



**Thank You!**