



Bart Gortworst

Industrial Design

Bangkok 2023

Hello

my name is **Bart Gortworst**,
I studied **Industrial Product Design** (B. Eng) at,
HAN University of applied science.

I have worked for **Lego & Devorm** as an intern, and at
Design2Gather & Scope design and strategy as
a product designer working alongside global
creative agencies, award-winning designers and engineers.

I would like to work for a **team** that will: enhance my design
thinking & practical skills, help me create a strong network
and stimulates creative development.

Thank you for taking the time to view my portfolio.

Kind Regards,
Bart Gortworst

bjmgdesign.com
bart.g@live.nl
0066 658144808

Industrial Product Designer

About me

My name is Bart Gortworst, 29 years old, born in the Netherlands, raised on the island of Rarotonga and currently living in Bangkok, Thailand. Since early childhood I was always interested in how things work and function, taking apart anything I could get my hands on. This curiosity transformed into a desire to create, make and design. Besides being creative I enjoy playing the guitar (built two), like to ride motorcycles (built four) and am a big football, and F1 fan.

Experience

SATIT PATTANA // SCIENCE PROGRAM, FULL-TIME

MAY 2022 - CURRENT // Bangkok, TH

Developing the science curriculum for the upper primary international program.

SCOPE DESIGN & STRATEGY // INDUSTRIAL DESIGNER, FULL-TIME

MAY 2021 // AMERSFOORT, NL

During my brief time at Scope I had the opportunity to work on multiple projects, both as a team lead and team member. Despite being an amazing team and studio, I decided to pursue adventure and a different culture.

DESIGN2GATHER // PRODUCT DESIGNER, FULL-TIME

JUL 2019 - APRIL 2021 // EINDHOVEN, NL

Worked on a large variety of challenging and intriguing projects, as a project lead and team member. Tasks include new product design development - from sketch to prototype and production, engineering, branding and other graphical design work.

Developed the concept for a low-pressure pan, focussing on the interaction and intent of the user. Creating prototypes, 3D models and renders for testing and presenting to the client. Creating an intuitive and unique concept and communicating all aspects clearly to the client.

Ideated opportunities for new products for a large Chinese stationery company. Designed a stationery set based on aesthetic sensibility for the Chinese market featuring a knife, scissors, and stapler currently in production.

Optimised a wearable vibrator for production, created the documentation and visualisation for the Red Dot Design Concept application.

Worked on various graphic design projects, including packaging design, branding, visual identity and retail space.

As a project lead, I designed a wearable luxury hand-sanitiser solution. Identifying technical risks and developing proof of concepts to mitigate them, visually and verbally communicated ideas through sketches, renderings and presentations directly to the client.

LEGO SYSTEM A/S // PROJECT WRITER, BACHELOR THESIS

FEB 2017 - JUL 2017 // BILLUND, DK

Creating a new play experience by designing unique play elements that fit in the Lego system. Complete design process from research and concept generation, 3D modelling, and renderings, to final design solution delivery. Identifying technical risks and developing proof of concepts showing design solutions, applying the Lego brand vision to the product.

LEGO SYSTEM A/S // FRONT END DESIGN INTERNSHIP

FEB 2016 - JUL 2016 // BILLUND, DK

Working in a diverse team of designers, engineers, and artists, participating in team-based brainstorming and creative thinking workshops. Using quick and advanced rapid prototyping to test and present ideas. Conducted user research & testing to validate product concepts.

DEVORM // INDUSTRIAL DESIGN INTERNSHIP

SEP 2014 - FEB 2015 // ARNHEM, NL

Worked on new product design development, researching and identifying opportunities for a new category featuring adaptable products.

DeVorm has created a sub-brand based on this project ([RE:FELT](#)) featuring multiple products that I designed during my internship.



BART GORTWORST

Education

INDUSTRIAL PRODUCT DESIGN / B.ENG

FEB 2018. HAN ARNHEM, NL

LIGHTWEIGHT STRUCTURAL VEHICLE DESIGN

JAN 2017. HAN ARNHEM, NL

Skills

Prototyping: Concept mockups • Engineering • Technical functionality • Hands-on prototyping • Rapid prototyping • 3D printing • Laser-cutting • Simplifying functionality

Program proficiency: Microsoft Office • Illustrator • InDesign • Photoshop • Sketchbook • ZBrush • Solidworks • Keyshot • Autodesk Inventor • Siemens NX-9 • Fusion 360 • Rhinoceros 3D • Abaqus FEA

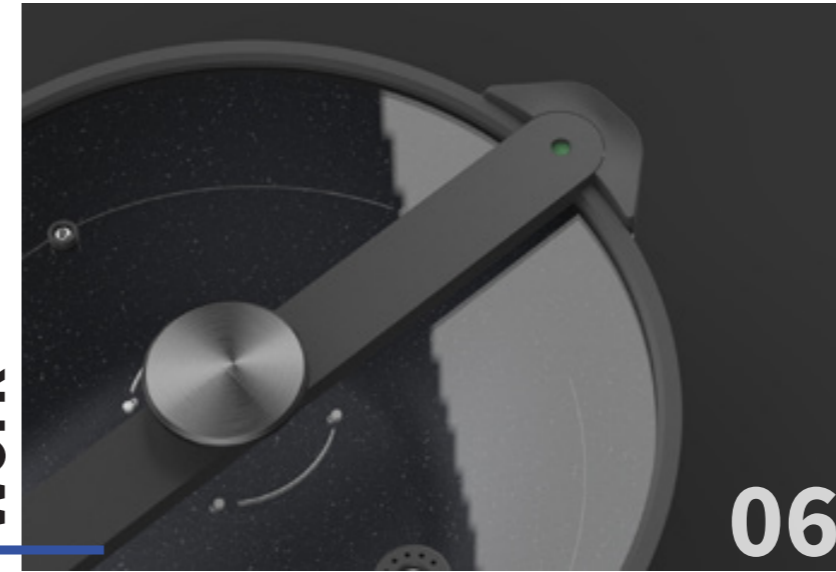
CAD: Highly proficient with SolidWorks, Fusion 360 and Keyshot, extensive experience with Siemens NX9 and Blender. Basic knowledge with Inventor, Rhino and Abaqus.

Language: Fluent in both English and Dutch.



All work shown is produced by me unless indicated otherwise.

Work



06

Student



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Intern



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Passion



68



All-round designer

July 2019 - June 2021

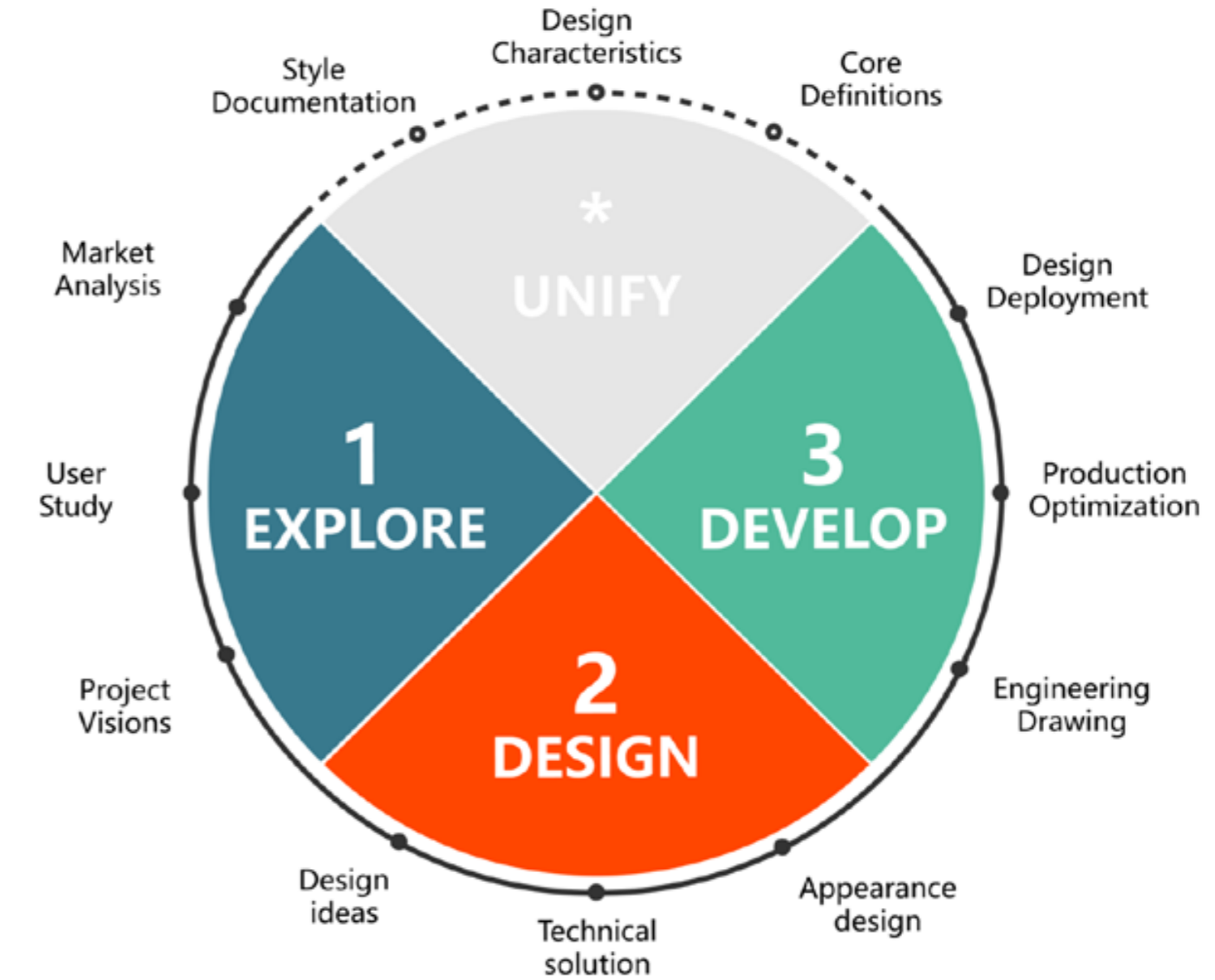
Design2Gather is a dynamic hands-on product design studio, with passion for innovation, change and creativity. With studios in Hong-Kong, Shanghai and Eindhoven, Design2Gather creates novel items that are valued by users and turn into commercial success for their clients.

I joined the studio in Eindhoven on July 2019 and worked there with close collaboration with the Shanghai office. Working on a large variety of challenging and intriguing projects, as a project lead and team member. Tasks include new product design development - from sketch to prototype production, and graphical design work.

Most development and project progress is not shown for confidentiality reasons.

All work shown is produced by me unless indicated otherwise.

Design2Gather.com



Design process

All-round designer

As a designer with little experience, I was assigned project lead after my first two months, during my time here I have always guided two interns and led multiple small design teams.

I experienced each aspect of the design progress using the D2G design methodology as shown above. For most projects I was challenged to find new approaches and work using new software, learning new programs and skills during each project.



Low-pressure wok

Concept development

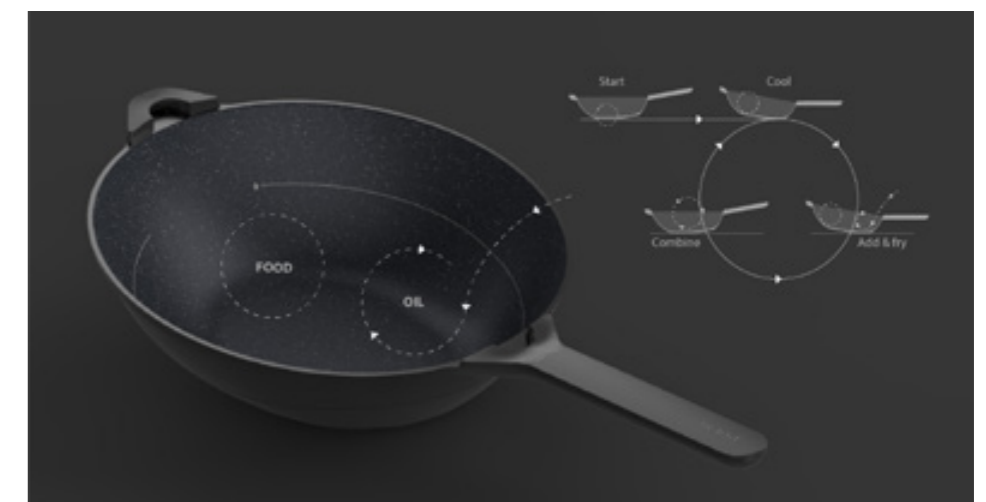
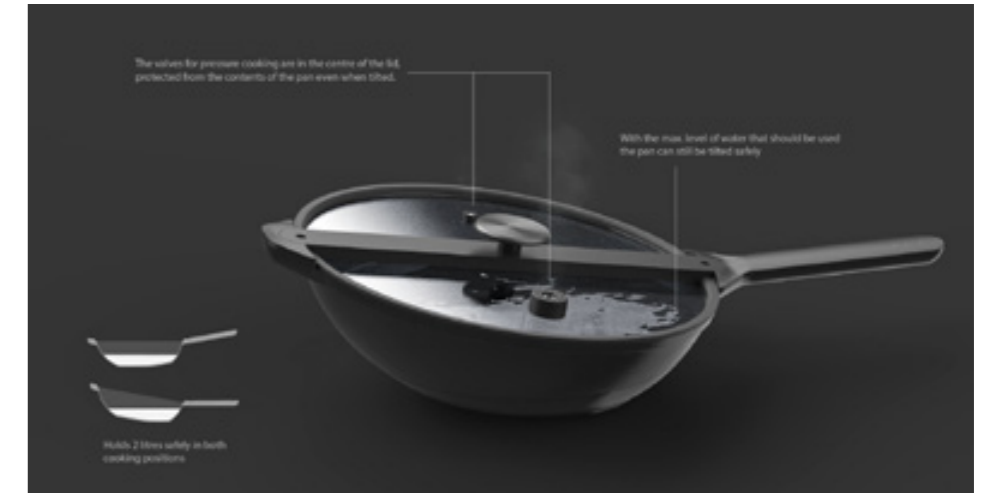
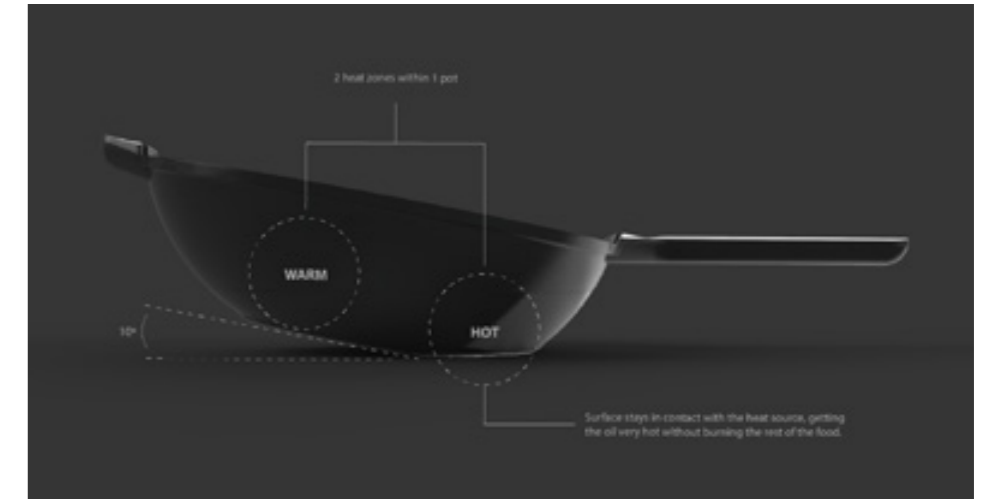
I worked alongside the senior design team during various stages of projects. Developing concepts, ideating and optimising in collaboration with the team in Shanghai.



