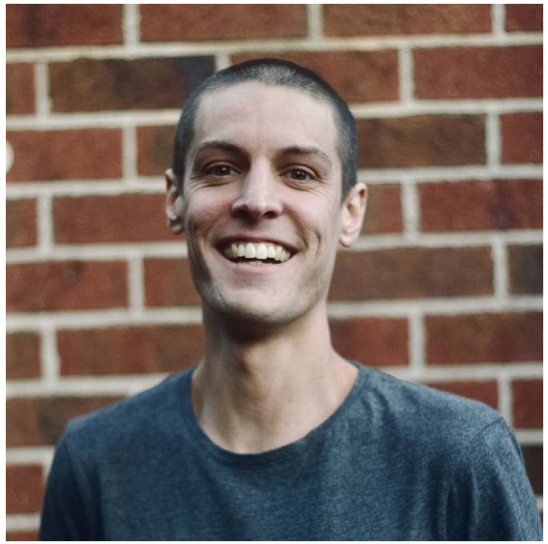
Oscar Fehlberg

Industrial Design Folio

2025

Contact
oscar.fehlberg@gmail.com
0438 440 820



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BIO

I grew up with my pockets full of Lego and a head full of ideas. Playful creation helped me imagine a world in which I could build anything. In my approach to design, I strive towards creativity, innovation and uniqueness, while valuing the natural environment and all people.

DESIGN MANIFESTO

- Design with childlike enthusiasm and playfulness
- DIY everything at least once
- Make your own tools and implements
- Learn how to give constructive criticism
- Learn how to receive and value criticism (even if it isn't constructive)
- Embrace mistakes
- Give back to your community
- To be continued...

EDUCATION

BACHELOR OF INDUSTRIAL DESIGN
Graduated with First Class Honours
RMIT | 2012 - 2015

CERT IV IN 3D DESIGN
Central Institute of Technology, Perth | 2011

EXPERIENCE

SENIOR INDUSTRIAL DESIGNER & TEAM LEAD
Tekt Industries | 2023 - Current

INDUSTRIAL DESIGNER
Tekt Industries | 2016 - 2023

DUTIES AND SKILLS

Product Design Development

- Solid research and documentation skills
- Mechanical problem solving
- Excellent CAD skills in Fusion360 and Solidworks
- A strong understanding of complex electronics and their integration within products
- Effective use of project management tools such as Jira and Wrike as well as team communication apps like Slack, Google suite and Teams.

Design for Manufacture

- Experienced in design for 3D printing and vacuum casting, laser-cutting, CNC machining and bent sheet-metal parts
- Experience and knowledge in injection moulding and fibreglass moulding

Design Communication

- High competency with the Adobe Creative suite - Photoshop, Illustrator, In-Design, Premier Pro and Lightroom
- Rapid and concise presentations of design development, including clear distillation of problems and solutions
- Well versed in render environments (Fusion360 for quick WIPs and Keyshot for final outputs)
- Experienced in sketching and hand rendering
- Passionate and skilled in photography, video and editing, and recording and editing audio (DaVinci Resolve, Garageband)

Rapid Prototyping and In-House Manufacturing

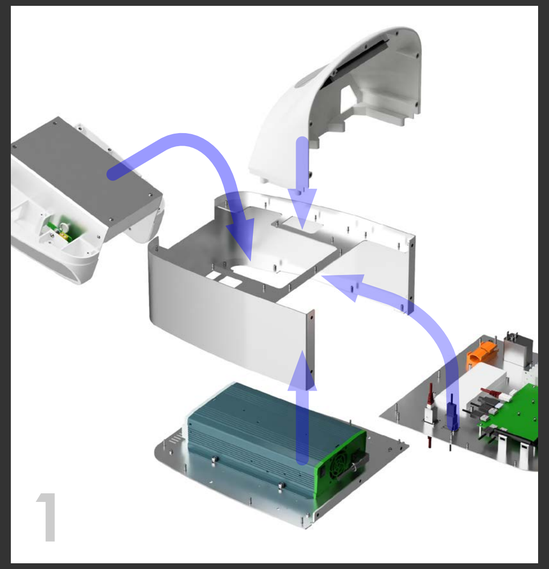
- Highly experienced in FDM and SLA printing as well as laser-cutting and hands-on making/modelling
- CAM programming and CNC operation with timber, plastics and aluminium

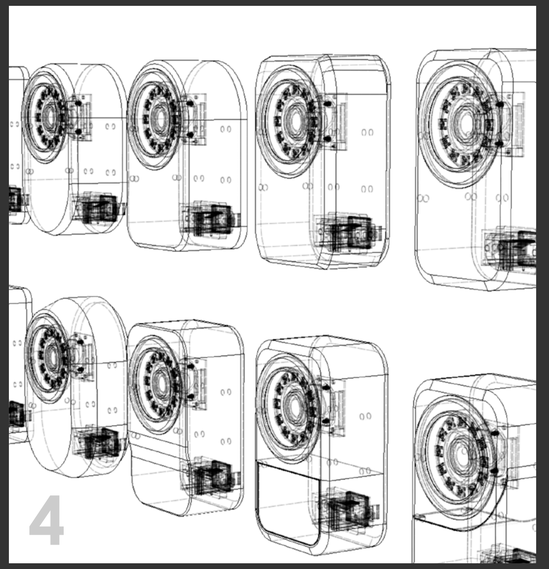
Team Lead

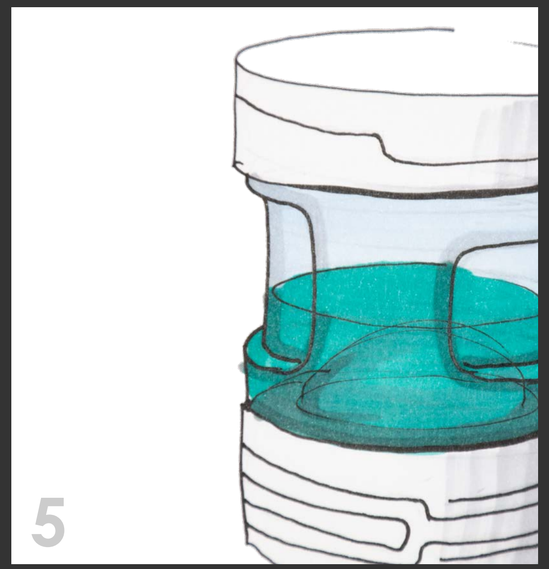
- Mentoring, providing feedback, organise and run meetings
- Delegation of tasks and resources, assist in work breakdowns

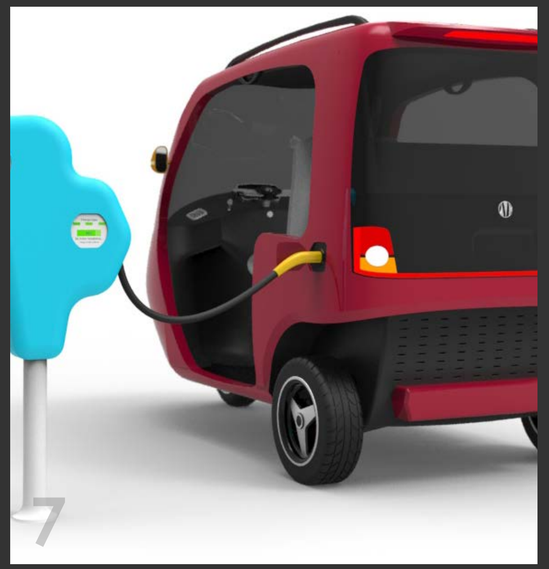
PRESS, AWARDS AND EXHIBITIONS

- Finalist (top 3) for RMIT Green Innovators award
- Exhibited in the Global Grad Show - An exhibition in Dubai showcasing the top 50 design graduates from around the world
- Articles in Mashable and a review in New Atlas









Projects

1. Drone Battery Charger
2. Sports Performance Tracker
3. Petminda
4. Orb-It
5. Ecodorant
6. EsCargo
7. MelTuk

SWOOP AERO - BATTERY DOCK

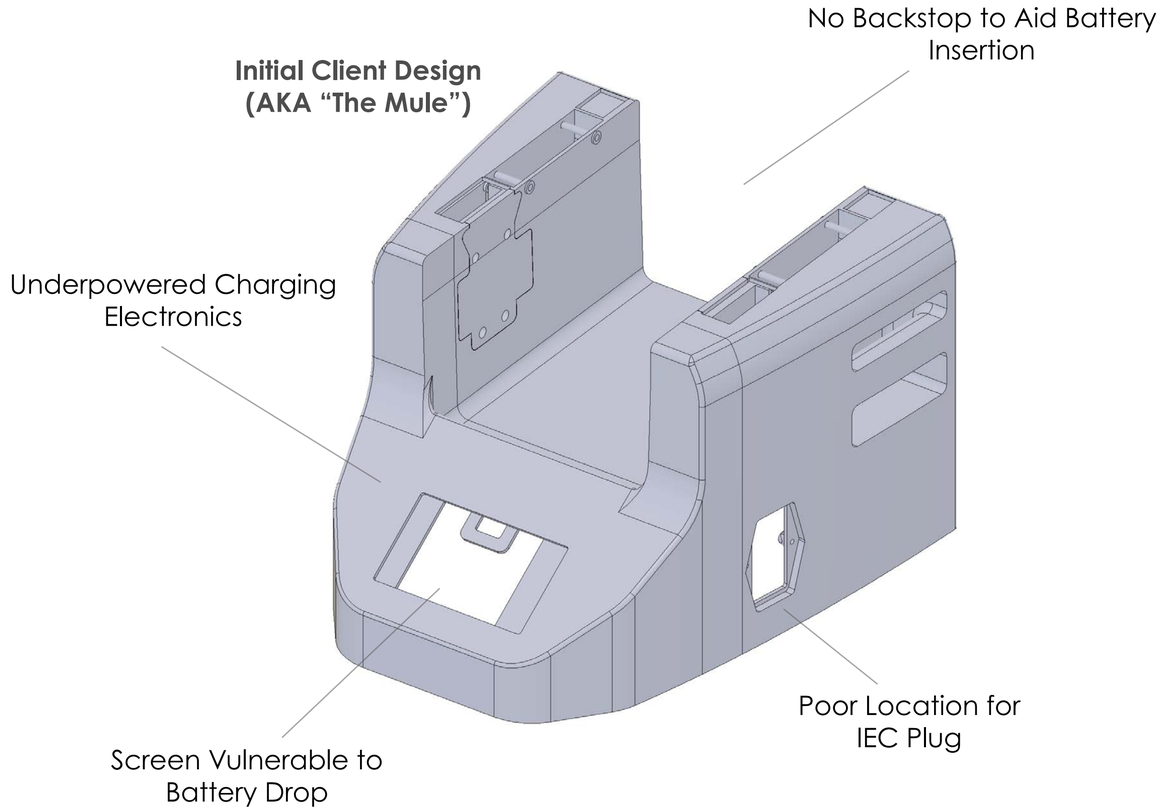
Recharging Large, Commercial Drone Batteries in Remote Areas

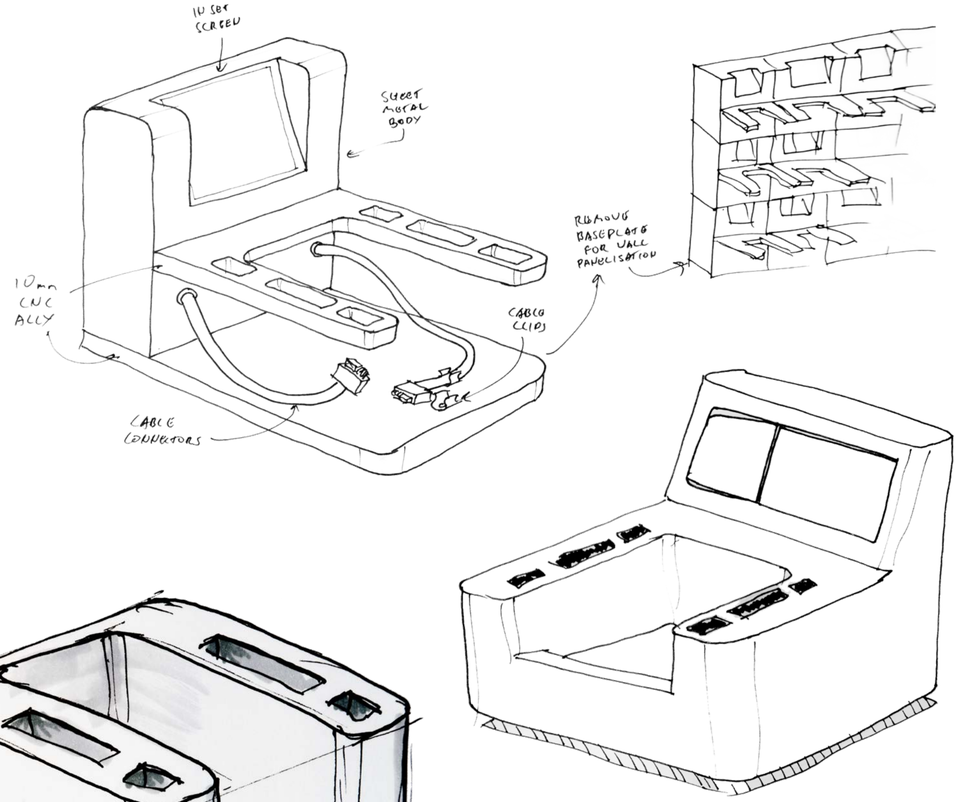
1. 10kg Drone Battery with Telemetry Storage
2. Dual Charge Points for Main and Back-up Battery
3. Retention Pins Provide a Weight Bearing Index Point
4. Access Caps Hide Connector Alignment Mechanism
5. Overlays Hide Mount Holes and Provide Opportunity for Branding (Not Shown)
6. Carry Handle at Rear
7. Touch Screen Interface

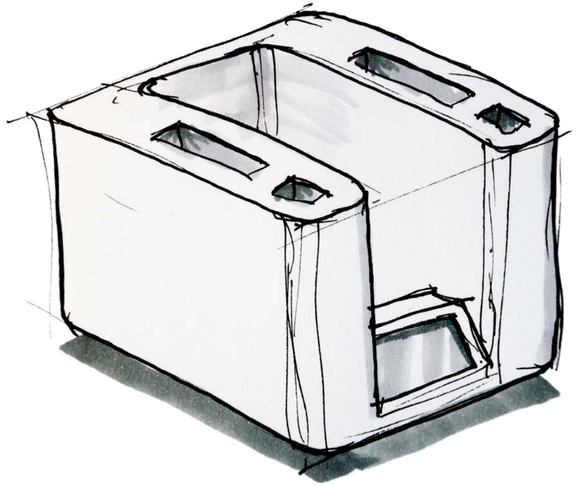
Inheriting A Mule...

Key Design Criteria

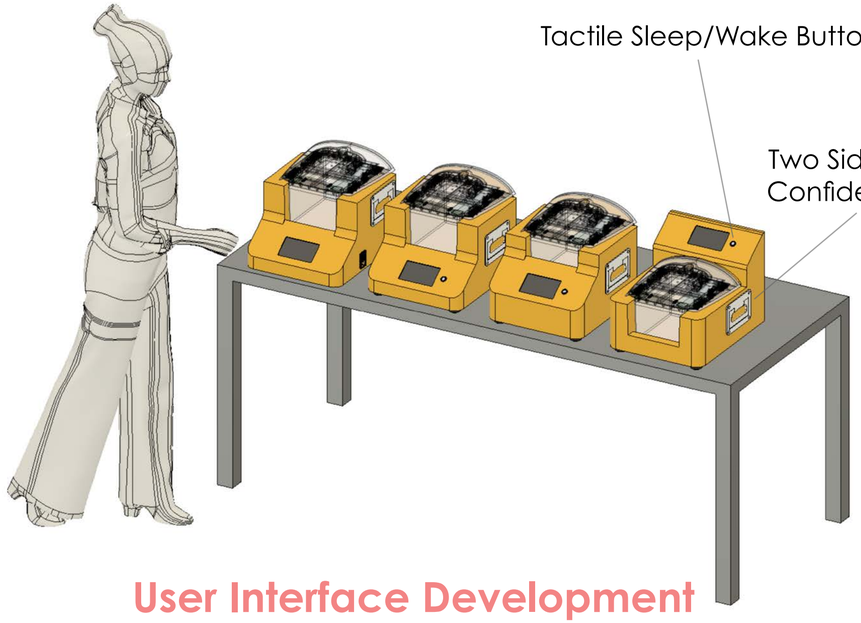
- Must hold up to abuse
- High heat, humidity and dust
- High power, fast data transfer
- Balance cost and performance
- Aesthetics consistent with the aircraft



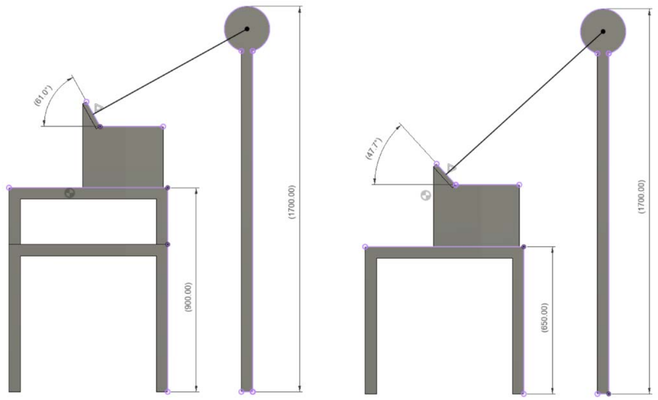




Early Concepts

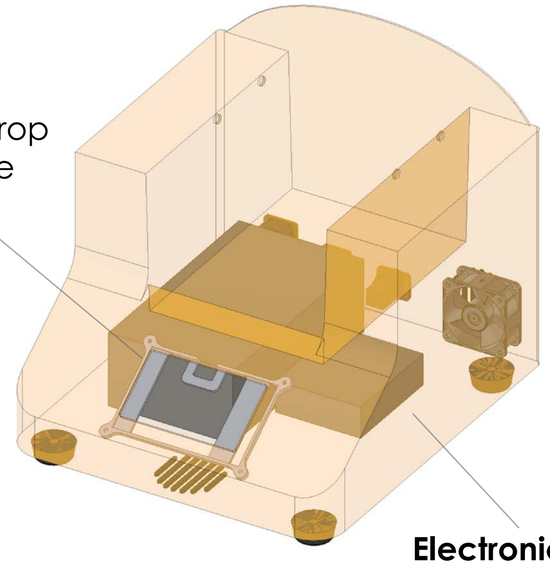


User Interface Development



Optimal Screen Angle for Average Human and Desk Heights of 600-900

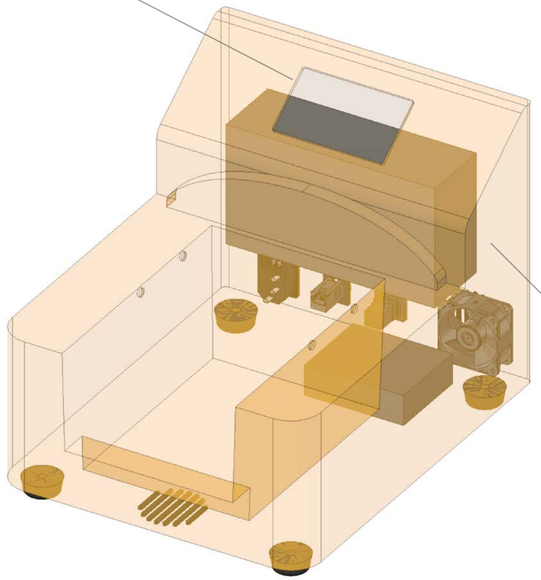
Screen at Front
+ Easy to Interact
- Vulnerable to Battery Drop
- Awkward Viewing Angle



Electronics Underneath
+ Good DFA
+ Better Stability
- Higher Battery Lift

Packaging Layouts

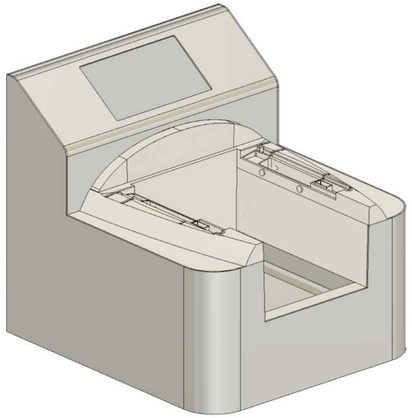
Screen at Rear
+ Less Vulnerable
- Further to Interact

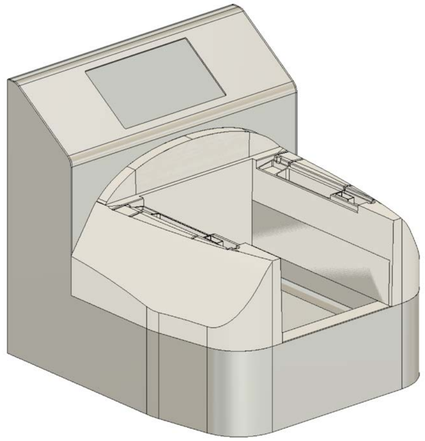


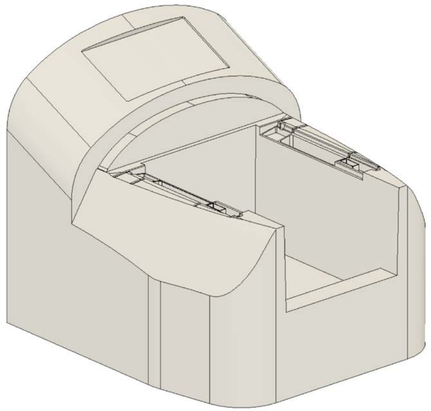
Electronics at Rear
+ Lower Battery Lift
- Less Stable
~ Okay DFA

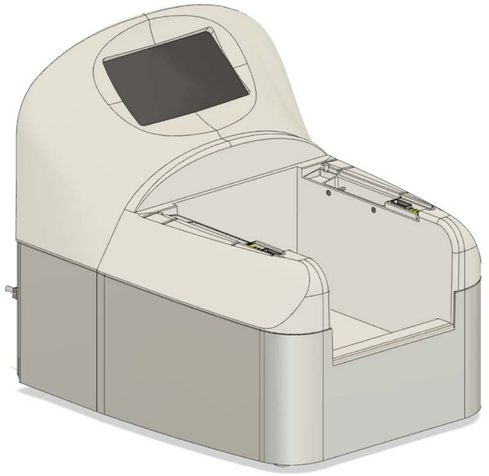
CONCEPT DEVELOPMENT

After only 3 months of development we had the first pre-production prototypes ready