Low-pressure wok

Concept development

I developed the concept for a low-pressure wok for the Chinese market, focussing on the interaction and intent of the user. Creating prototypes, 3D models and renders for testing and presenting to the client. Creating an intuitive and unique concept and communicating all aspects clearly to the client.





*image produced by Recook



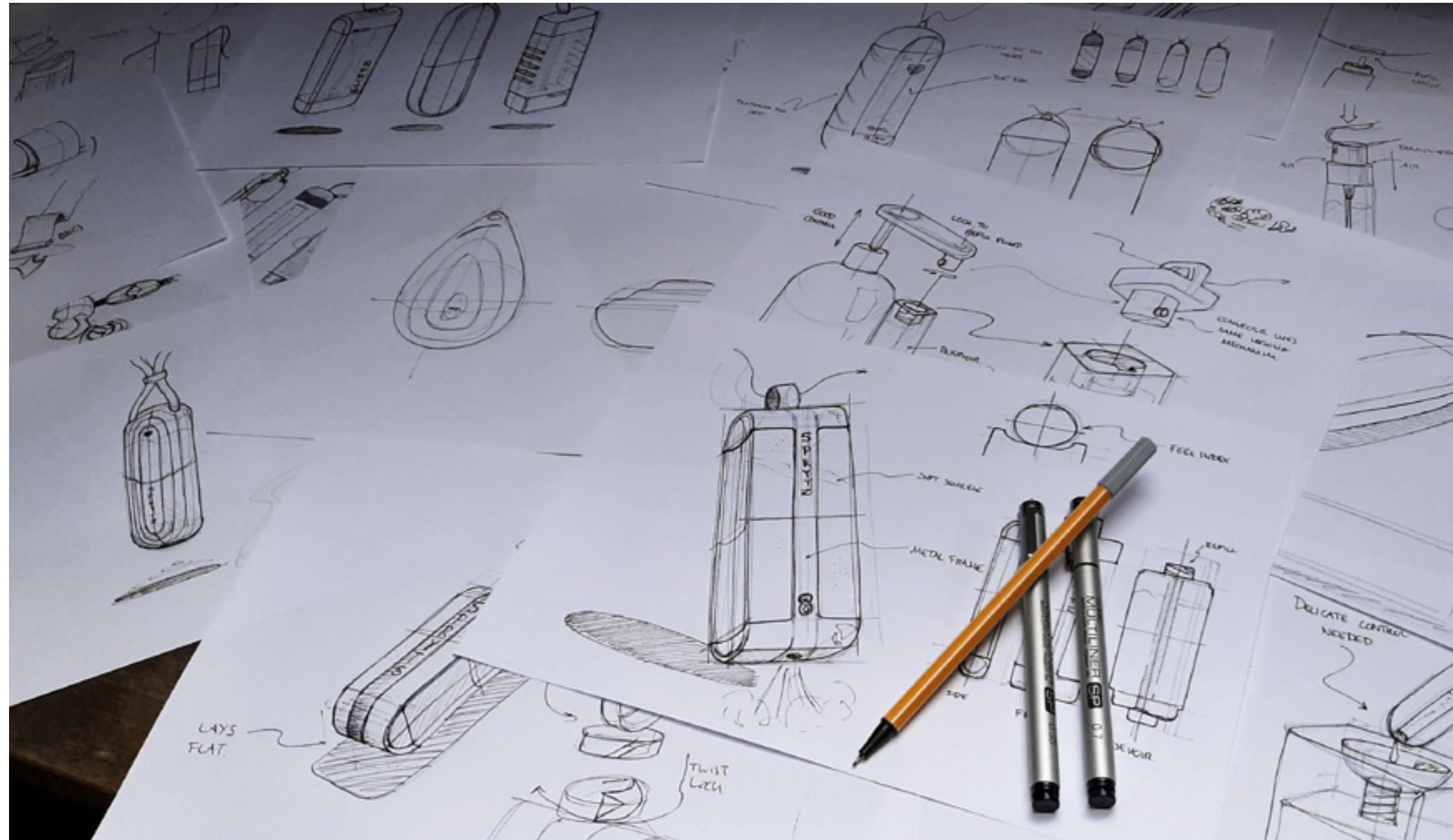
*image produced by Recook

Low-pressure wok

WOQ

The low-pressure wok has been brought to market and has been internationally recognized winning both a Design Intelligence award and a IF Design award in 2023.

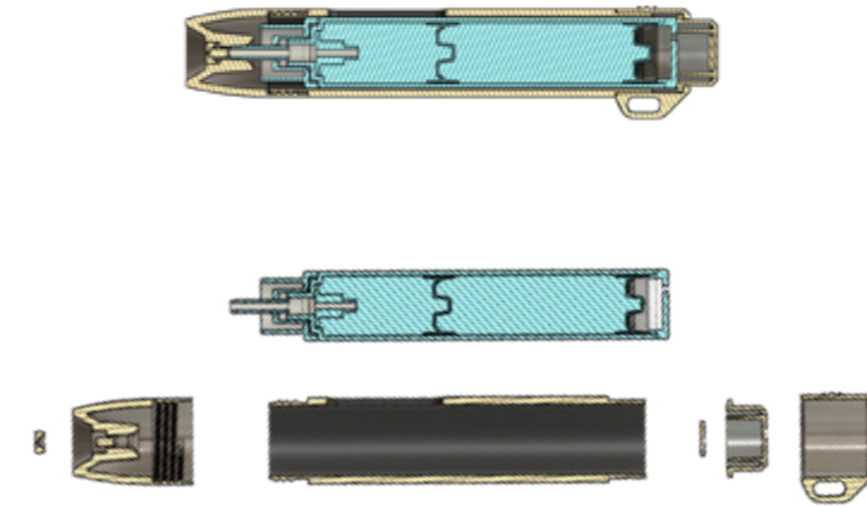




Product design

Project lead for complete design process

First I established the project drivers with the client, breaking down the requirements to adjust the focus of the project. Here we establish new requirements and started the ideation phase.

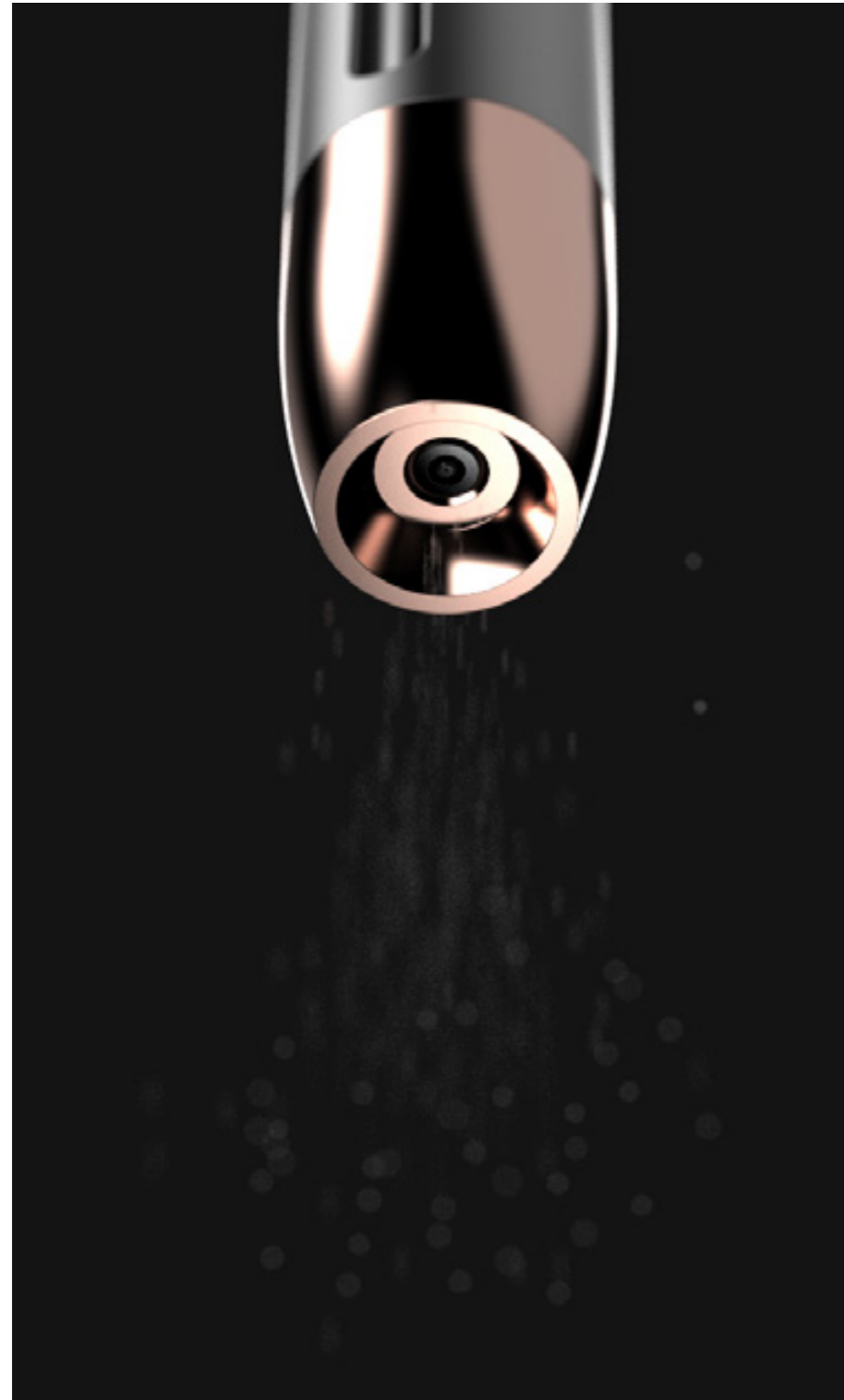


Project drivers

Technical solution and user interaction

With the project drivers, I did research and ideation to find the most suitable technical solution. Focussing on user interaction and product comfort for the best combination of functionality and user comfort.





Product design

Project lead for complete design process

During the concept phase, I developed multiple iterations of the design and presented these on various levels to the client. Focussing on the clients' visions and developing the design of the product accordingly.





Design for production

Minimising cost

The final product was designed with production in mind. The configuration was established based on materials, production methods and most important user interaction.



Packaging and graphic design

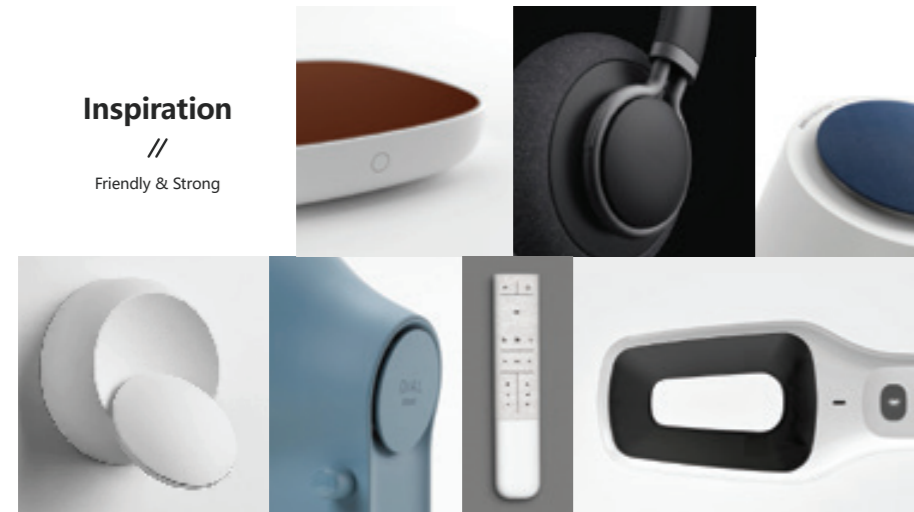
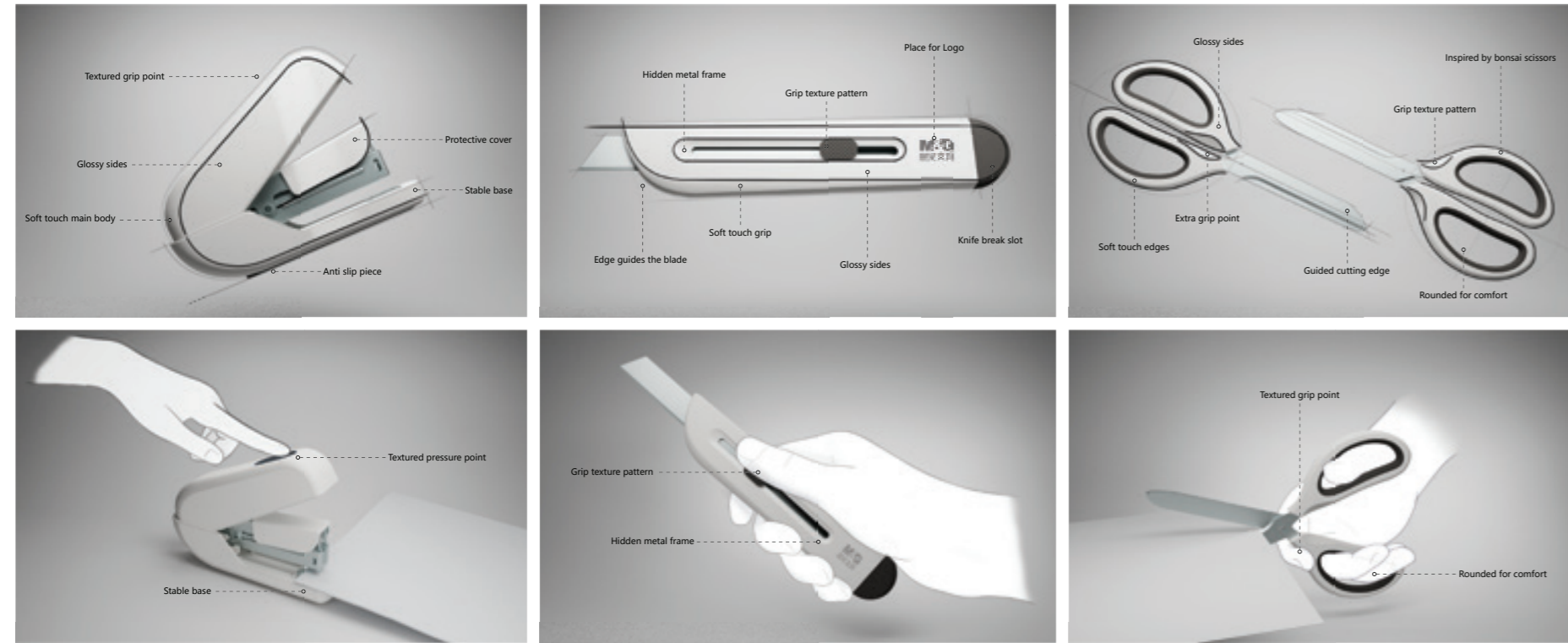
Designing the packaging logo and instructions

With the client, I established the brand for the product, including the logo, packaging, promotional material and all graphic material.