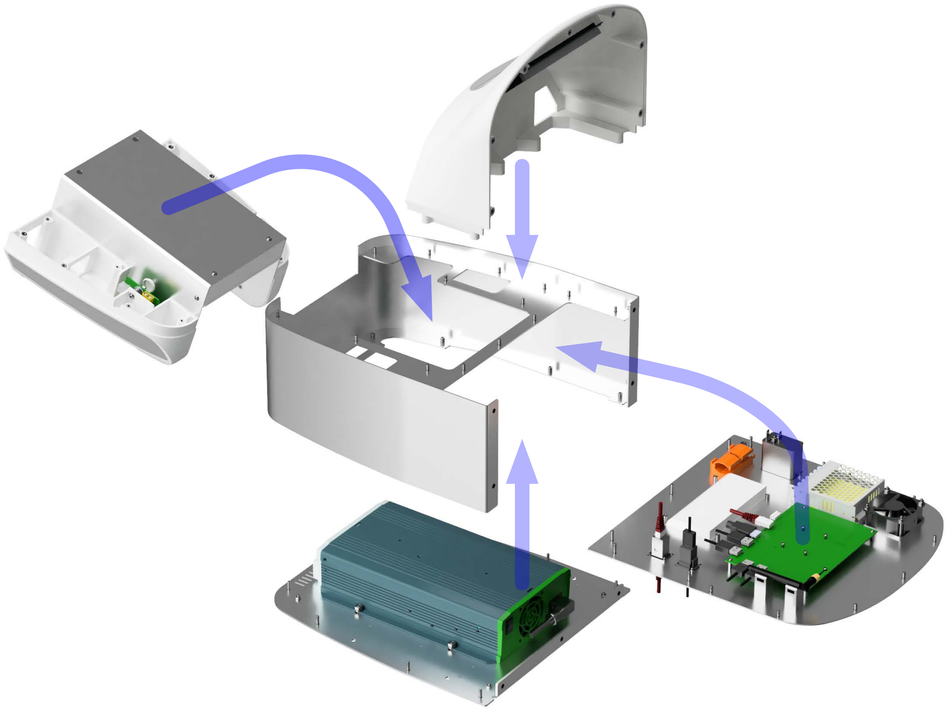




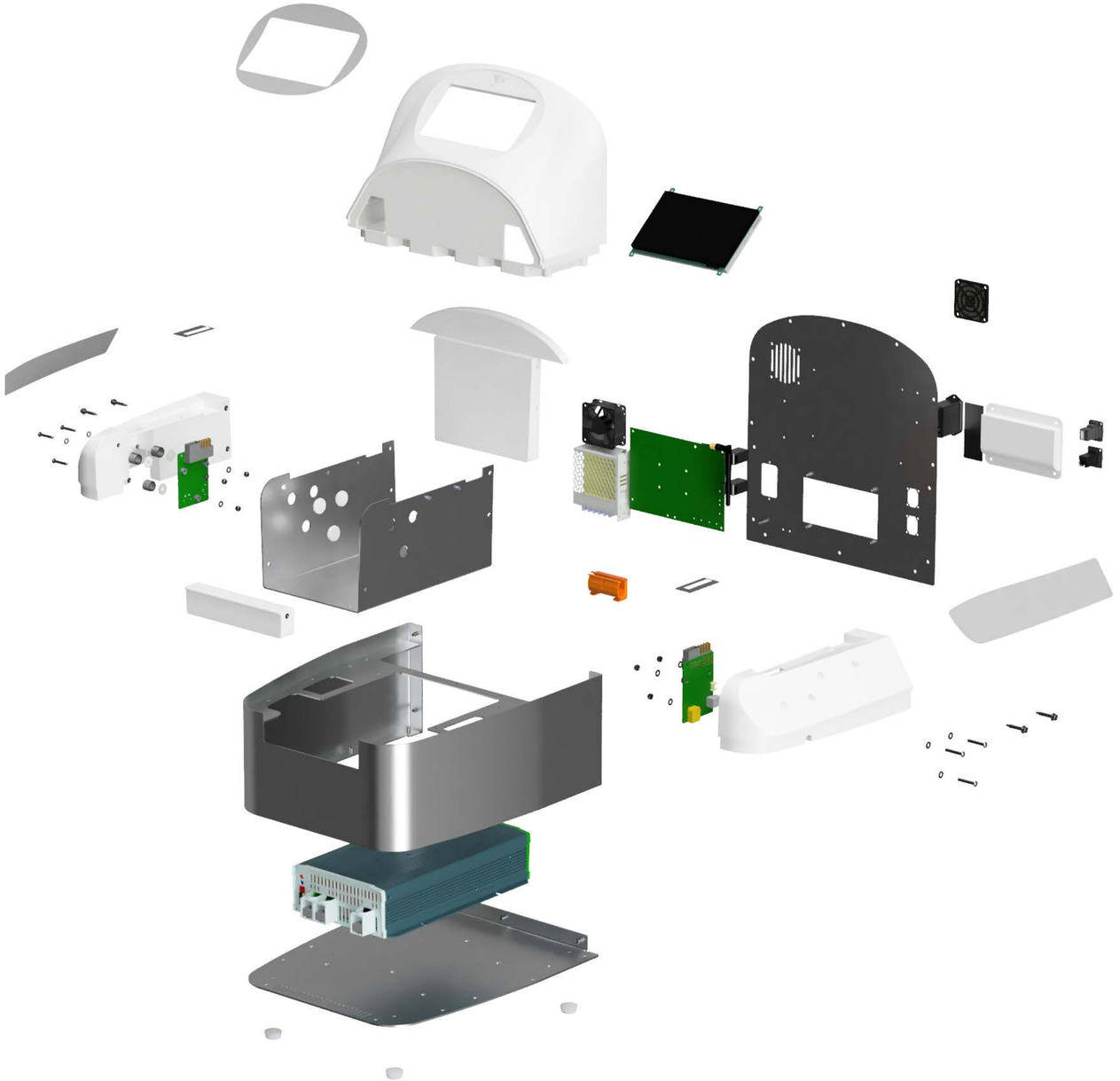


Due to the rapid pace of the project, the form was largely shaped by:

- The user interface
- Packaging of components
- Matching the contours of the battery
- DFM and DFA considerations

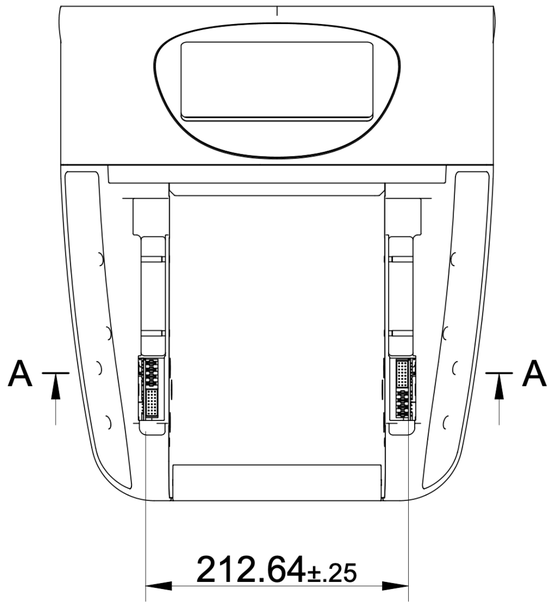


Sub-Assembly Explode

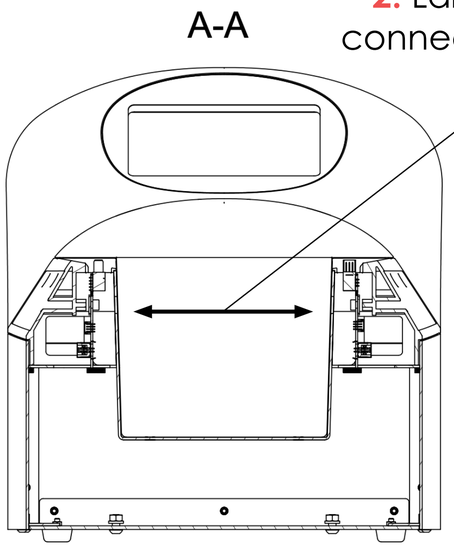


Full Assembly Explode

Challenges with designing in *parallel*

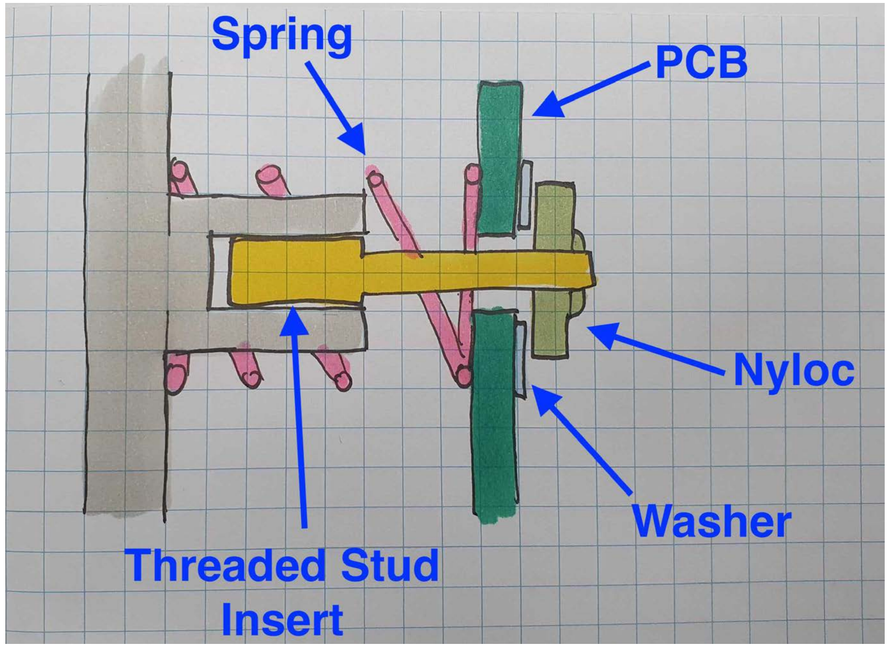


1. Tight mating tolerance between connectors with no alignment pins.

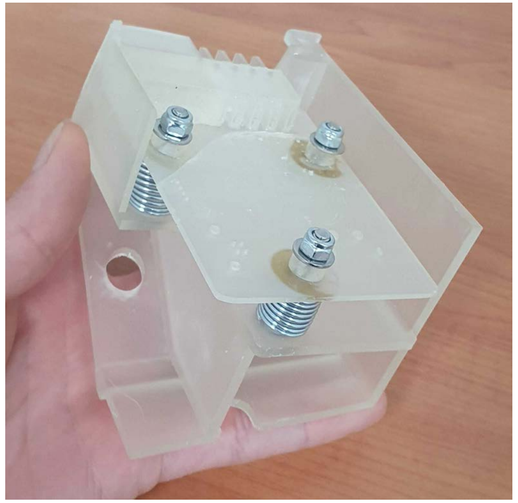


2. Large void between connectors for battery tub

3. An adjustable solution was devised to fine tune the connector spacing post-assembly



4. Jigs were designed and built to test and tune complete units



FINAL PRODUCT

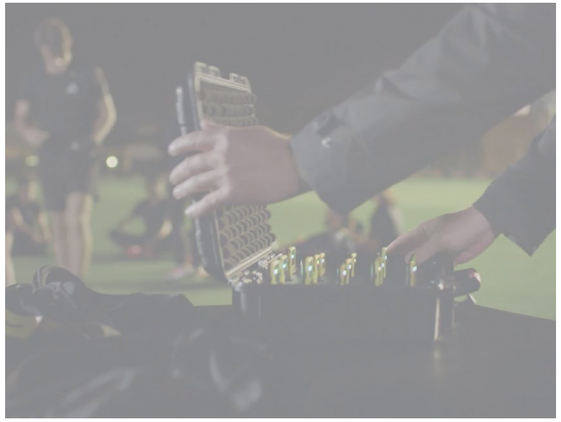
Sans branding overlays

SPORTS PERFORMANCE TRACKER

A Wearable GPS and Impact Tracker for Elite Athletes

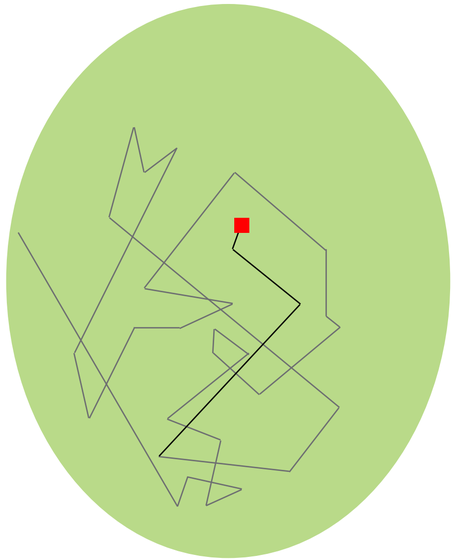
Key Design Criteria

- Rain and sweat resistant
- Small as possible
- Comfortable and safe
- Impact resistant
- Foolproof usability

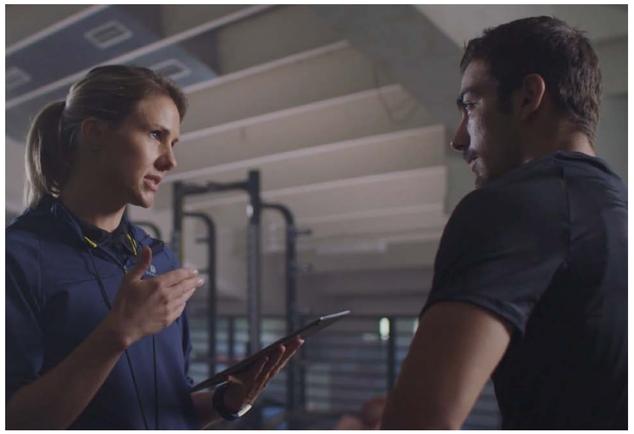


0. Sporting Teams
Purchase a set of devices + software

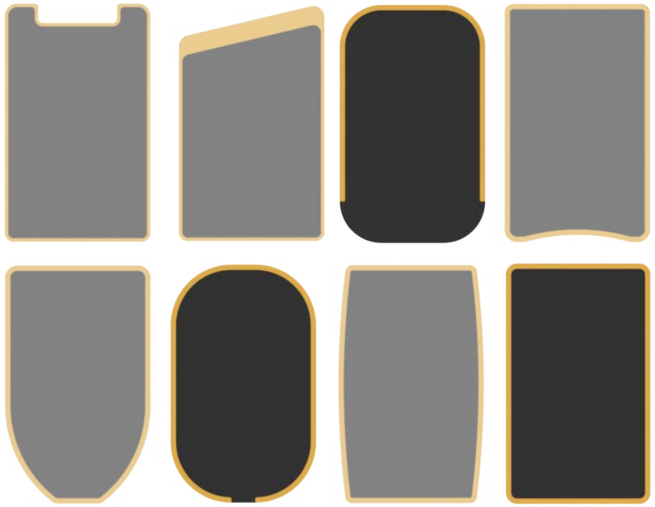
1. Professional Athletes
Wear device during training and games



2. Device tracks players movements and impacts

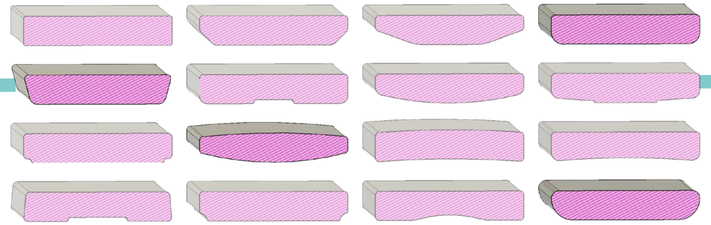


3. Coaching Staff
Review data for feedback to help improve and recover

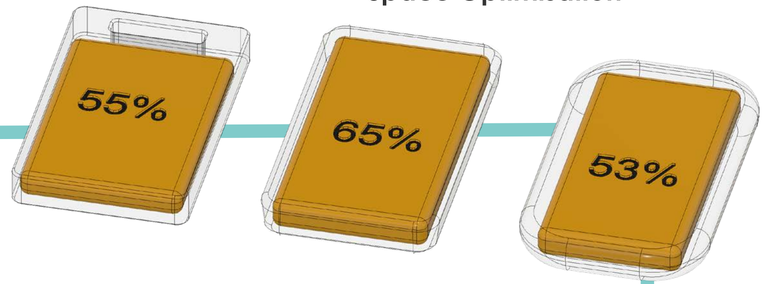


Form Studies

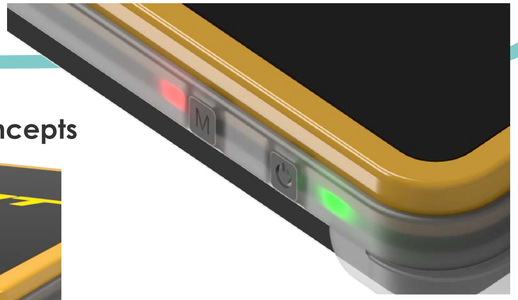
Profile Concepts

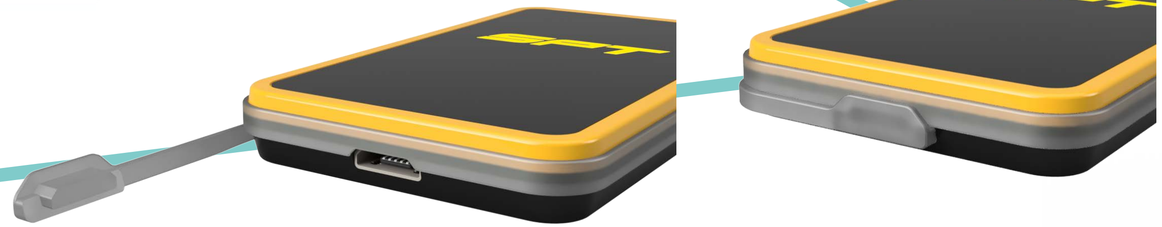


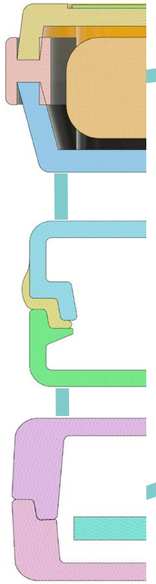
Space Optimisation



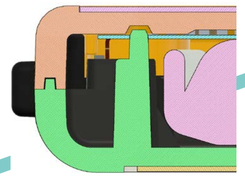
User Interface Concepts

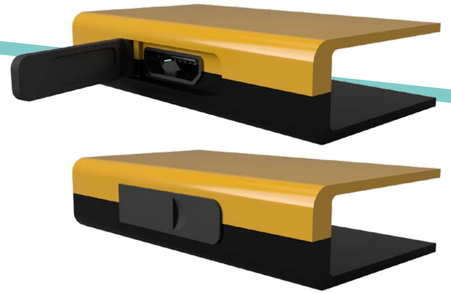






Ingress Protection Concepts





Prototypes

Final Design

PETMINDA

A Safe Place to Leave Your Furry Friend While You Shop

UVC Sanitation Cleaning with Safety Interlock

Status Indication

Cellular and WiFi Connection

Disinfectant & Dog Bag Box

Air Conditioning

Live Camera Stream

Emergency Lock Override

UVC Safe Ventilation

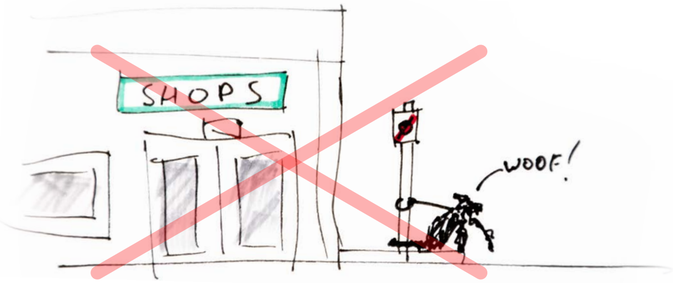
Battery Back Up

Electronic Door Latch

User Journeys

David is out for a walk with his dog Rita, when he remembers he needs to go to the shops for groceries.

He could walk there and tie Rita up outside, **BUT**: Rita is very cute, **expensive** and **anxious**. Also **34 degrees** with no shade.



The risks of **dog theft**, an **altercation** or **heatstroke** are too high, so the pair head home.

GOLDEN PATH

They get to the shops, locate the Petminda Pods and David books a session on the App via the QR code. Rita hops into the **air-conditioned** pod.

While shopping, David checks in on Rita via the **live-stream**.

He returns, ends the session and the door pops open to a happy pup. He closes the door and the pod begins **UV cleaning**, ready for the next customer.

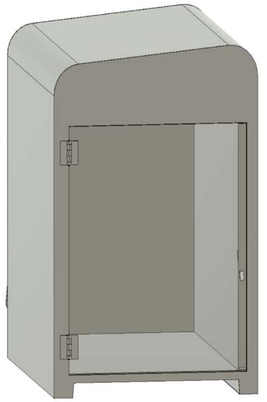
Concept Development

Little Dog

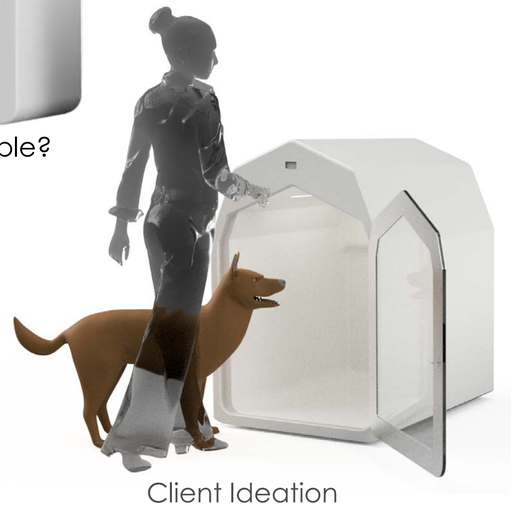
Big Dog

Stackable?

Selected form

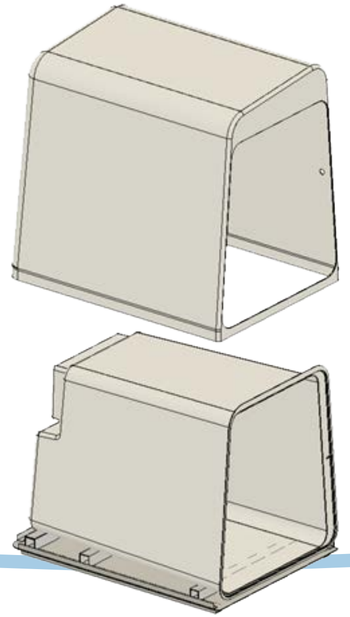


Sheet Metal?



Client Ideation
Barn House Form

Space Pod!

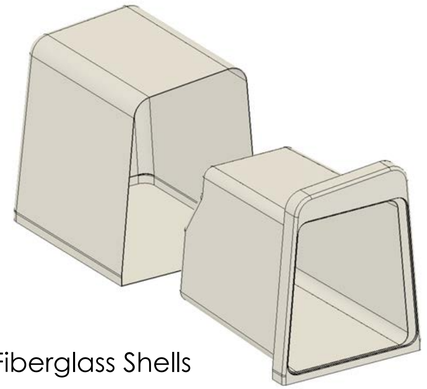


Assembly Methods

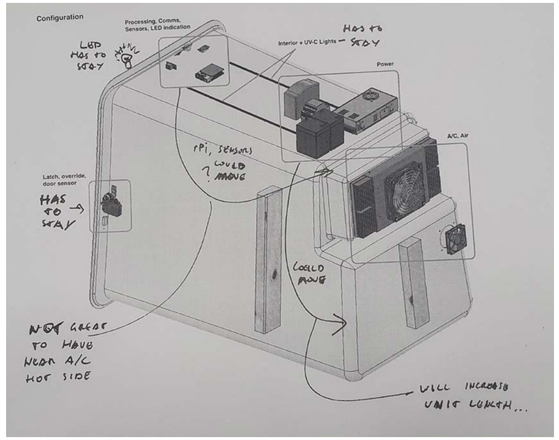
Pee Tray?...