The final design is a wearable hand sanitizer with interchangeable reservoir. Designed to be fashionable to promote the user to wear the product as much as possible, hereby stimulating hand-sanitizing as much as possible.

Product is currently in production.





Product design

Design based on aesthetic sensibility

I designed a stationery product set featuring a stapler, utility knife and scissor for a large Chinese stationery company. Exploring and identifying unique opportunities for added user interaction and functionality. Designing a set in a matching style based on a predetermined mood board.

I created presentations with visualisations to aid the client in making informed decisions. These were presented by one of the designers in Shanghai-based on my input.

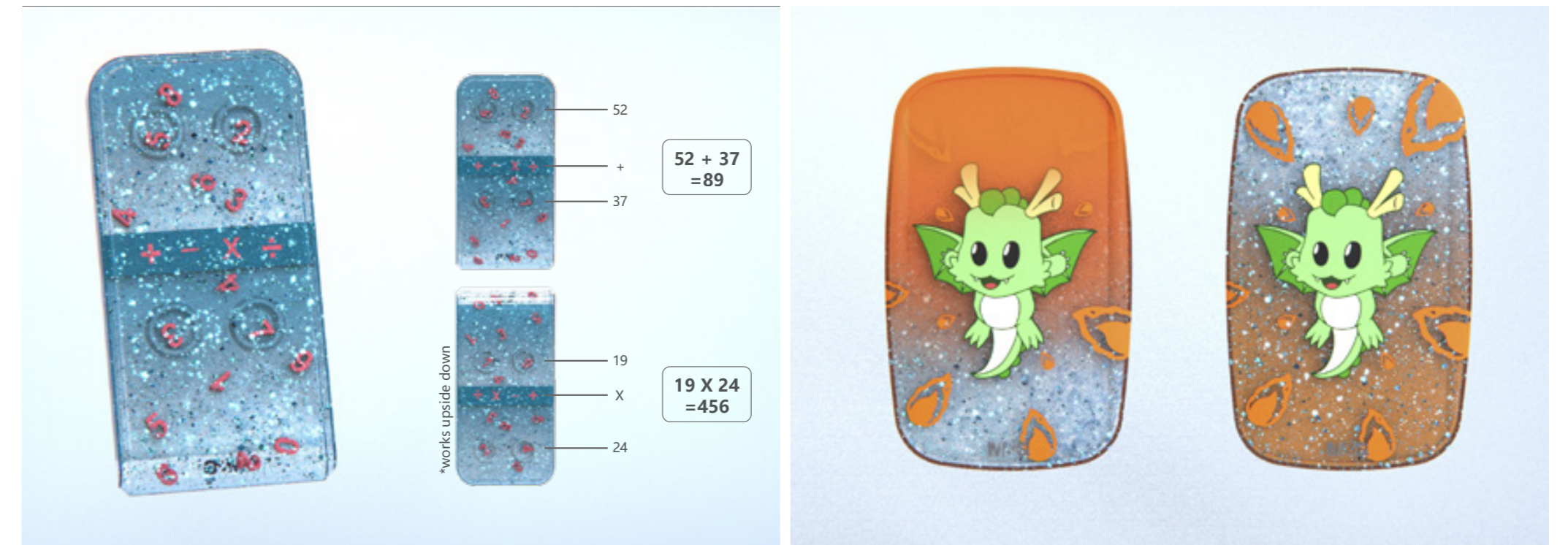
The set is currently in production.





Hygrometer
New product opportunities

Using user journey mapping and research I designed concepts for new product opportunities based on set requirements by the client. Driven by user journey mapping and research to identify unique interaction possibilities that fit the parameters. The client is currently developing the hygrometer for production.



Calculator with glitter
New product opportunities

Adding value and function to new product concepts based on set client requirements, exploring different implementations. Focussed on the unique selling points to create a standout product in a saturated market. The client has chosen multiple aspects of the concepts and is currently developing the calculator for production.

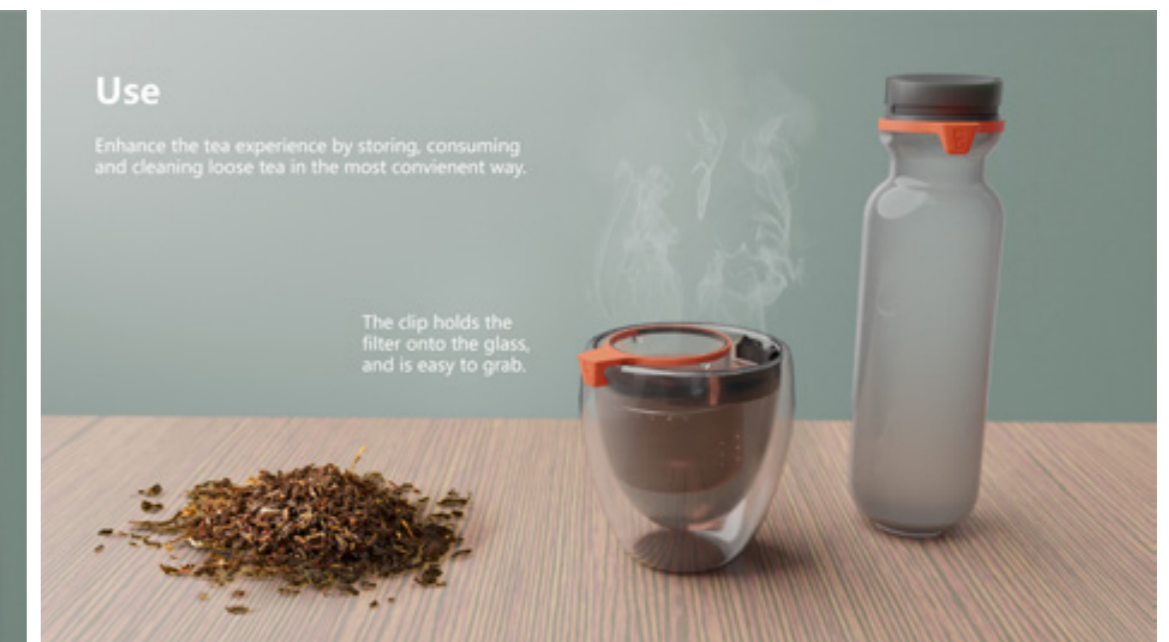
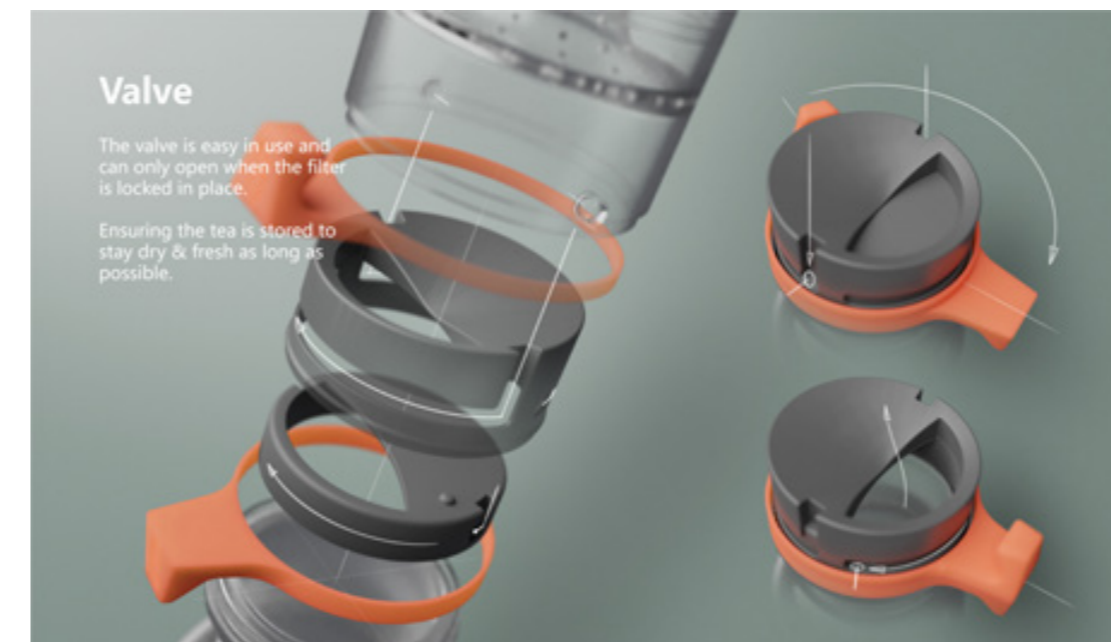


Product design

Redesign for optimisation

An internal project based on the idea of a previous designer. This project was overcomplicated and had multiple problems including, production costs, overall design and most importantly poor user-interaction.

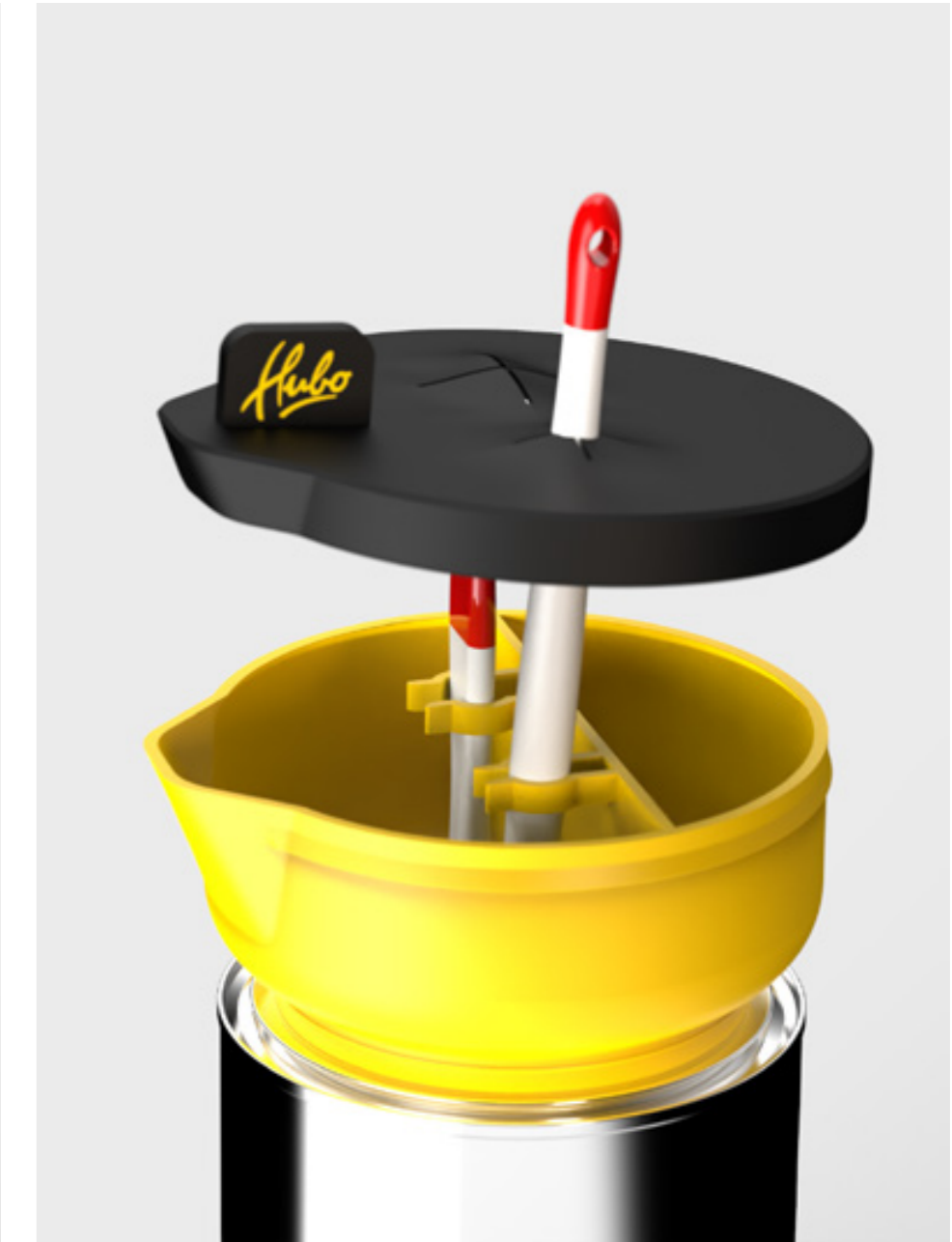
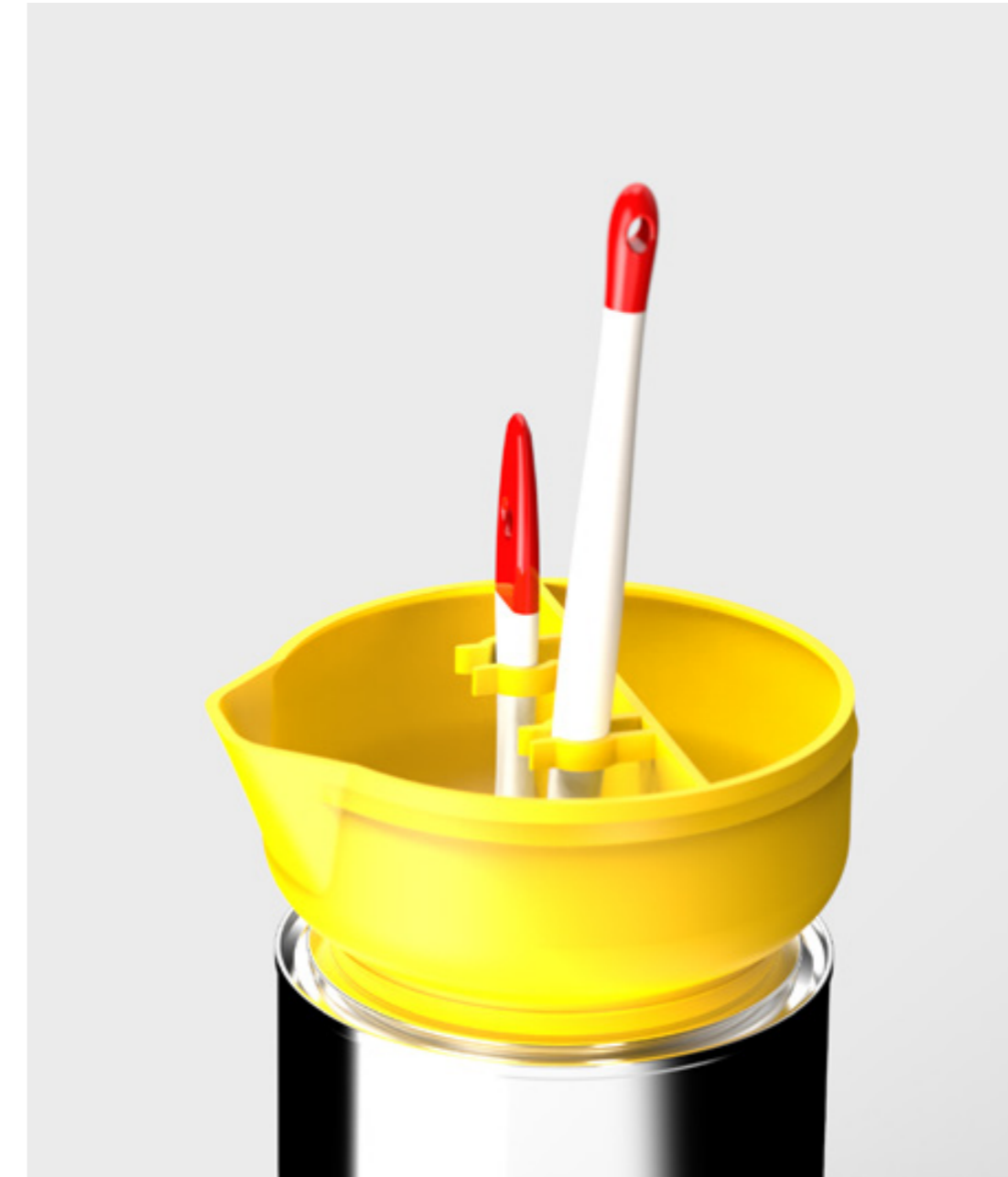
I was tasked to address these issues and create a new improved concept.