PETMINDA

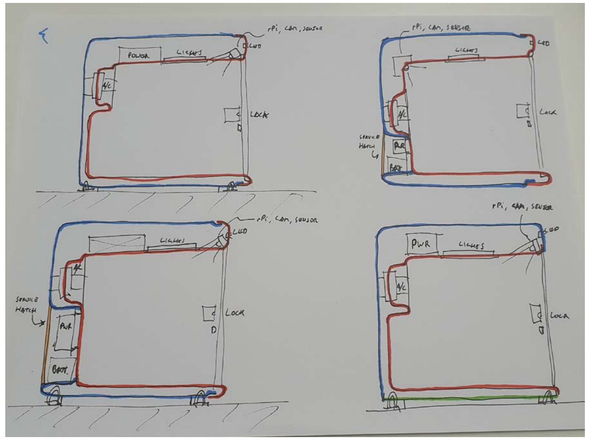
Technical Development



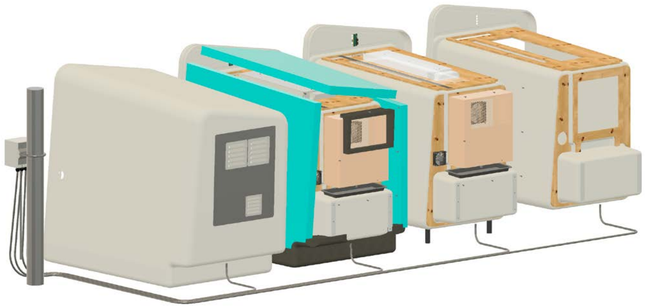
Fiberglass Shells



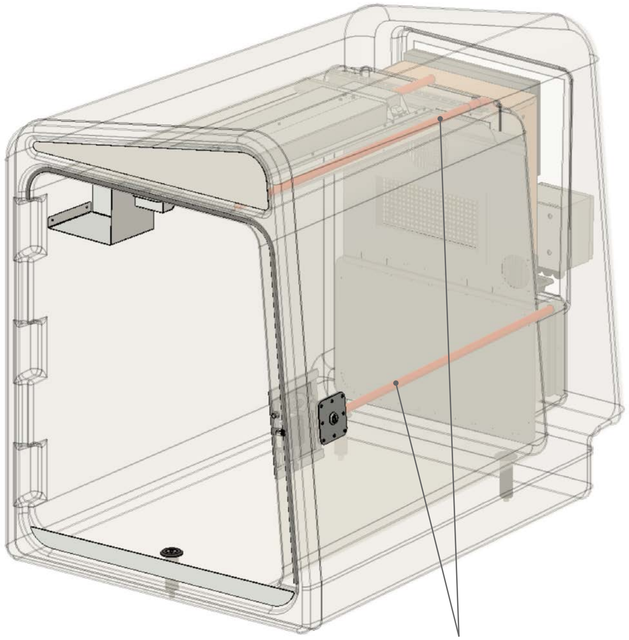
Technical Review



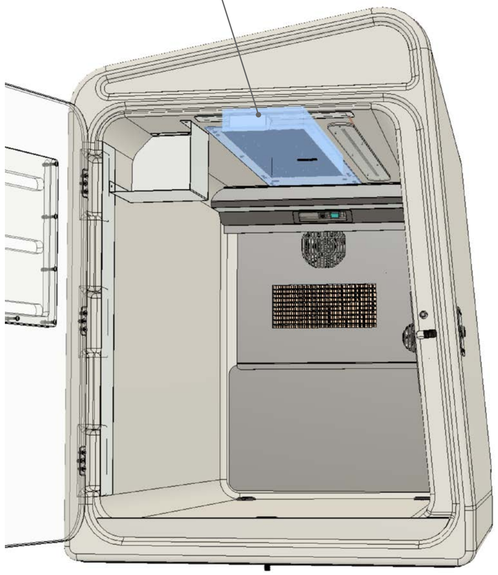
Packaging Layout



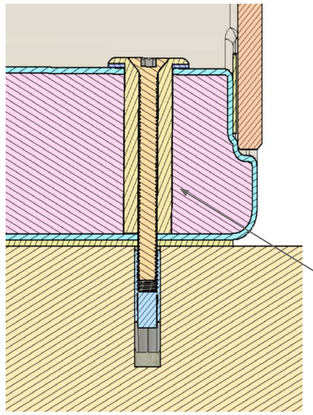
Pod Distribution and Installation



Cable Routing



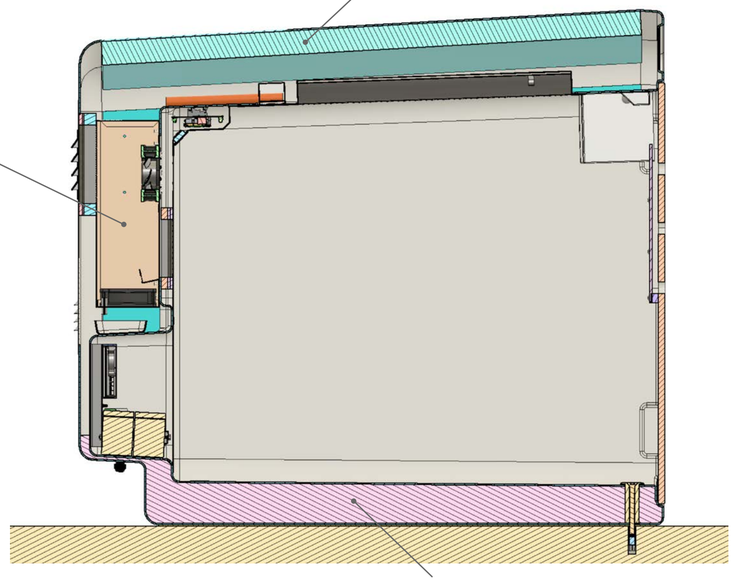
UVC Light Shroud/Reflector



Ground Mounting

Sheet Foam Insulation

AC Integration



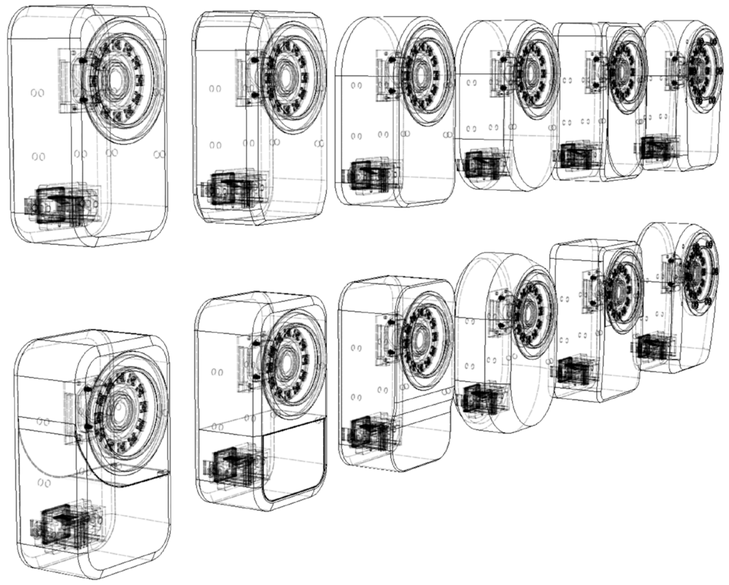
Expanding Foam Insulation

PETMINDA

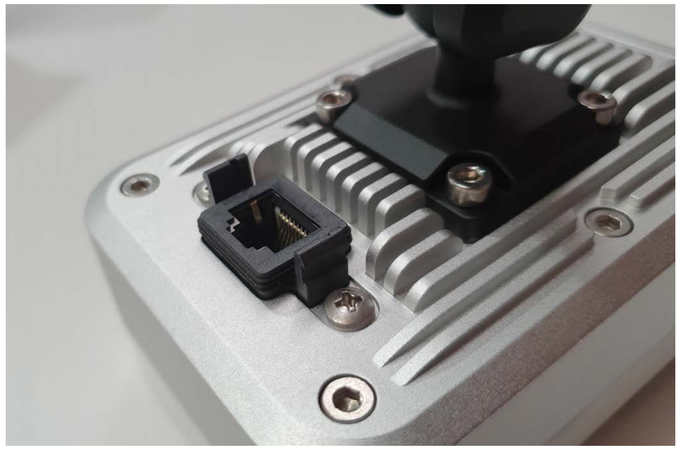
Build and Product Photos

Orb-It

An AI Camera System that Tracks Vehicles in Drive-Thru Queues

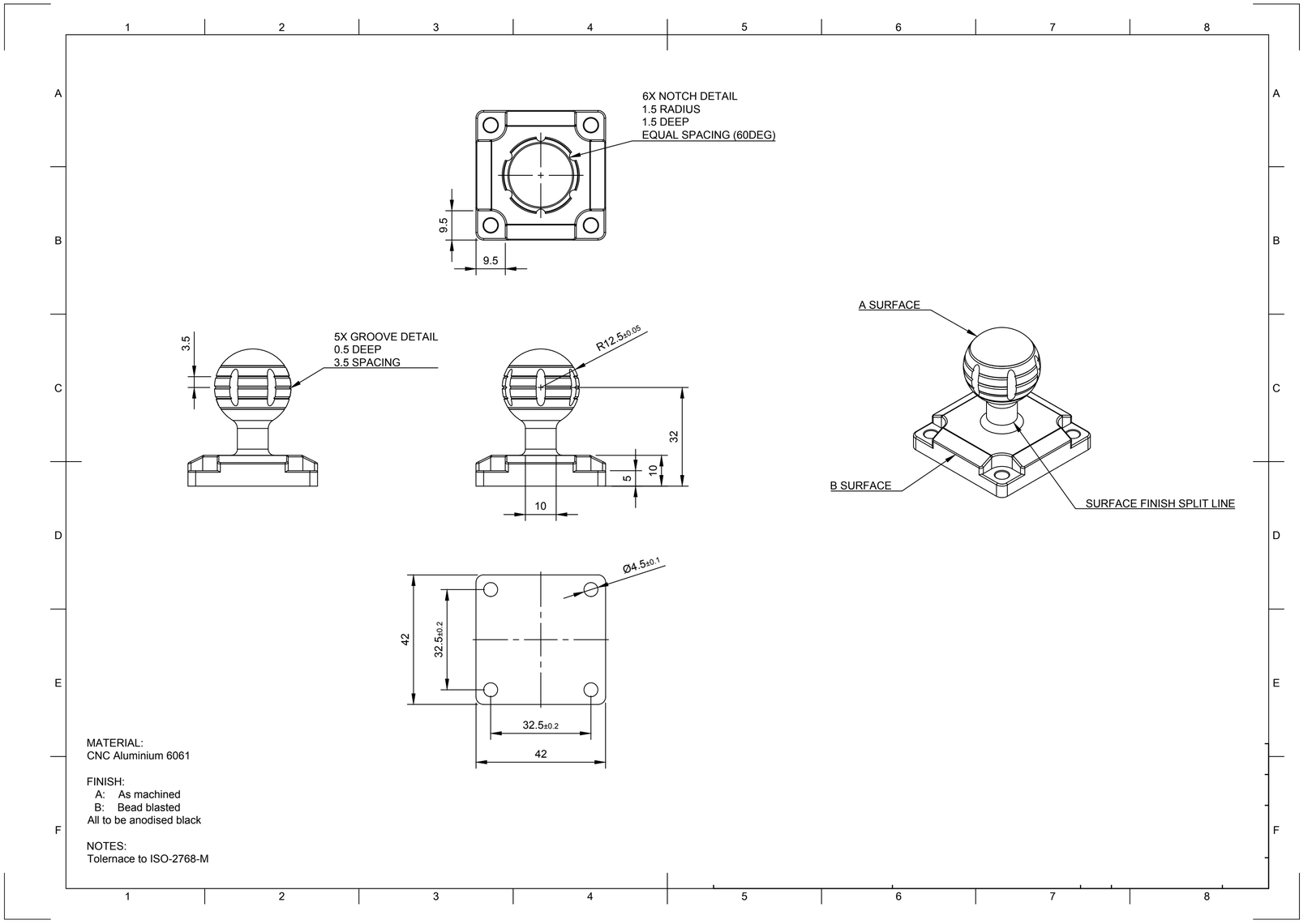


What happens to your order when someone cuts in line at the Maccas drive-thru?



Orb-It

Technical Drawing
Mounting Bracket



ECODORANT
An Eco Deodorant Dispenser

Refillable. Re-use for a lifetime.

High quality, durable and recyclable materials.

Simple. Attractive. Timeless.

Completely sealed, no-leak design.

Intuitive user-centred design.

ECODORANT
Problem Statement

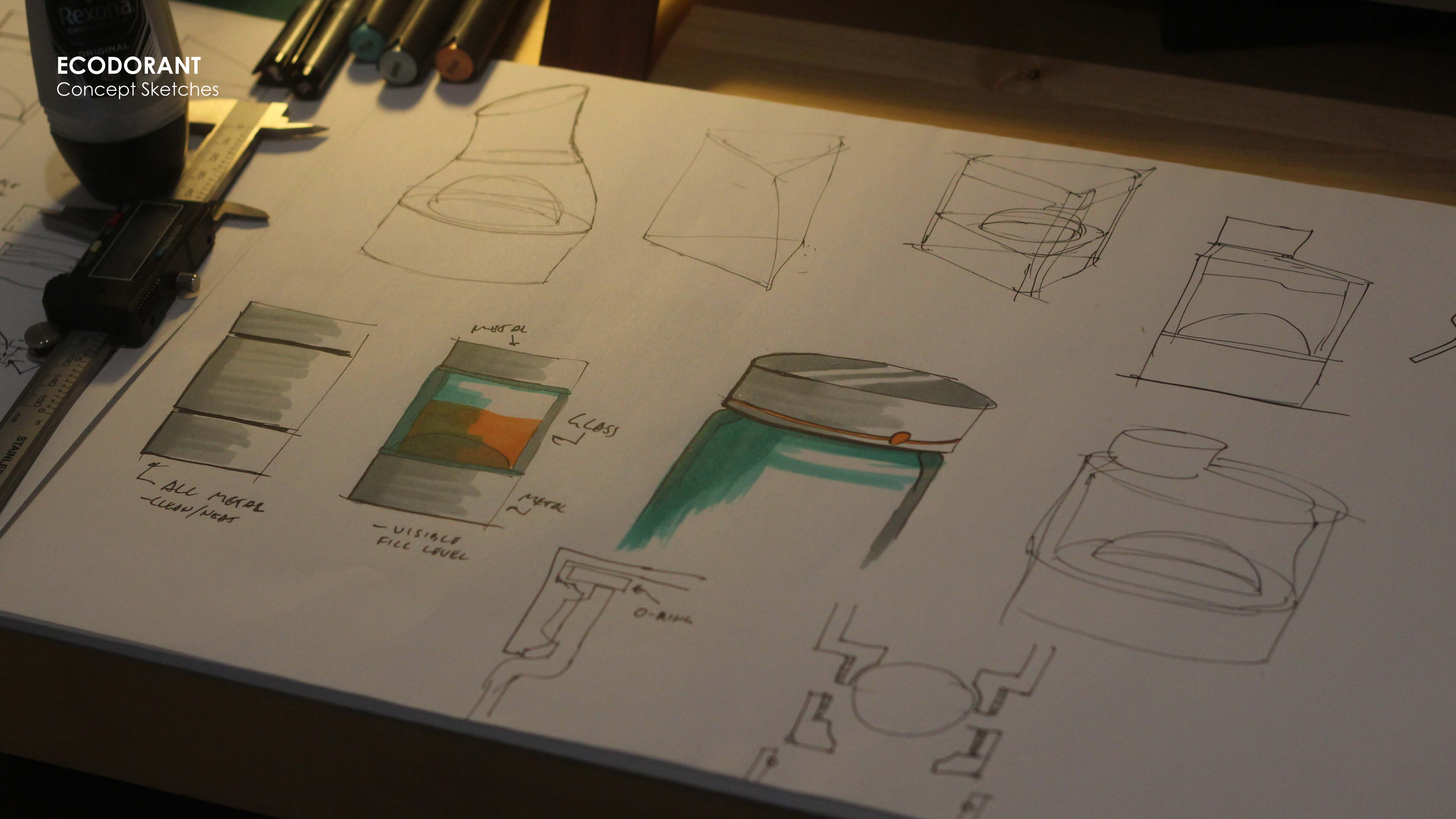
Problem
Plastic waste from disposable deodorants

Although recyclable, we have to turn off the plastic tap

Solution
A reusable deodorant dispenser that users can refill at bulk stores

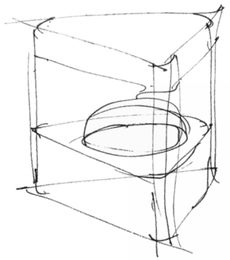
Designed to feel at home with...