Product design

Redesign for optimisation

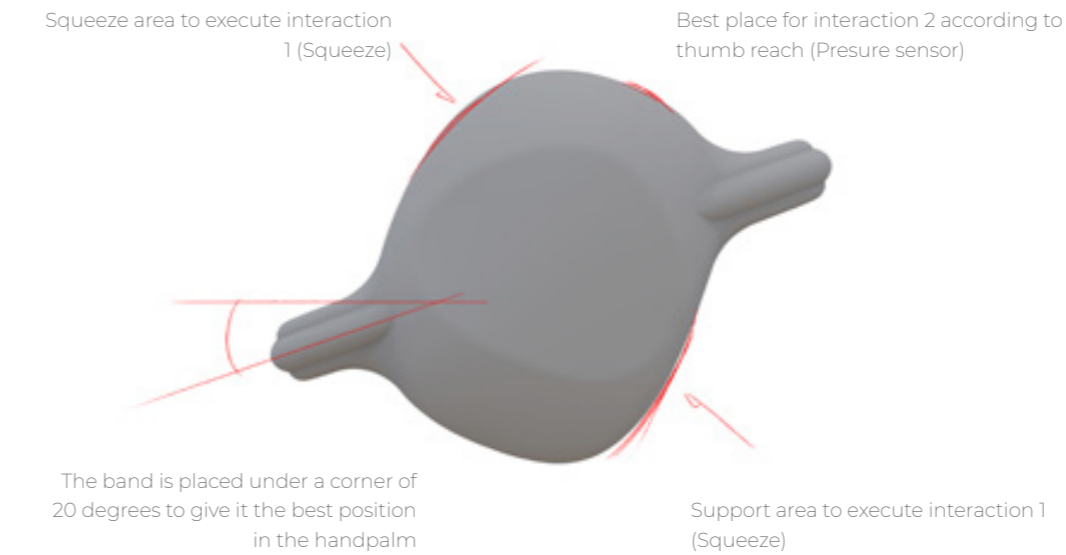
I redesigned the technical solution to minimise parts and production costs, whilst improving user interaction. This project is always evolving and is set to be acquired by an external party, for which it will be adjusted and designed for a better aesthetic fit.



Product design

Quick concept

For project acquisition, I worked on creating multiple quick product concepts for potential clients. With a focus on client interaction and showcasing our capabilities as a studio. These quick projects show our process and how we can enhance a product and create new opportunities.



Product design

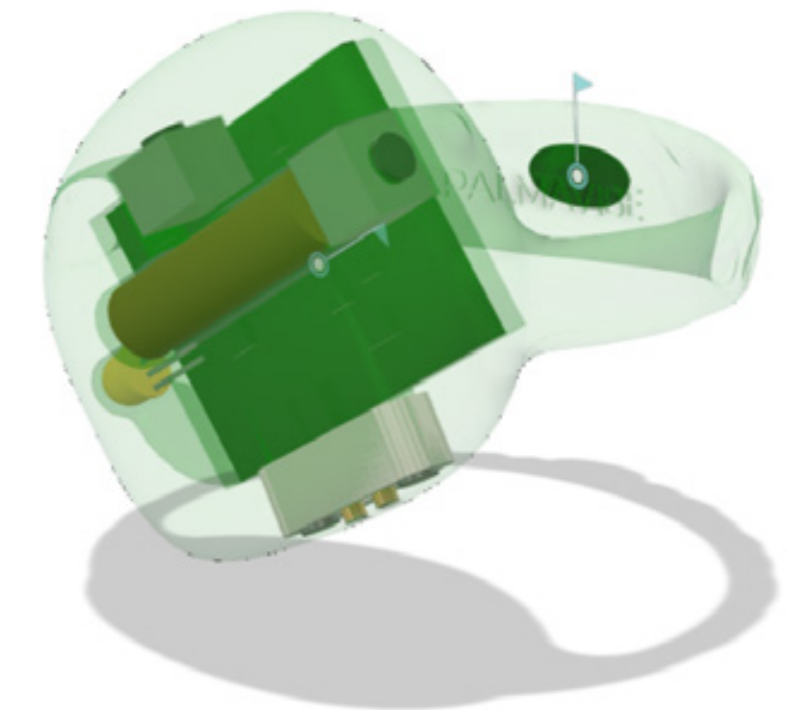
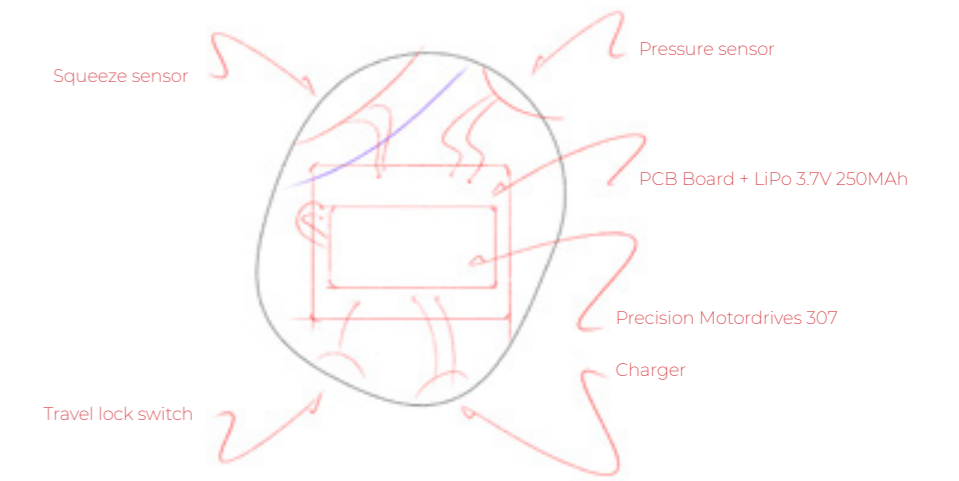
Design for production

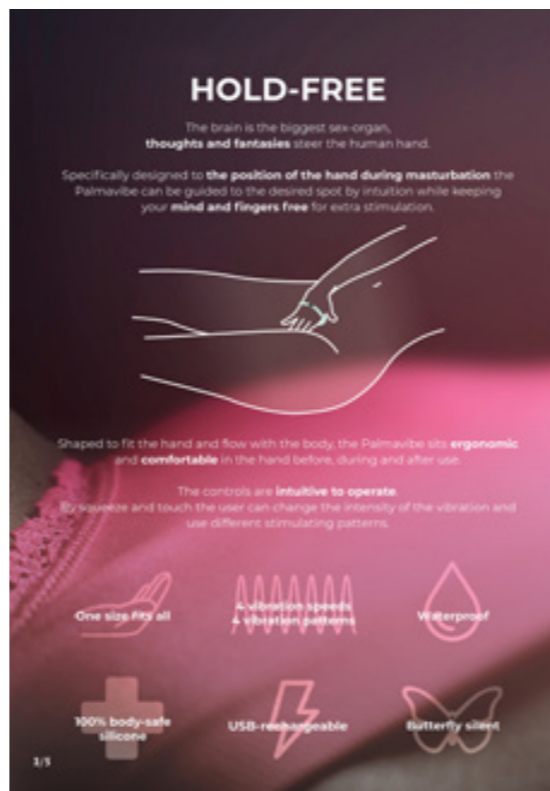
The previous product designer established the overall style and shape of the device but no consideration was made to the production and components.

I sourced all electronic components including the PCB and the programming thereof and redesigned the vibrator to hold these components.

With close involvement of the client, I established the colour, material and finish of the product using rendering and digital visualisations. I also created the Red Dot application document for Design Concept in 2020 and other promotional material.

*Top two images show previous project status.





Packaging and graphic design

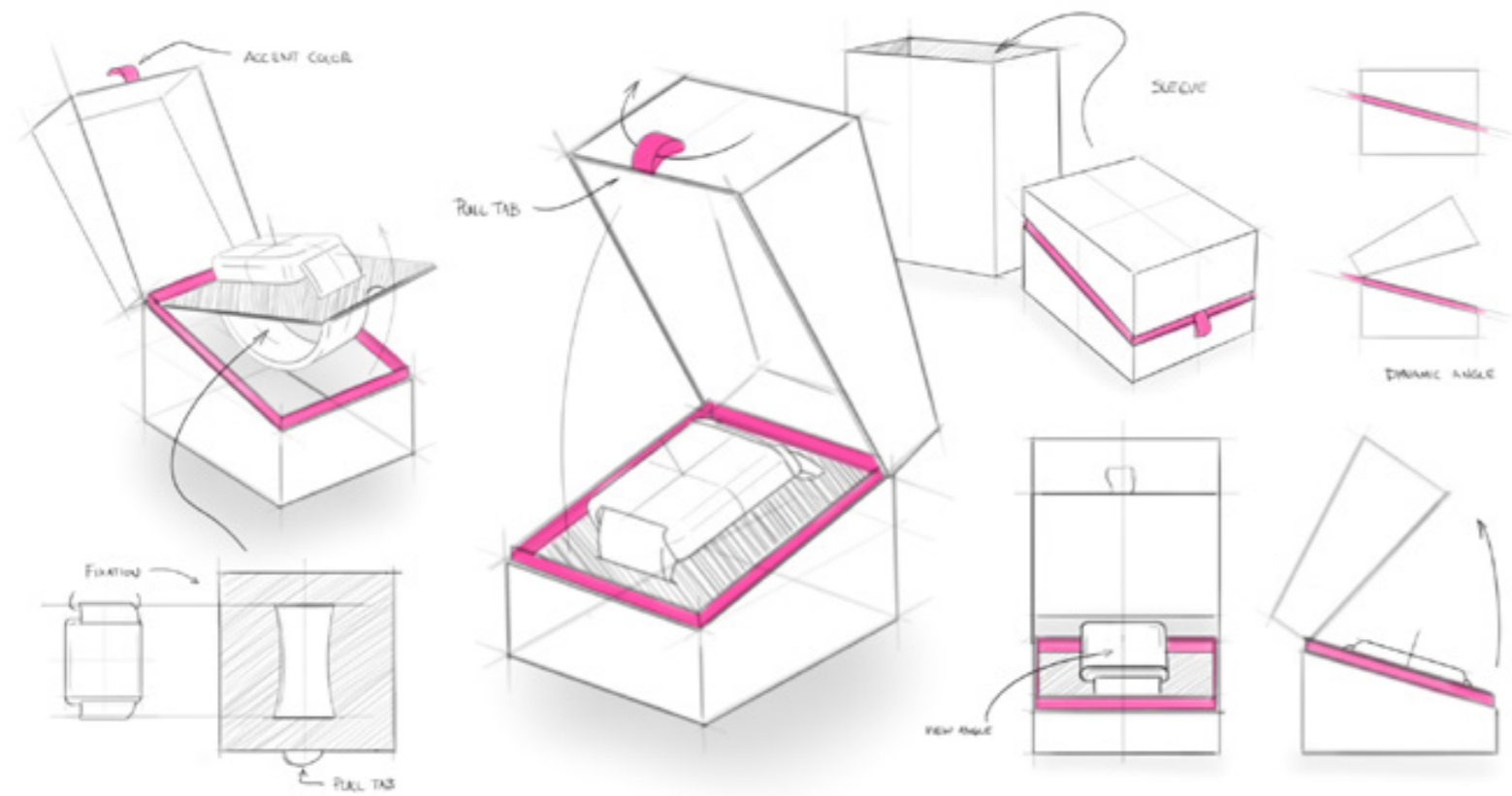
Designing the packaging and all graphic material

The challenge during this project was how to present and explain the product to the outside world, and managing the clients' involvement.

I designed all graphic material and the packaging for the product.

Currently for sale in their online store, and ready for distribution in Europe.

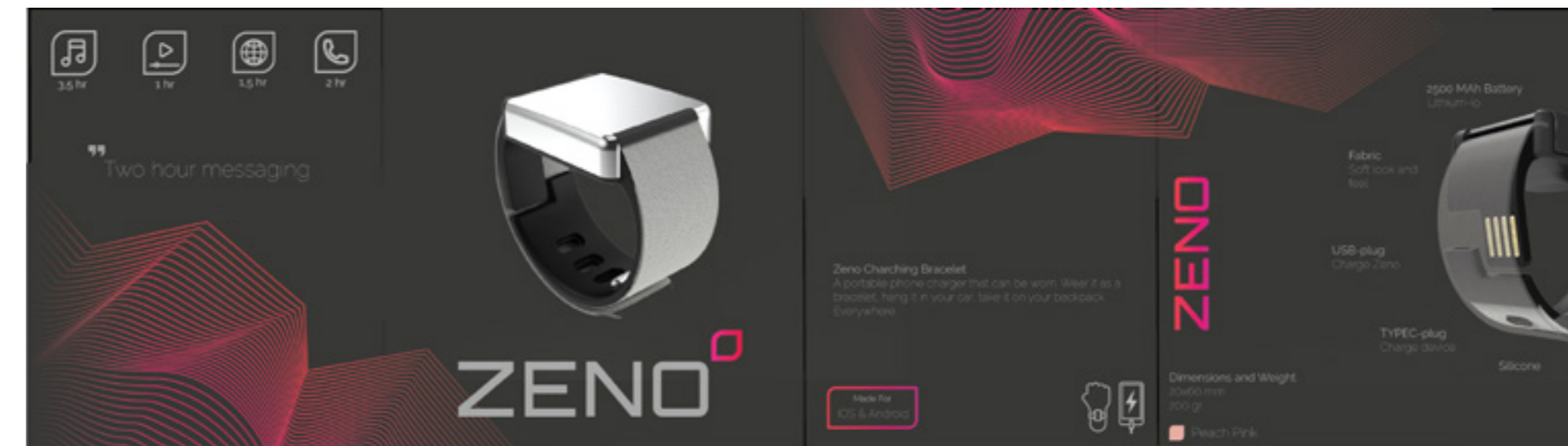


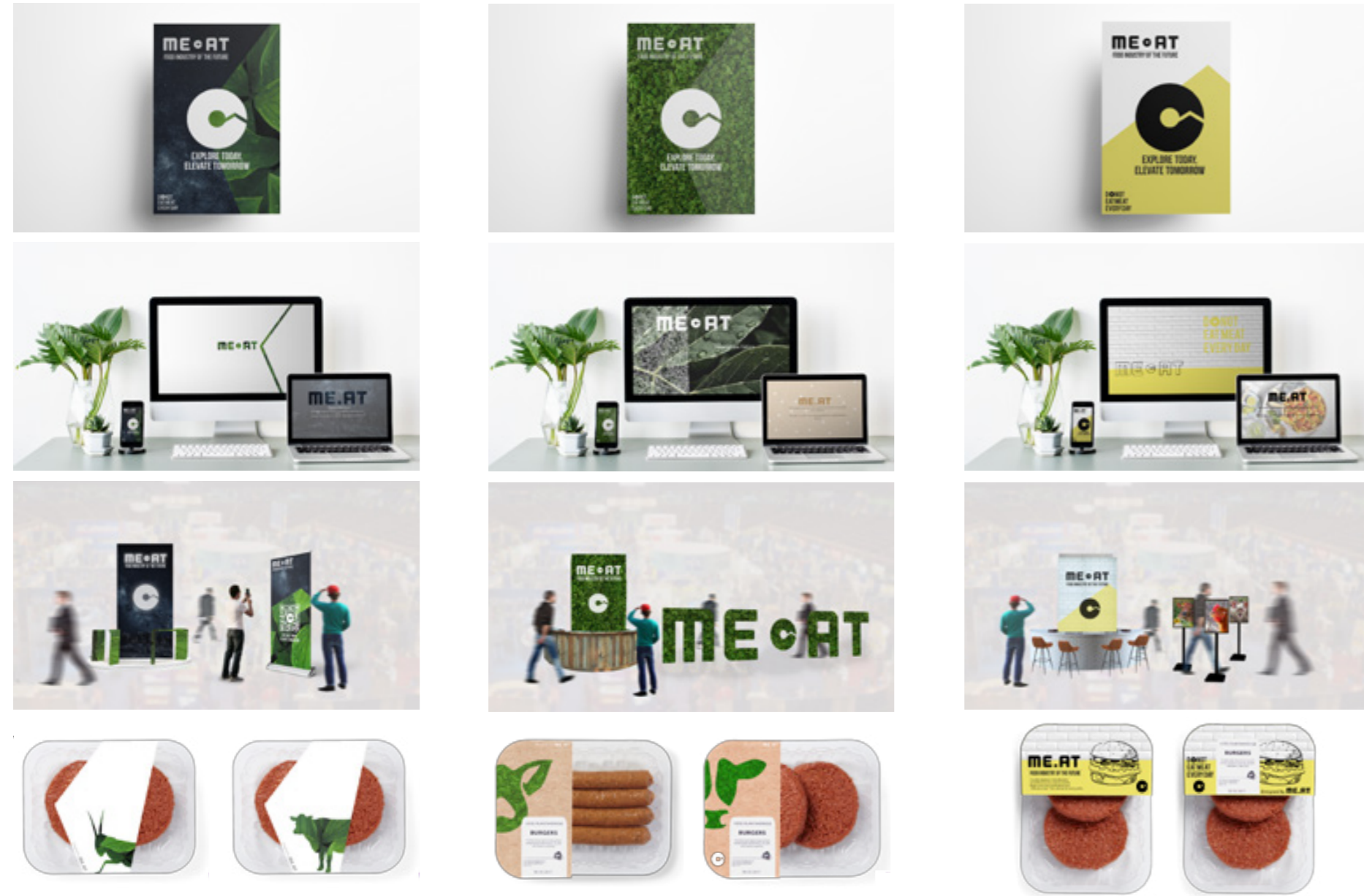


Packaging design

Packaging for a charging bracelet

I worked on multiple packaging projects. One of which I designed the packaging for a charging bracelet, exploring graphics that visualize the style and function of the bracelet.





*Concepts developed by my design team.

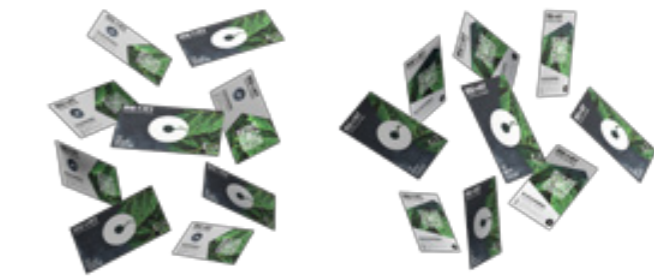


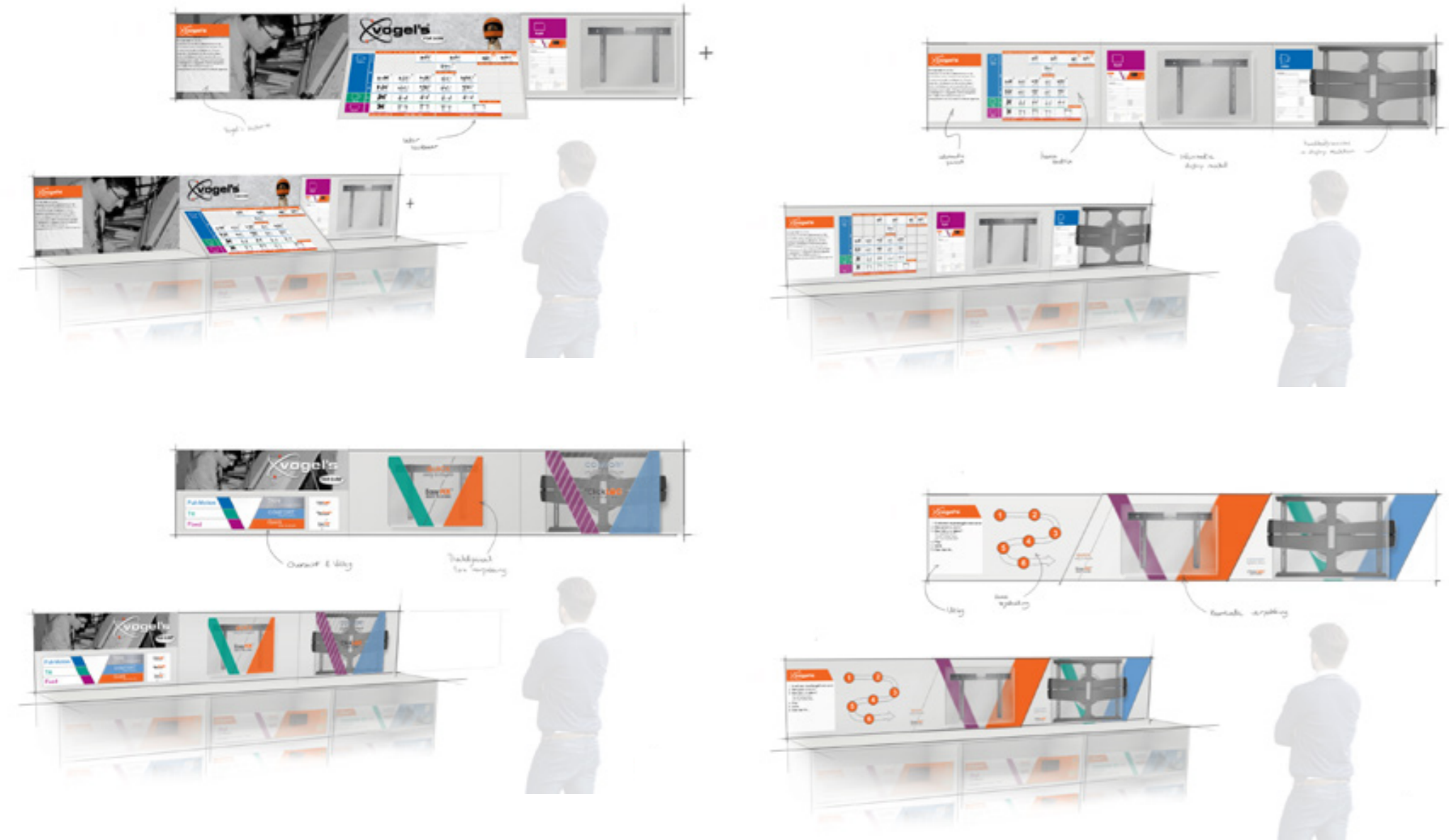
Brand design

Concept brand and trade show booth

During a two week sprint, I led a small team to create and realise a concept brand for a large European meat producer. Based on provided style directions we created 3 concepts, with close cooperation with the client I developed a complete concept brand. Successfully launched during the Anuga trade fair in October 2019.

In co-operation with a retail specialist company, I worked on a variety of design projects. Designing brands, packaging, graphics and retail spaces.





Retail design

In store display and graphics

Designing the graphics and creating a visual impression for the in-store display of the leading Dutch tv-mount producers. Creative workshops with the company were used to find direction and style. Set for use with all dealers in 2021.

This is one of multiple in-store displays I designed at design2gather in cooperation with a retail experience specialist.



Student project

Bicycle computer

Brand integration

Creating a concept for a bicycle computer with a focus on brand integration and mass production.



Design and shape

Exploration and ideation

The third-party components are integrated perfectly into the bikes, except for the computer. Gazelle wants a universal design for the bicycle computer to fit better with the design of their bicycles.

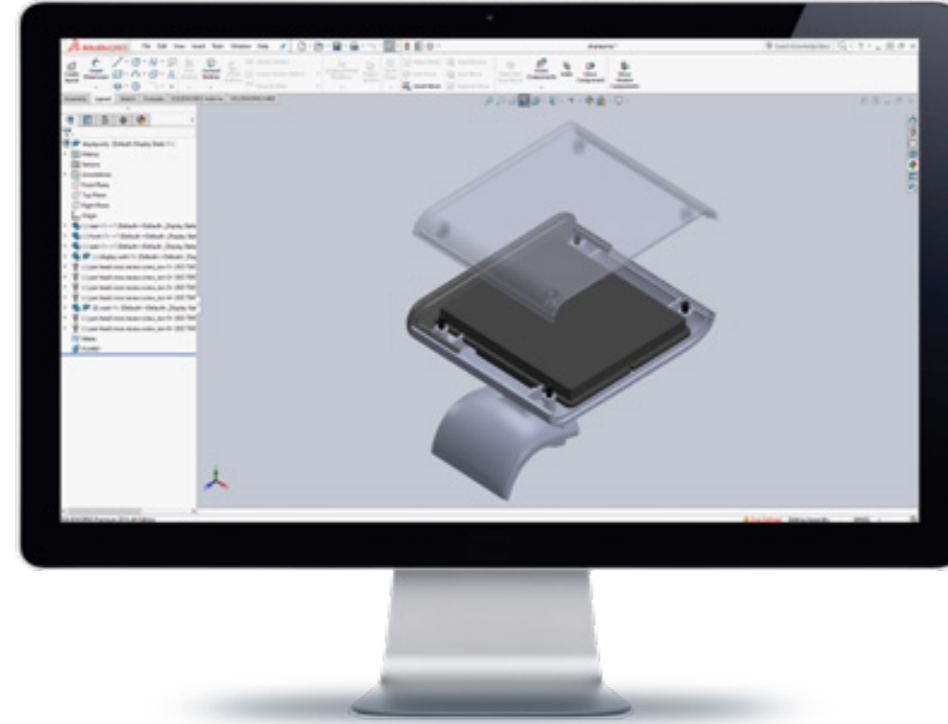
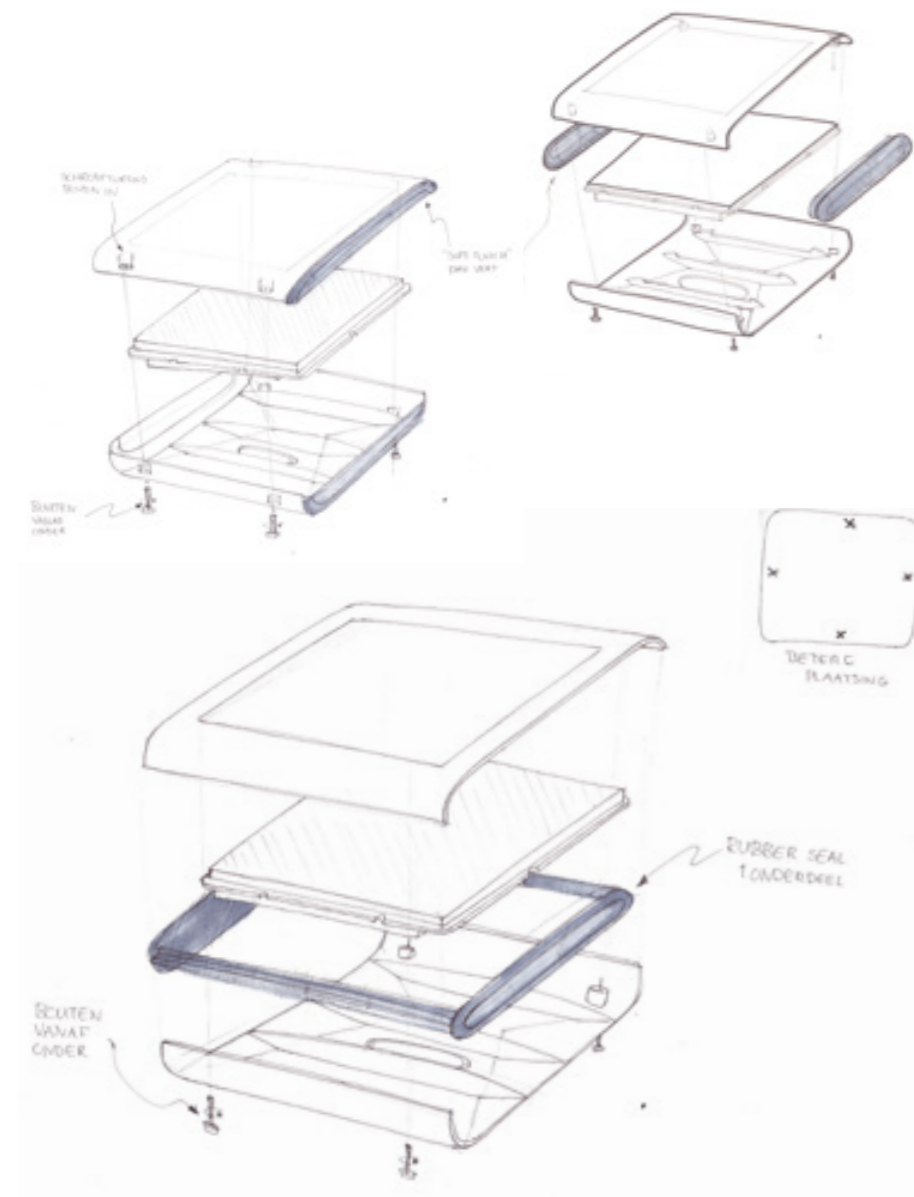
Exploring shapes and user interaction, using high-density foam to explore the shape and size in three dimensions.