ECODORANT
Concept Sketches

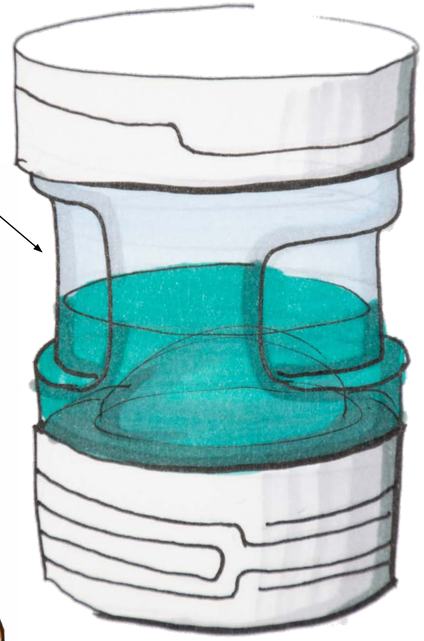


ECODORANT

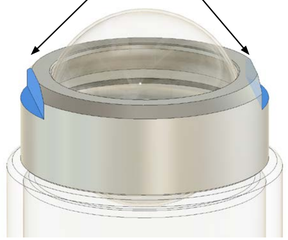
Concept Development

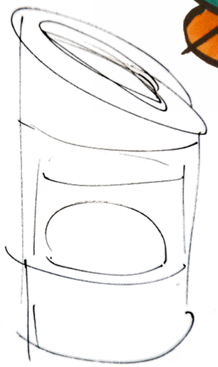


Indents to provide thumb and finger grip

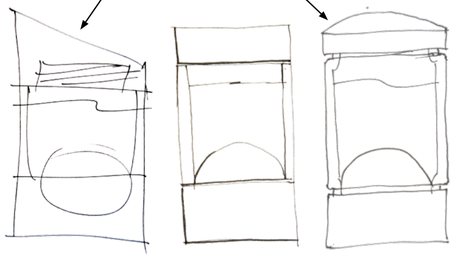


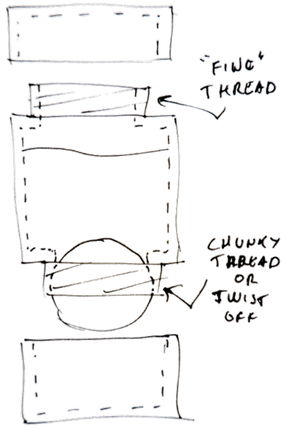
Flat spots for adjustable spanner to tighten or unscrew if roller ball needs replacing



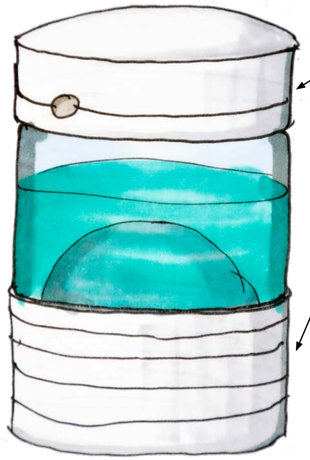


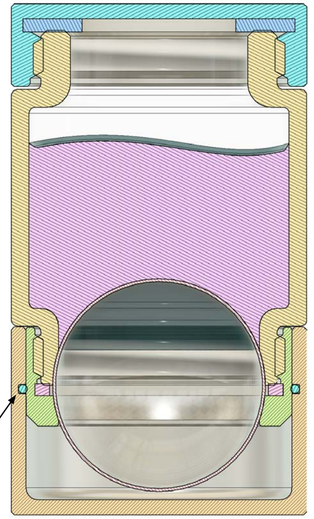
Sloped or curved top to reduce likelihood of placing dispenser upside down





Prominent grip pattern on roller cap. Less on refill cap to avoid spills.





O-ring retains roller cap as a friction fit

Refill Cap

Upper Seal (Silicone)

Container (Glass)

Roller Ball (rPETG/Glass)

Lower Seal (Silicone)

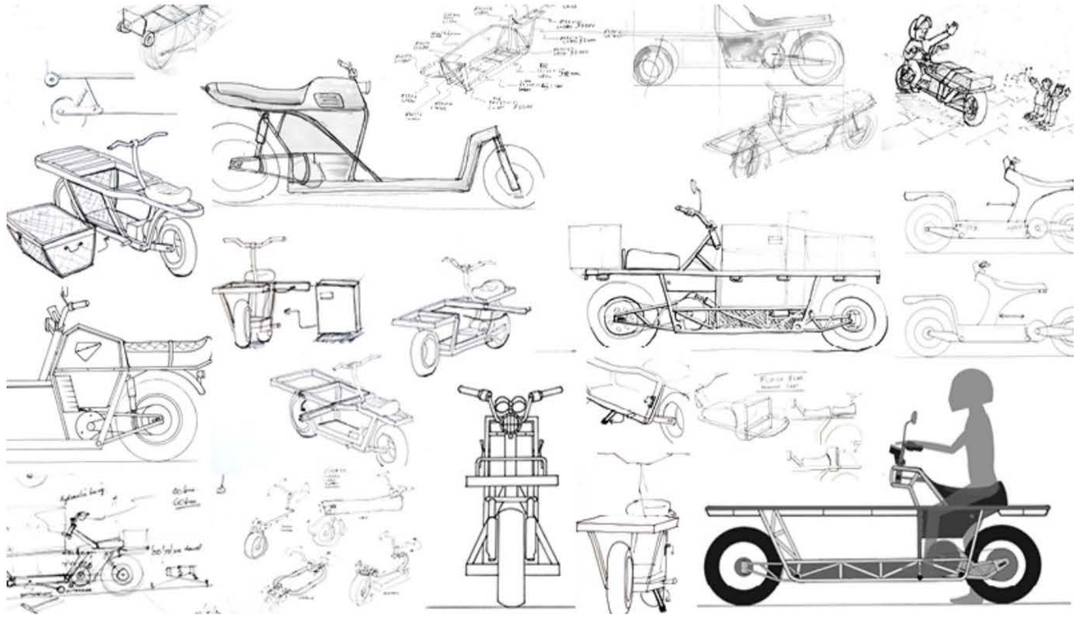
Ball Retainer (Aluminium)

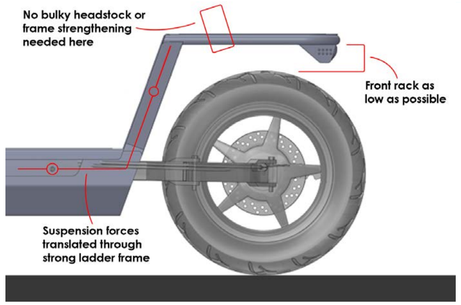
Cap O-Ring (Nitrile)

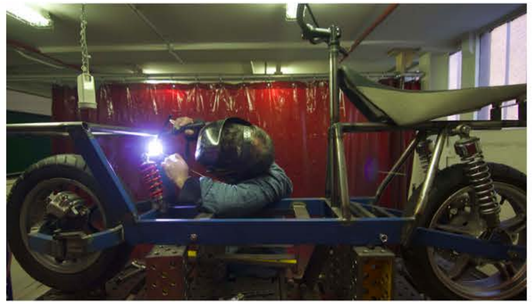
Roller Cap (Aluminium)

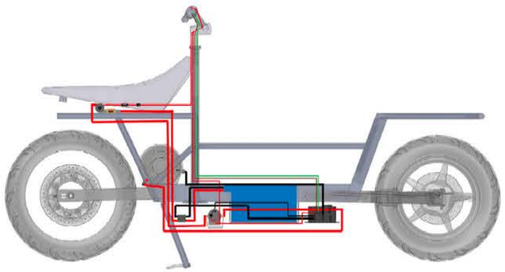
EsCargo

An Electric Cargo Motorcycle for Greener Last-Mile Deliveries



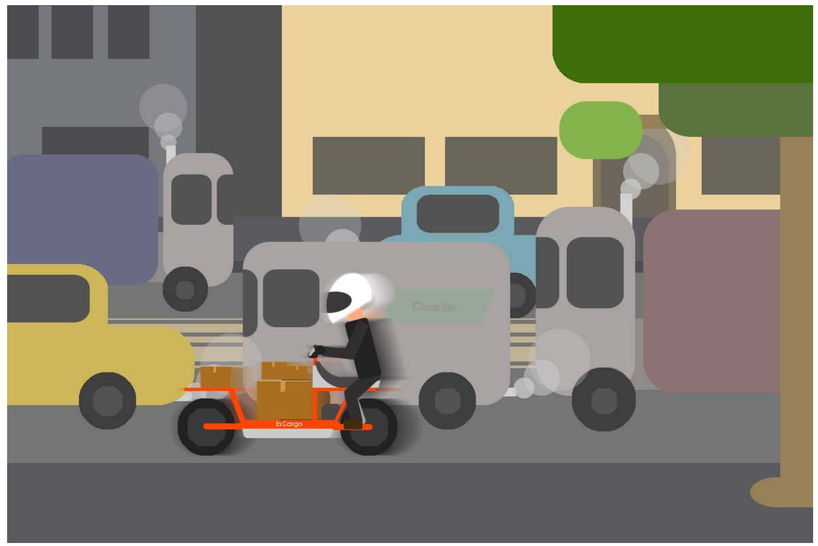


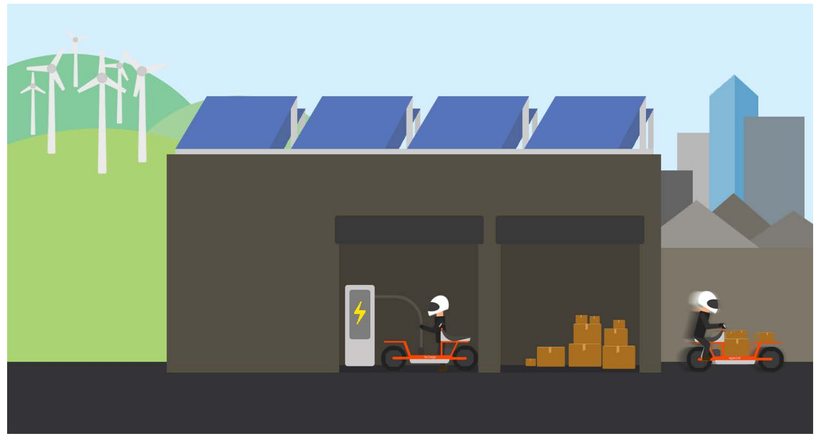




EsCargo

Taking large delivery vehicles off congested urban roads





Problems Tackled

Congested streets - Population increase and a dominance of car culture

More packages delivered than ever - Increase of online shopping

Vehicular polution - Air quality and greenhouse gases

Finalist (top 3) for RMIT Green Innovators award

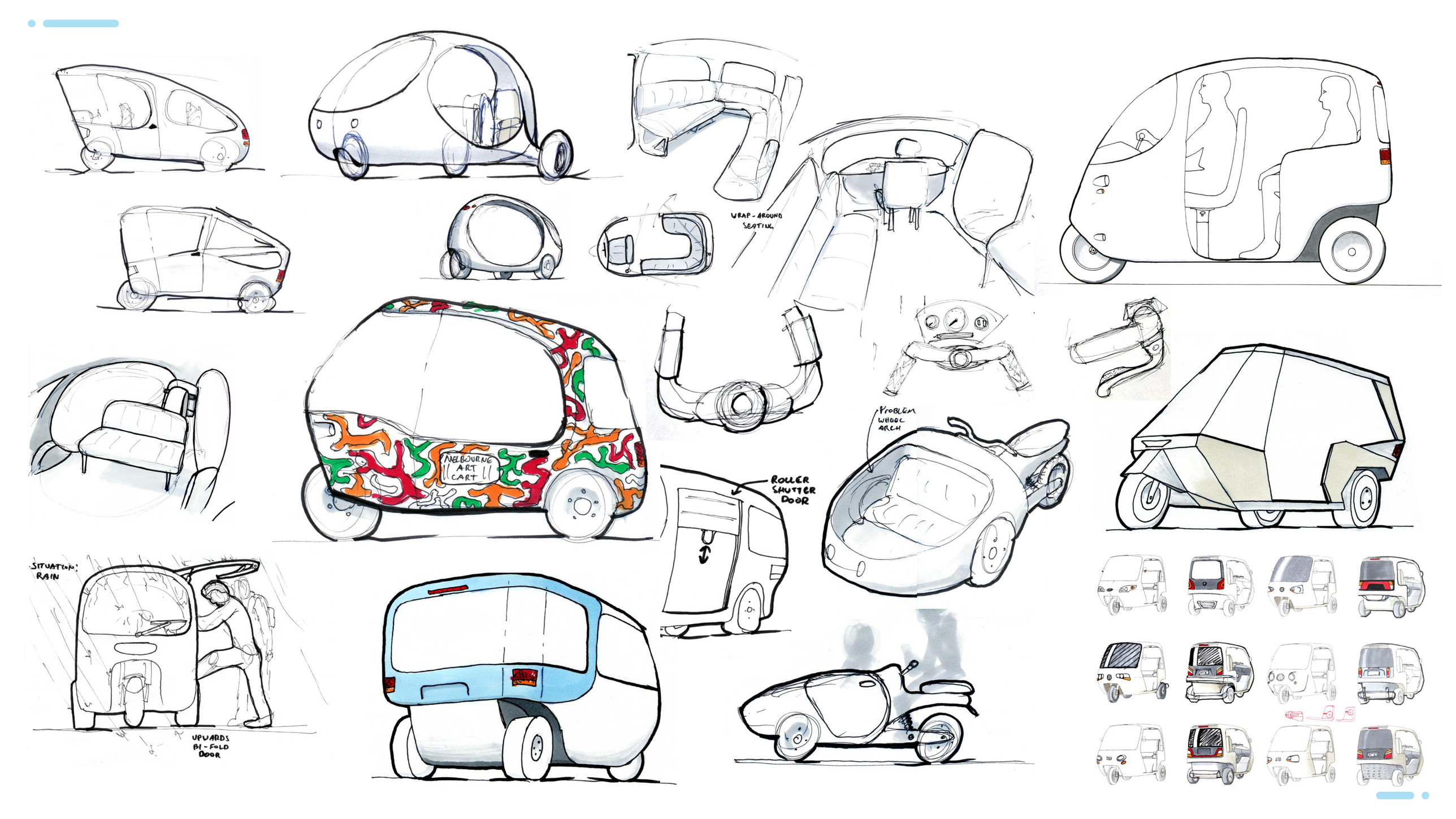
Exhibited in the Global Grad Show - An exhibition in Dubai showcasing the top 50 design graduates from around the world.