Colour, material and finish

Digital concept visualisation

The design is created to fit seamlessly with both the elegant city bicycles and the rugged off-riders Gazelle has to offer and will offer in the future.



Design for manufacture

Configuration and production optimisation

Quick sketches exploring different configurations. The final design uses the silicone sides to create a waterproof seal. A 3D scan is made of a foam model and converted into a surface model using Solidworks.

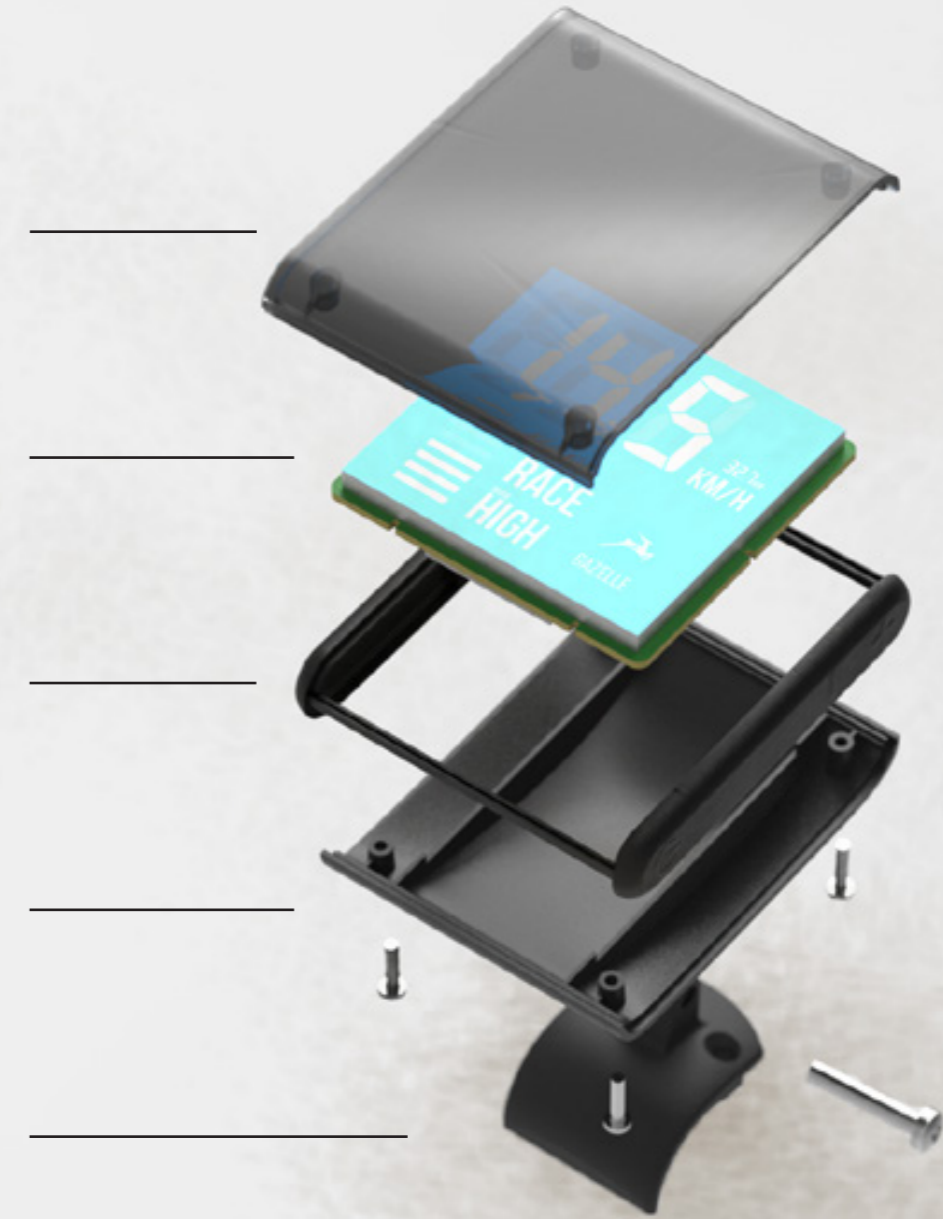
Screen
Smoke grey and impact resistant

Display
Held in place tight with custom graphics

Seal
A waterproof seal with integrated buttons

Back
Connects all the components together

Foot
Connects the computer to the frame with a hinge





Design for manufacture

Parts and assembly

The display can be assembled and installed using a single screwdriver, the connection between the frame and the display allows for optimal positioning for the user.





Student project

Modular bottle

Preventing ocean plastic

Tulper, a new Dutch brand that helps prevent all the plastics in the ocean by promoting using instead of single-using, is looking for a new original product to help prevent ocean plastic.

*stock image

The Problem

Disposable bottle

A plastic bottle which is used only once and then thrown away.



Normal bottle

When using a normal bottle you can only take one beverage and will still end up buying other beverages in disposable containers.



The Solution

Modular bottle

With the modular bottle, you can bring several different beverages, eliminating the need to buy disposable packaging.



Ocean plastic

What can Tulper do to reduce plastic

Every year, millions of tons of plastic enter the oceans, of which the majority spills out from rivers.

I identified three opportunities were Tulper can introduce a product to help reduce ocean plastic. Promote: inform and raise money, Recycle: Product made using recycled ocean plastic, and Prevent: replacing disposable products with sustainable substitutes.

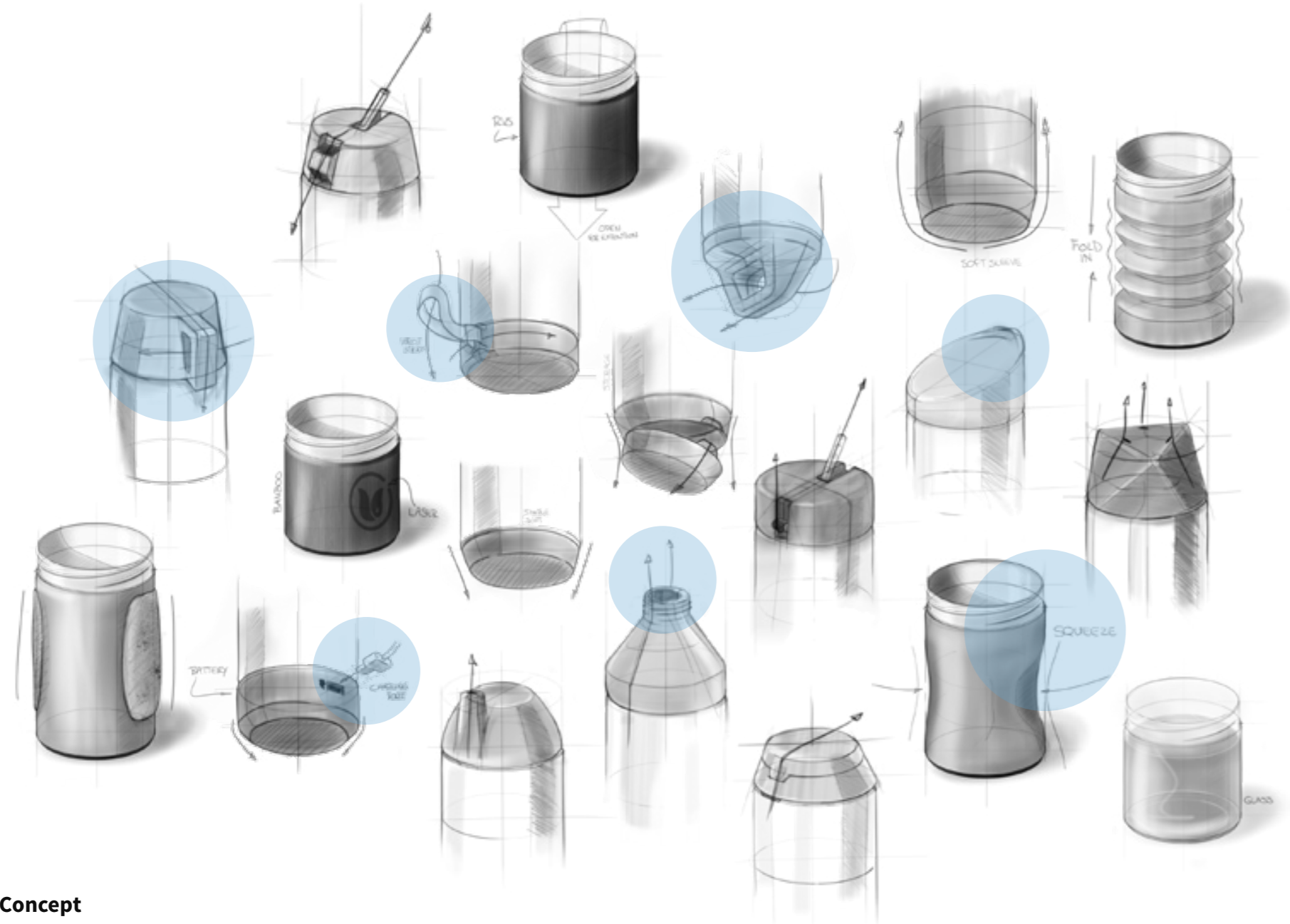


Ideation

Exploring opportunities

Based on the three opportunities I held a brainstorm session to find as many ideas as possible. After ideation and brainstorming, ideas were presented and discussed, after which one concept was chosen to develop further.





Concept

Explanatory visualisation

A modular bottle, by combining smaller compartments with different properties, you can bring everything you need in one bottle, hereby preventing the need to buy any beverages in disposable packaging.



Work

Early morning coffee, midday yoghurt snack and an extra charge for your phone, all in one bottle.

Hiking

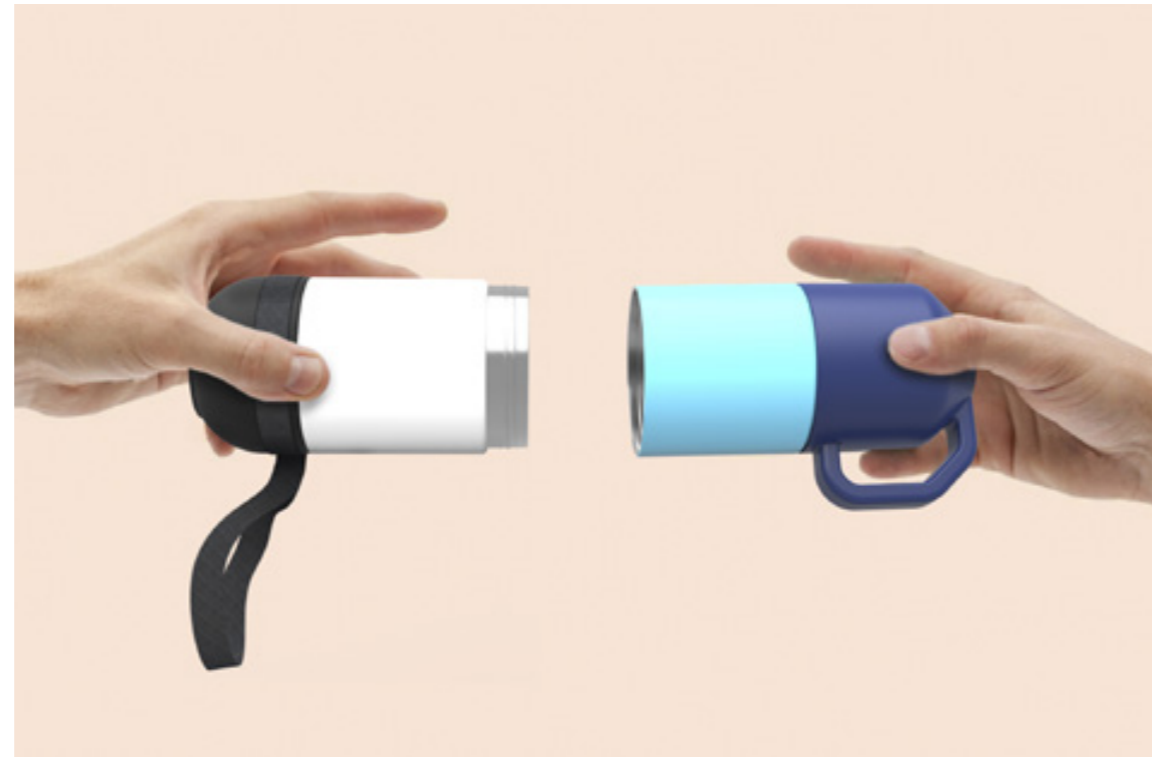
Strap the bottle to your wrist while you bring a warm cup of tea up the trail.

Basic

A simple model to get you started with the idea.

Sport

Hook the bottle to your bag, containing all you need for a full workout.



Versatile

For every day, all day

The modular bottle can be configured for any need, you can bring everything you need in one bottle. Every part has the same thread, hereby creating the possibility of attaching them in any configuration.