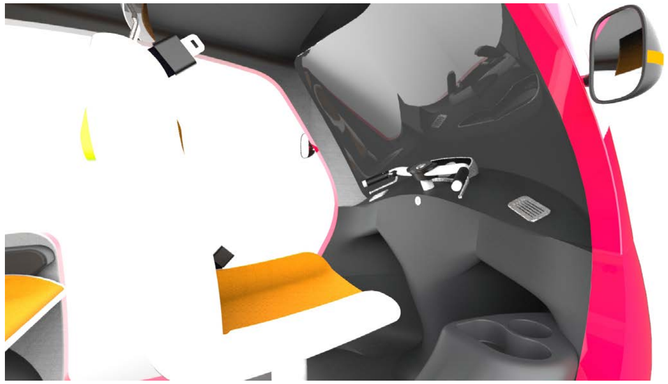
Articles in Mashable and New Atlas

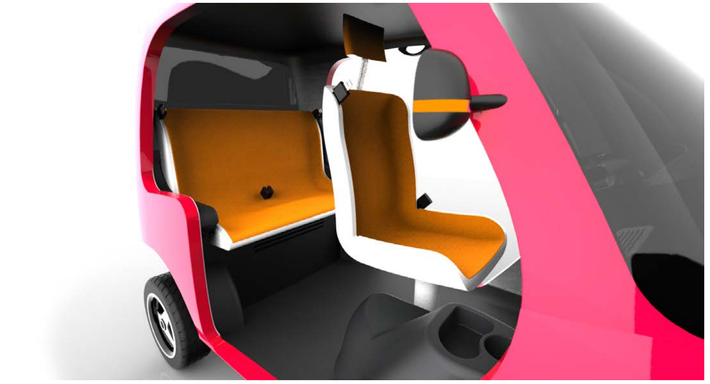
Displayed at the Melbourne EV Show

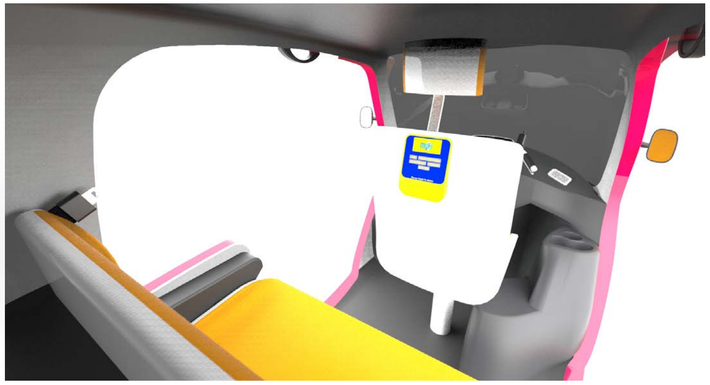
MELTUK

Conceptualising a Melbourne-centric Tuk-Tuk that operates within the public transport network and provides tourists with a unique view of the city.


WRAP - AROUND SEATING
MELBOURNE ART CART
ROLLER SHUTTER DOOR
PROBLEM WHEEL ARCH
SITUATION: RAIN
UPWARDS BI-FOLD DOOR







Oscar Fehlberg

Industrial Design Folio

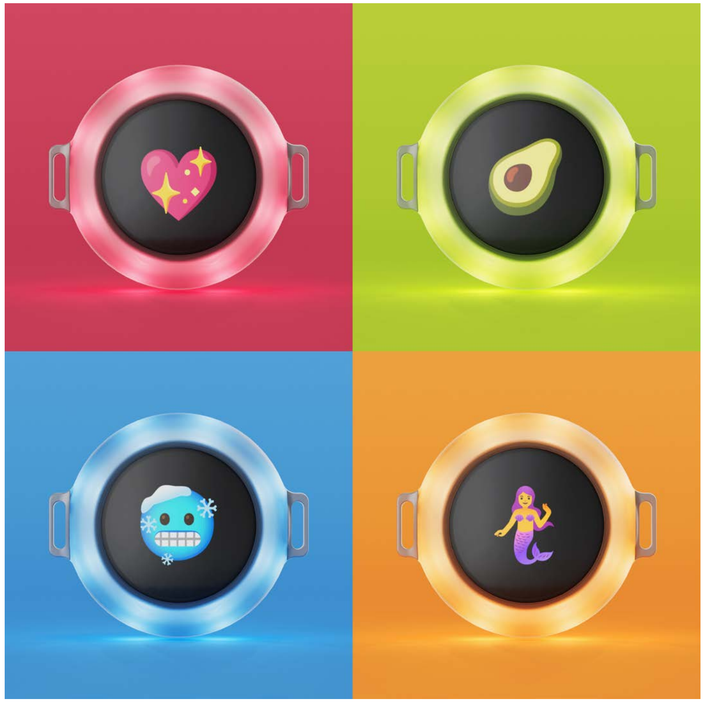
2025

Contact
oscar.fehlberg@gmail.com
0438 440 820

APPENDIX

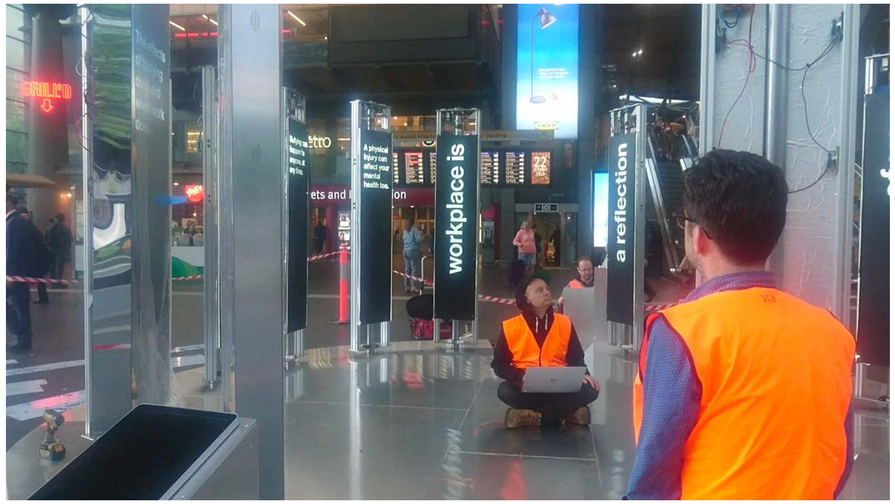
EMOJIX

A quirky device for sending Emojis



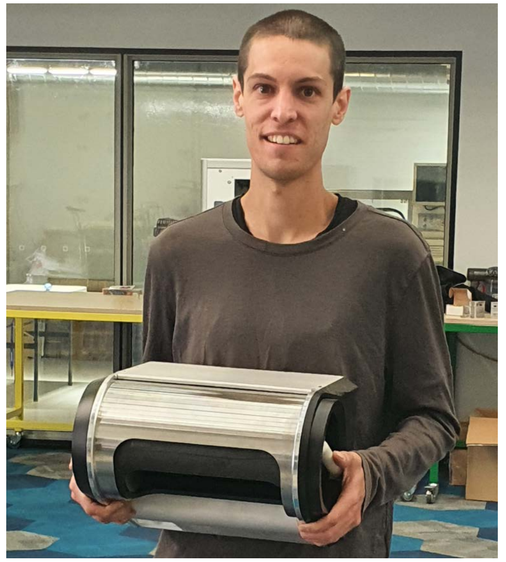
WorkSafe Art Installation

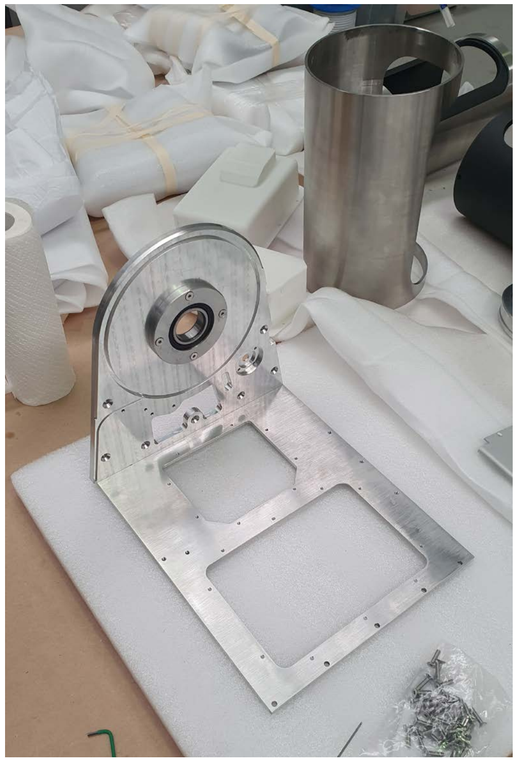
A large, circular, silver stage with ten rotating, two-way mirrored columns emanating light and sound. Interactive kiosks guide users through the art piece that explores how we are a reflection of our workplace culture.



Melbourne Zoo Tiger Feeder

A gamified feeding device for the Sumatran Tigers at the Melbourne Zoo to invoke their hunting instincts.





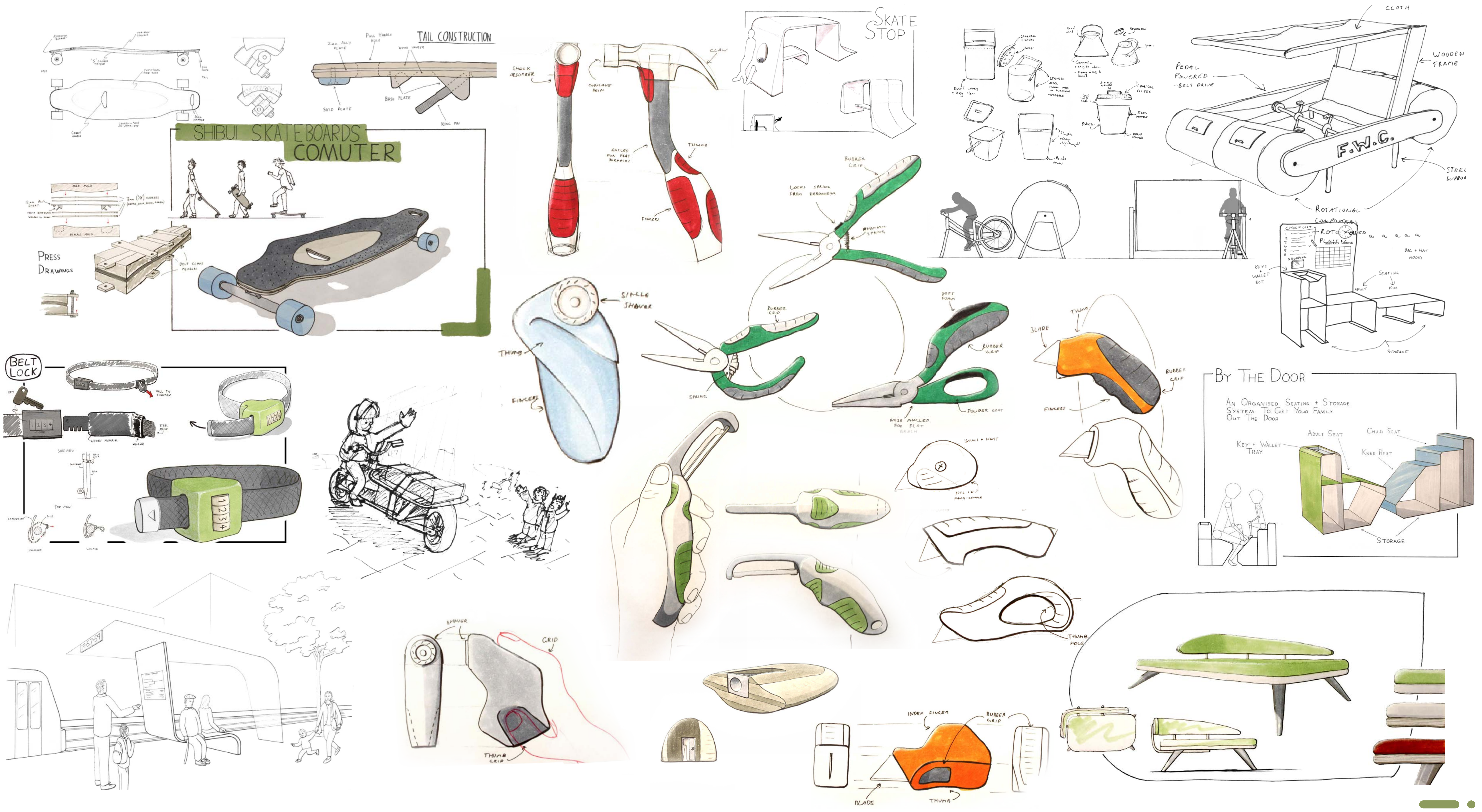
NuRoll

Never get stuck on the dunny without bog roll. Ever.