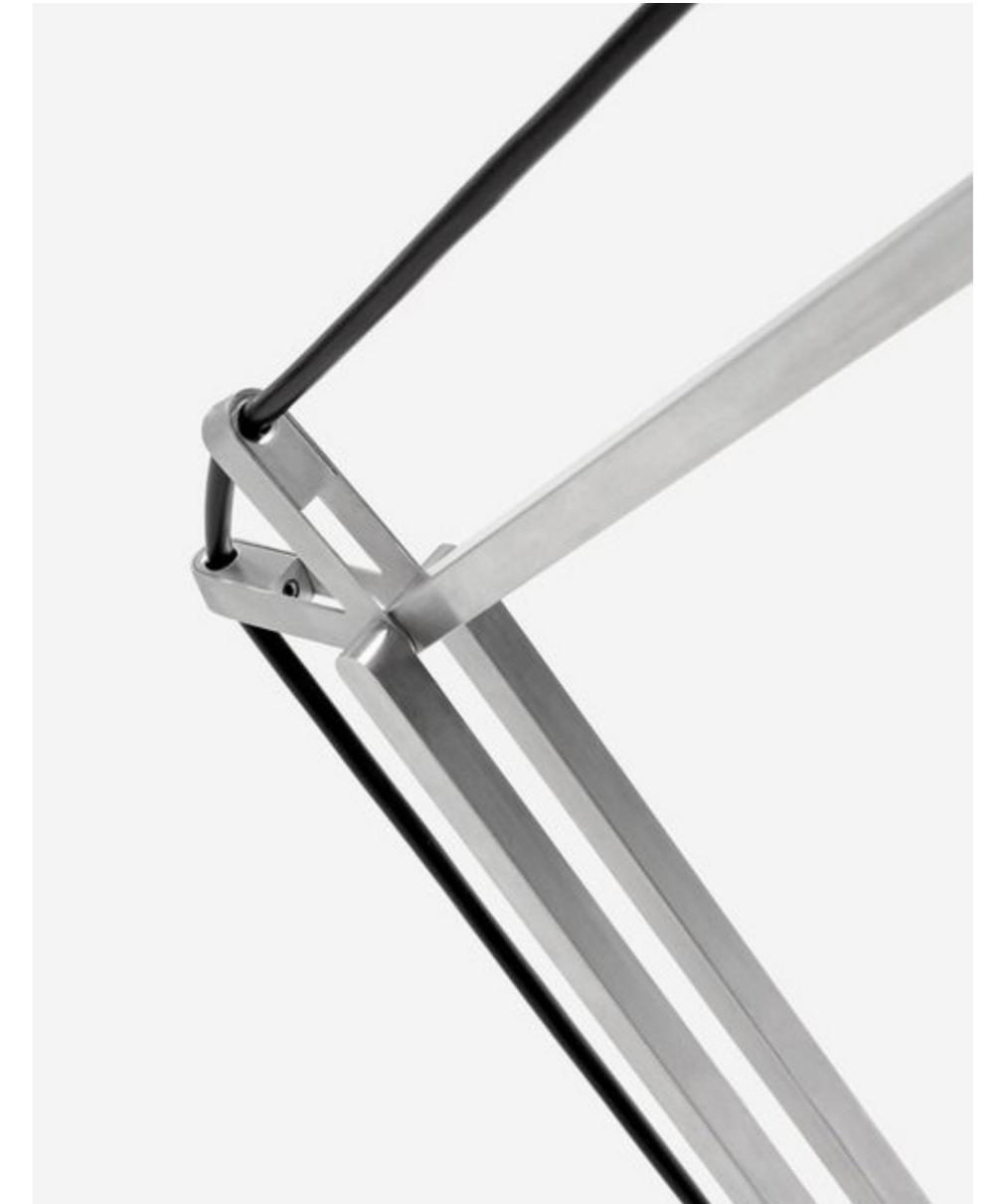


Student project

Desk lamp

Design challenge

A university project to design an adjustable desk lamp without using tension or compression to aid the adjustment.



Parameters

Technical challenge

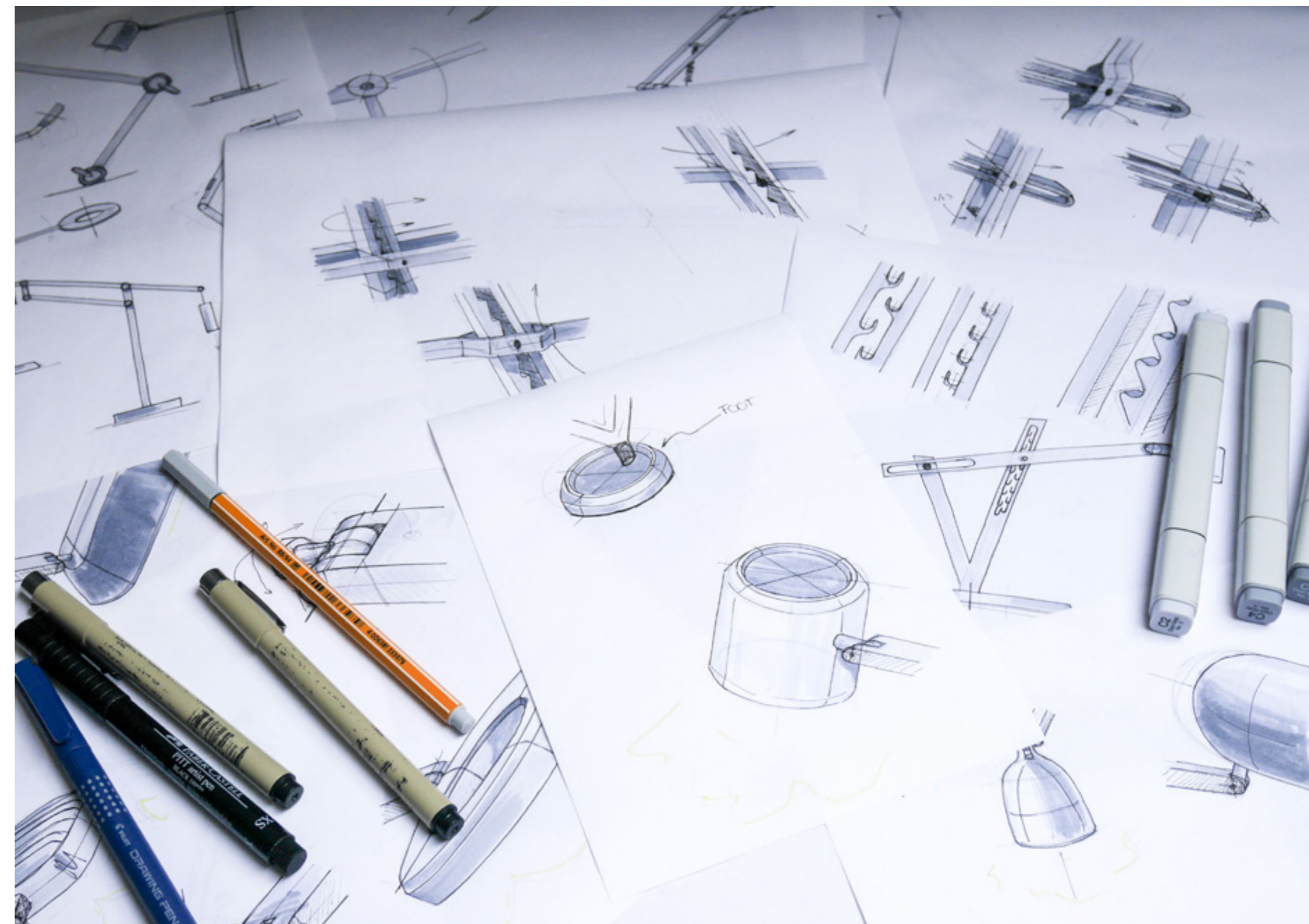
Adjustable desk lamps use tension and compression to stay in any desired position. For this project, I was challenged to create an adjustable desk lamp with an alternative technical solution.

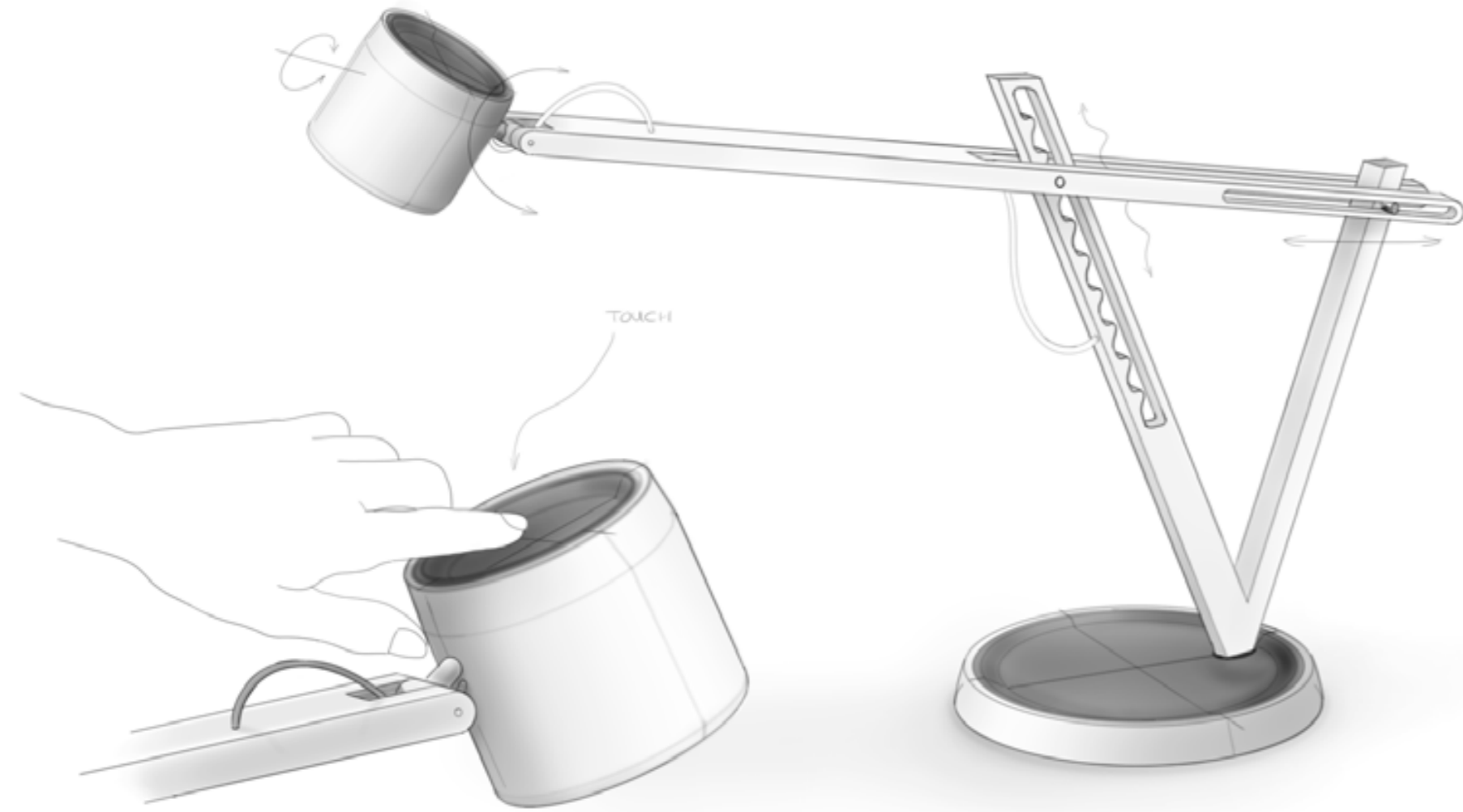


Ideation

Exploring technical opportunities

Exploring different adjustment methods and mechanical constructions, taking inspiration from bridges, cranes and other mechanisms.