Y-Cycle

A bike so weird you ask, “but why?”

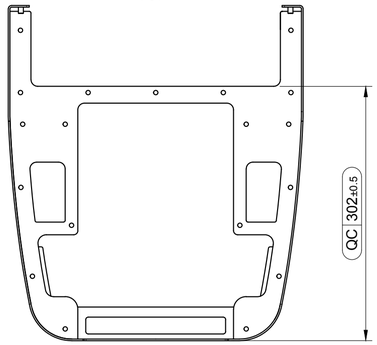
And I say, “because why not?!”



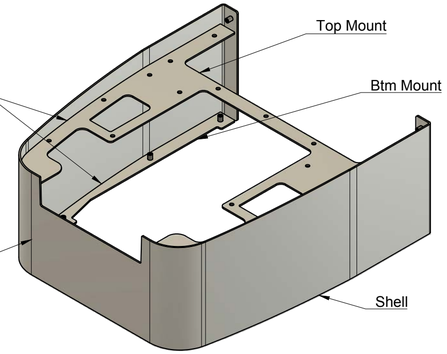
TAIL CONSTRUCTION
Skid Plate
Bash Plate
King Pin
SHIBUI SKATEBOARDS
COMUTER
Press
Drawings
Shock Absorber
Concave Pein
Claw
Thumb
Fingers
Skate
Stop
Rubber Grip
Cloth
Wooden Frame
Pedal
Powered
-Belt Drive
F.W.C.
Rotational
Belt
Lock
Single
Shaver
Thumb
Fingers
Blade
Rubber
Grip
By The Door
An Organised Seating + Storage
System To Get Your Family
Out The Door
Adult Seat
Child Seat
Key + Wallet
Tray
Knee Rest
Storage
Shaver
Grip
Thumb
Grip
Index Finger
Rubber
Grip
Blade
Thumb

CHARGE DOCK TECHNICAL DRAWING

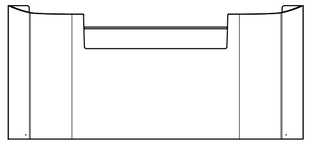
TOP



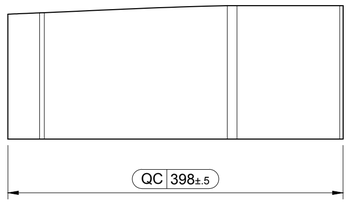
WELDING NOTES:
- Weld from top only
- Stitch or tack weld every 50-100mm



FRONT

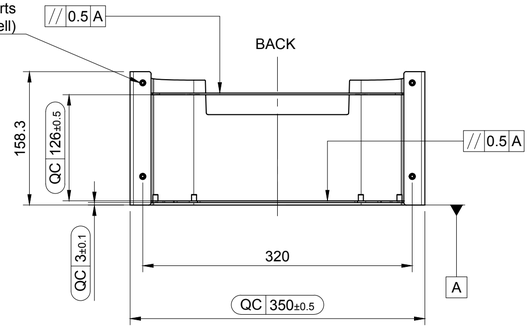


SIDE

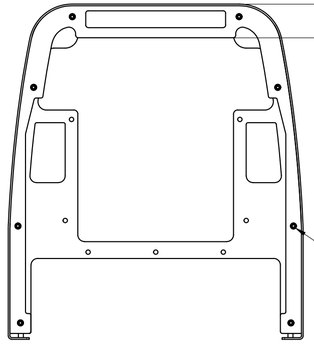


4x M4 Flush Head Nutserts (on Shell)

BACK



BOTTOM



8x M4 Flush Head Nutserts (on Btm Mount)

NOTES
MATERIAL:
2mm Aluminium 6061

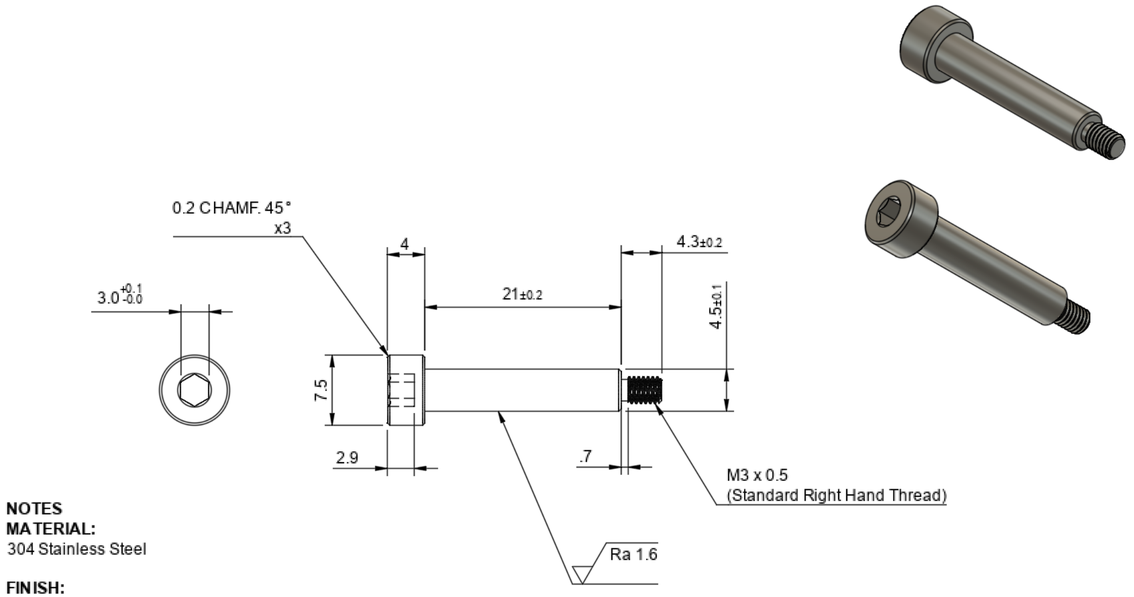
PROCESS:
Lasercut. Bend. Stitch weld. Install nutserts.

FINISH:
Bead blast exterior surface (after welding)
Clear Anodise

Tolerance to ISO-2768-M unless noted otherwise

Dept.	Technical reference	Created by	Approved by
		Oscar Fehlberg 29/11/2022	
		Document type	Document status
			RELEASE 05

CHARGE DOCK TECHNICAL DRAWING



NOTES
MATERIAL:
304 Stainless Steel

FINISH:
Deburr and Break Sharp Edges
Ra 1.6 where noted

Tolerance to ISO-2768-M unless noted otherwise

CHARGE DOCK ASSEMBLY INSTRUCTIONS

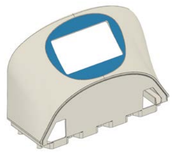
5.7. Assembly - Back Plastics Subassembly

Mount Screen Overlay to Back Plastics

1x Back Plastic

1x Screen Overlay SA-001-5

Install in position as shown.



Mount Screen to Back Plastics

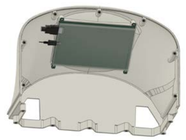
1x Back Plastic

1x Waveshare 7" Screen (Must be labelled with QR code and added to build tracker)

4x M3x6 BH Screws

Install in position as shown.

NOTE: Remove screen protective film before install and then re-apply it to the screen after install.



5.8. Assembly - Tub Subassembly

Mount Plastics to Tub

1x Tub (sheet metal)

1x Tub Front (plastic)

1x Tub Back (plastic)

4x M4x10 BH Screws

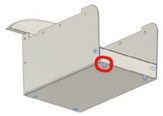
2x M4x12 CS Screws

1. Install 2x M4x12 CS Screws at the rear of the Tub
2. Install 4x M4x10 BH Screws at the front of the Tub

Secure one end of a SA-001-4-9 cable to the corner of the tub as depicted. The order should be:

- metal plate
- M5 serrated washer
- cable
- M5 flat washer
- bolt

place an earth sticker next to the connection.



Attach Dust Cover to Interface PCB

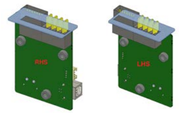
2x Dust Cover

1x RHS Interface PCB

1x LHS Interface PCB

1x Super Glue

2. Apply super glue on top edge of PCB and inside edges of Dust Cover
3. Fit Dust Cover to PCB as shown



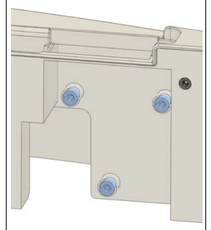
Install threaded inserts

3x M4 reverse threaded inserts

1x Interface Plastics (LHS or RHS)

1. Install threaded inserts by pressing them into the plastic bosses as shown
2. (Note: It may be easier to only partially install these inserts and let the screw-stud pull them into place later)

Repeat for the other side



Glue and install lower screw-stud

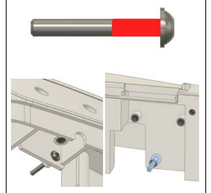
1x M4 Washer

1x M4x30 BH Screw

1x Red Thread Locker (or Super Glue)

1. Place washer against screw head
2. Apply thread locker to top ~12mm of screw thread
3. Firmly tighten the screw into position as shown to create the stud
4. (Make sure the reverse insert has now bottomed out against the top of the plastic boss)

Repeat for the other side

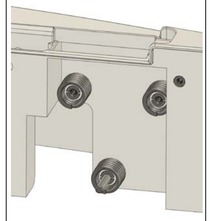


Put all springs in place

3x Springs (exact spec TBD)

1. Place springs loosely around bosses as shown

Repeat for the other side



Loosely put PCB in place

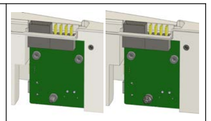
1x Interface PCB (LHS or RHS)

1x M4 Washer

1x M4 Nyloc Nut

1. Insert the Interface PCB connector end first and then locate it over the lower stud
2. Place a washer over the stud end and then finger tighten the nyloc

Repeat for the other side



Glue and install upper screw-studs

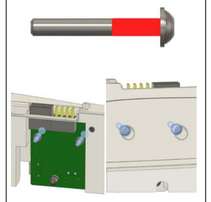
2x M4 Washer

2x M4x30 BH Screw

1x Red Thread Locker (or Super Glue)

1. Place washers against screw heads
2. Apply thread locker to top ~12mm of screw threads
3. Firmly tighten the screws into position as shown to create the studs, making sure the threads go thru the PCB holes cleanly and the springs are still in position
4. (Make sure the reverse insert has now bottomed out against the top of the plastic boss)

Repeat for the other side



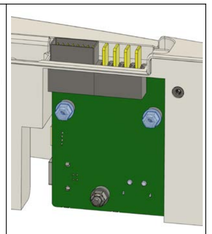
Install upper washers and nylocs

1x M4 Washer

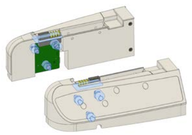
1x M4 Nyloc Nut

1. Place a washer over the stud end and then finger tighten the nyloc
2. Leave finger tight! Do not use tools to tighten until the alignment process begins later

Repeat for the other side



Both completed Interface Subassemblies should look like this



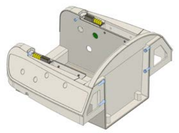
5.10. Assembly - Tub Interface Subassembly

Mount Interface Sub-Assembly to Tub Sub-Assembly

4x M4x16 SH Screws

2x M3x10 CS Screws

Install in position as shown.

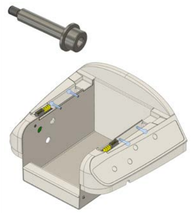


Install Shoulder Bolts to Tub Interface Sub-Assembly

4x Custom Shoulder Bolts

4x M5 Washer

Install in position as shown.



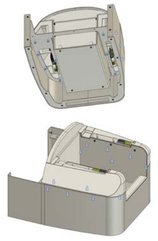
5.11. Assembly - Housing Subassembly

Mount Tub-Interface Sub-Assembly to Housing

1x Housing

12x M4x10 SH Screws

Install in position as shown.



Mount Back Plastics Sub-Assembly to Housing

7x M4x10 SH Screws

Install in position as shown.

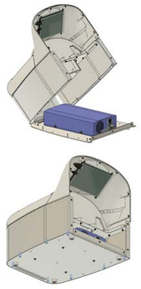
Mount Base Plate Sub-Assembly to Housing

8x M4x16 BH Screws

Carefully pivot the Housing assembly over the base and slide it into place.

CAUTION: It will need to slide front-to-back slightly in order to stop the bottom lip of the Housing from hitting the terminal connections of the Charger. If it does not seat properly check this AND that there are no wires being pinched between the assemblies.

Install screws as shown.



Insert washers one the depicted bolt in the following order:

- metal plate
- star washer
- flat washer
- bolt

Place an earth sticker next to this bolt.

Charger Wiring

Placing Housing Assembly and Base Plate Sub-Assembly as shown

Connect SA-001-4-1 cables to Interface PCBs