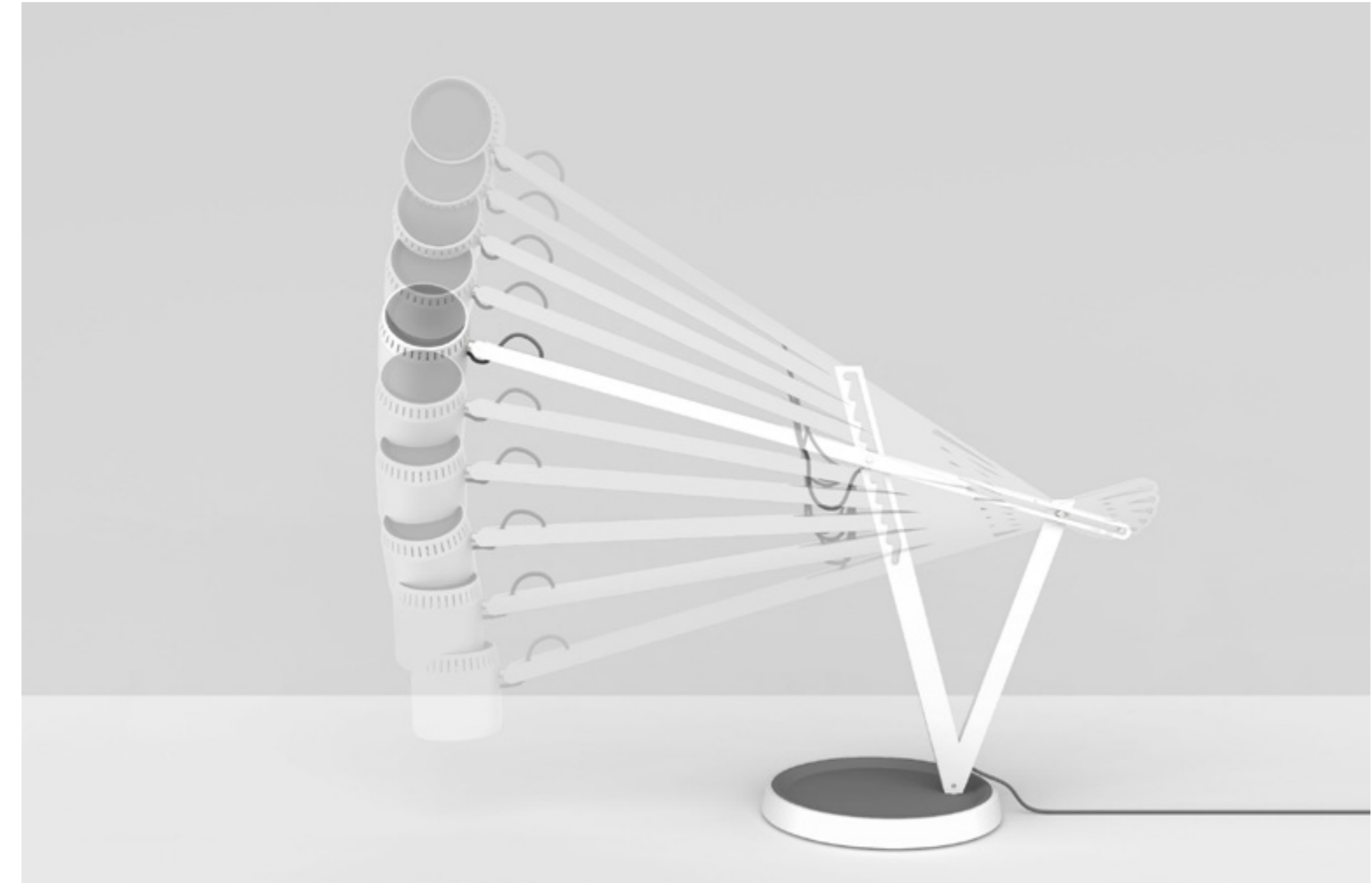




Design solution

Concept sketch

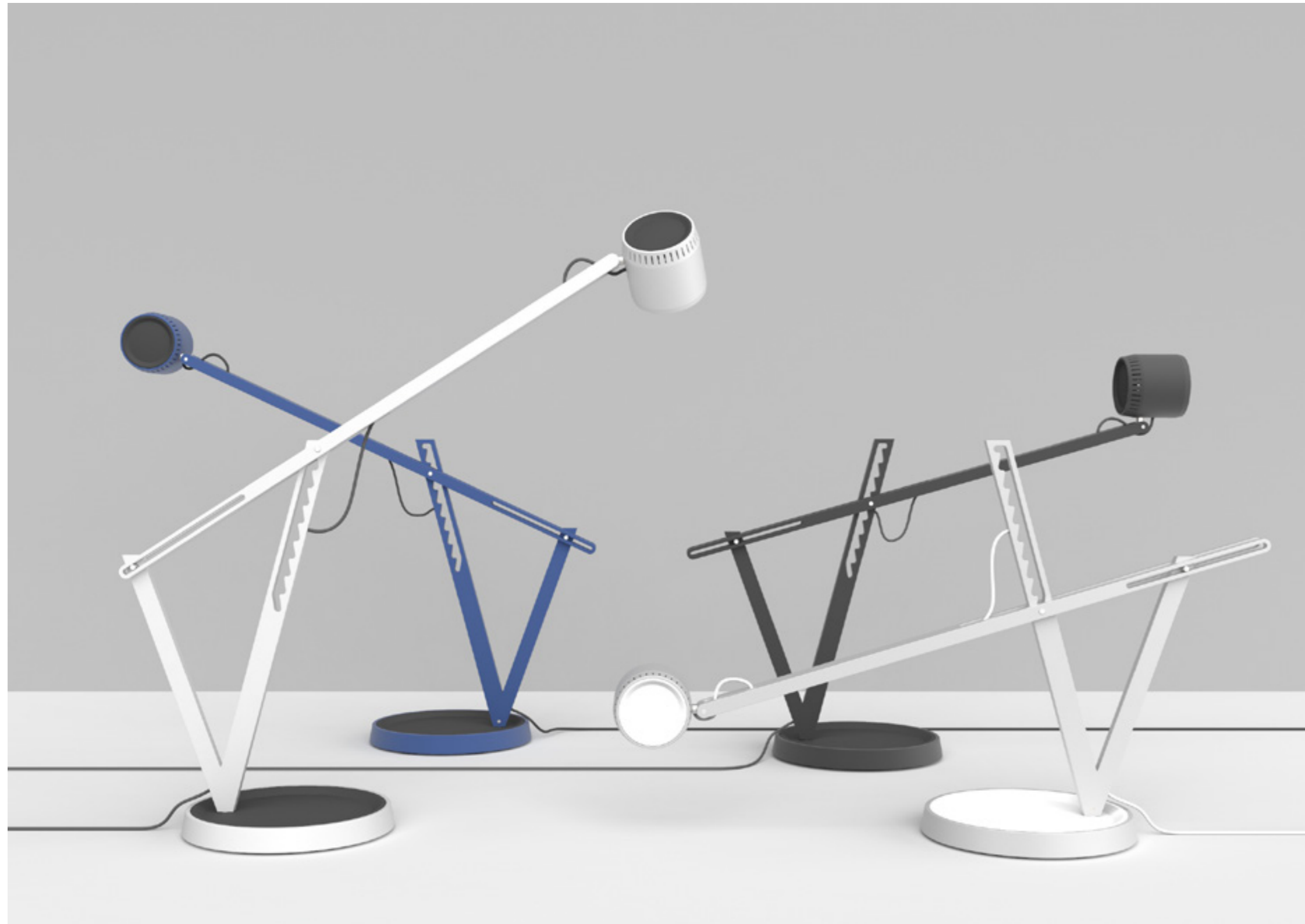
Using steps to rest on for height with a guiding rod to create a stable stance, the lamp has a wide range of motion and is easy to use and adjust.



Proof of concept

Render visualizing range of motion

The lamp has a wide range of motion, staying in each position by using the weight of the lamp itself as a counterweight.



Final concept

Rendering and visualisation

A simple design inspired by high-end electronics and office equipment, the lamp is controlled by a touch sensor in the top hereby avoiding the use of tension/compression even in the electronics.



DeVorm

Internship Industrial designer

Devorm creates interior products by today's standards. This means producing efficiently, using the full life-cycle of products and eventually give them a new life.

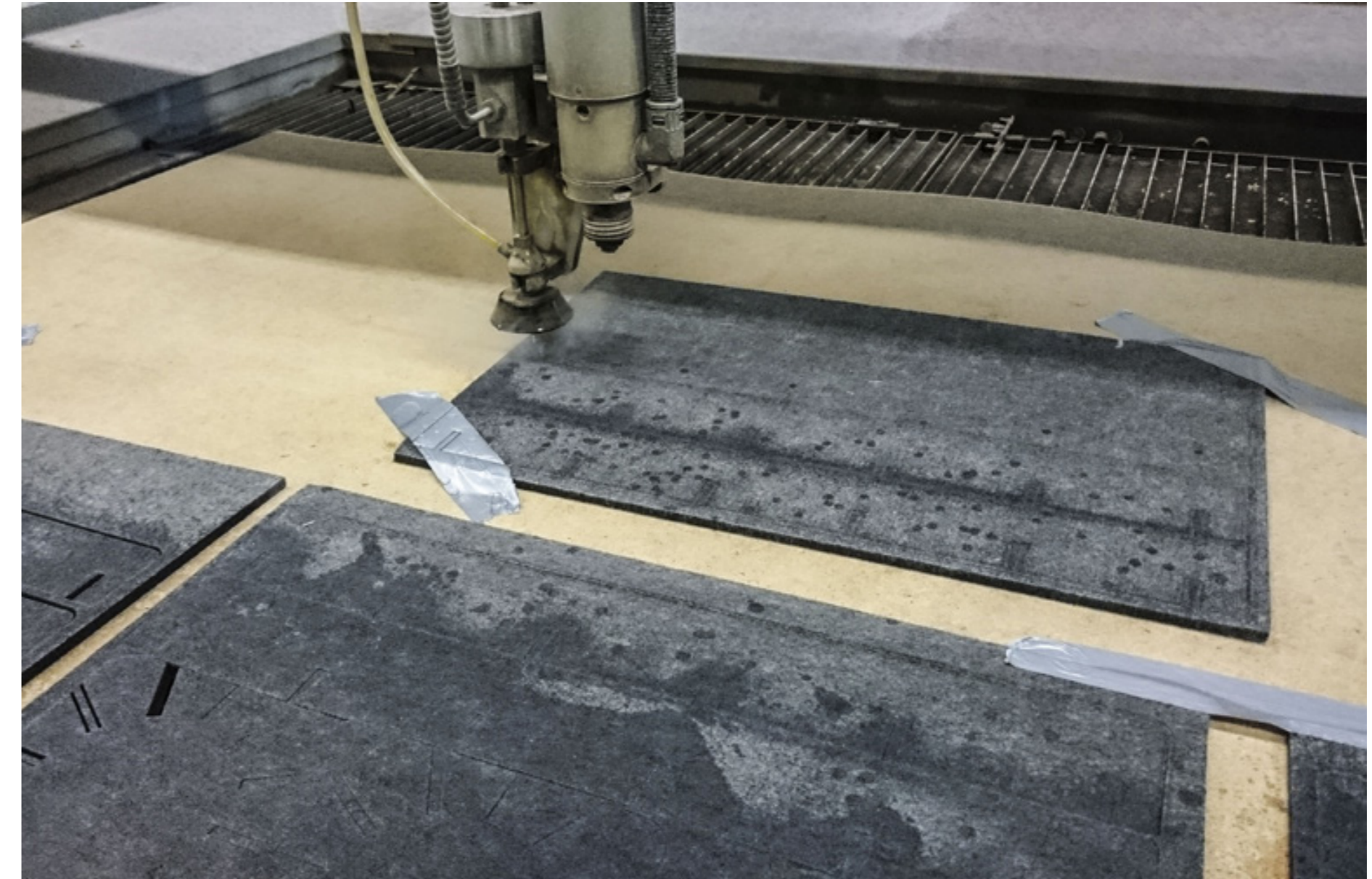
Devorm is always looking at where environmental thinking and economic improvement intersect - resulting in minimal waste in every aspect. The way they utilize PET Technology, emphasizes this vision.

I was an intern at Devorm for 6 months during my second year, it was a great learning experience thanks to the amazing team at Devorm.

DeVorm.nl



*Image produced by DeVorm



PET felt

Research, ideation and concept creation

I researched production methods to create 3D products using alternative techniques, preventing the need for expensive moulds. Based on my research I designed new concepts showing the potential of these techniques, utilizing their versatility to create flexible designs.



*image produced by DeVorm

RE:FELT

Project result and future

Based on my work for the project DeVorm has created a sub-brand called RE:FELT. This brand focuses on the versatility of the concepts, with all products designed to be customisable and optimal for low quantity production.

ReFelt.com



Products and design booth

Implementation and execution

For the 2014 Orgatec design fair I worked on the stand for DeVorm, creating the design for the felt panelled ex- and interior. The design of the stand shows the versatility of the material application possibilities.

One of the concepts has been featured in the DeVorm product catalogue ever since. The design of the lamp is based on the acoustic property of the felt, using the shape to optimize the absorption of sound.



Internship / Thesis Industrial designer

Creating the play experiences of tomorrow, working in a team of designers, developers, engineers and artists. Developing new LEGO concepts that thrill, excite and surprise.

In overview, tasks included are:

- Developing new concepts.
- Developing physical prototypes, 3D models and prints.
- Testing ideas/concepts on customers - boys aged 5-11.
- Presenting ideas/concepts to experienced colleagues in the design team.

The internship consisted of multiple complex briefs, lasting between 1 to 6 weeks. During each brief, results and findings were presented to the various design teams. Using the feedback and consumer tests to adapt and refine the concepts.



*image provided by LEGO

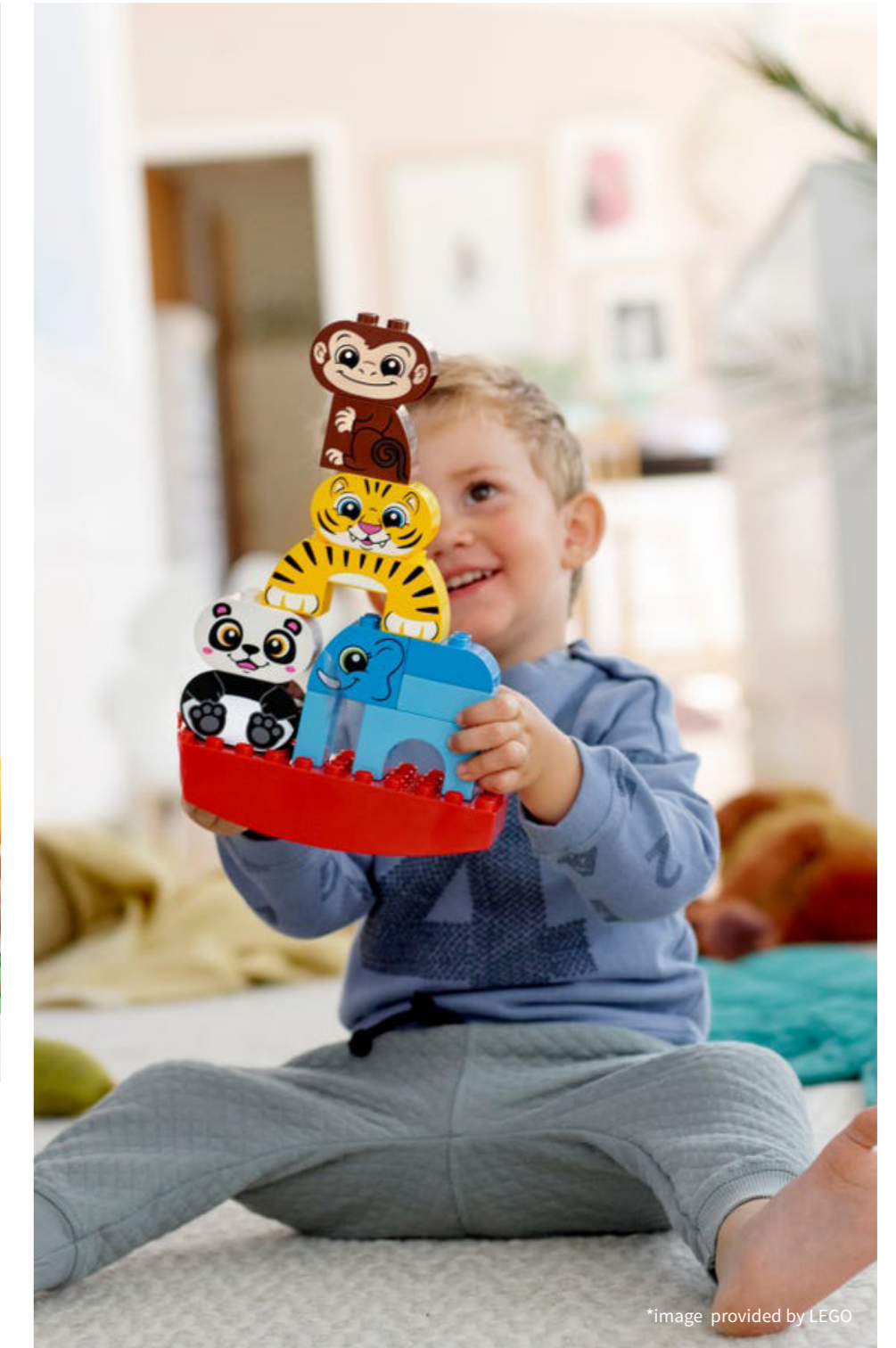


*image provided by LEGO

Project variation

From quick ideation to production optimisations

I was lucky to work for a lot of different internal projects, working on creating new ideas and fully developed concepts. One of the awesome projects I was able to work on was the new partnership with Nintendo! Working on product implementation and play experience, combining the building elements with new technology.



*image provided by LEGO



*images provided by LEGO



*image provided by LEGO

Work environment

Facilities and tools

The facilities at Lego support a wide range of rapid prototyping methods, with multiple workshops, machines and excellent support staff. During the internship, I was fortunate to gain experience in various prototyping techniques such as 3D printing and laser cutting.

I became proficient in Siemens NX9 and had seminars teaching the basics of Rhinoceros 3D.

Concepts

New elements and play experiences

During my internship, I designed multiple new exciting elements currently featured in the LEGO product range as shown on this page and the page above. Products include ↗ A see-saw element designed for Duplo to aid the cognitive development of young children through play. ↖ Minifigure add-ons to enhance the play experience and add to the role-playing aspect.



Lego brand

The Lego design philosophy

Doing less' is one of the key design principles when designing a new product at Lego. The models constructed at Lego need to use as few bricks as possible, keeping the pieces simple and efficient in function.

Most time was spent on iterating and adapting the design to reach the standards set by Lego. De-constructing the function and engineering simplified solutions, designing to be low cost and optimized for manufacture.



Passion project

Guitars

Design and build

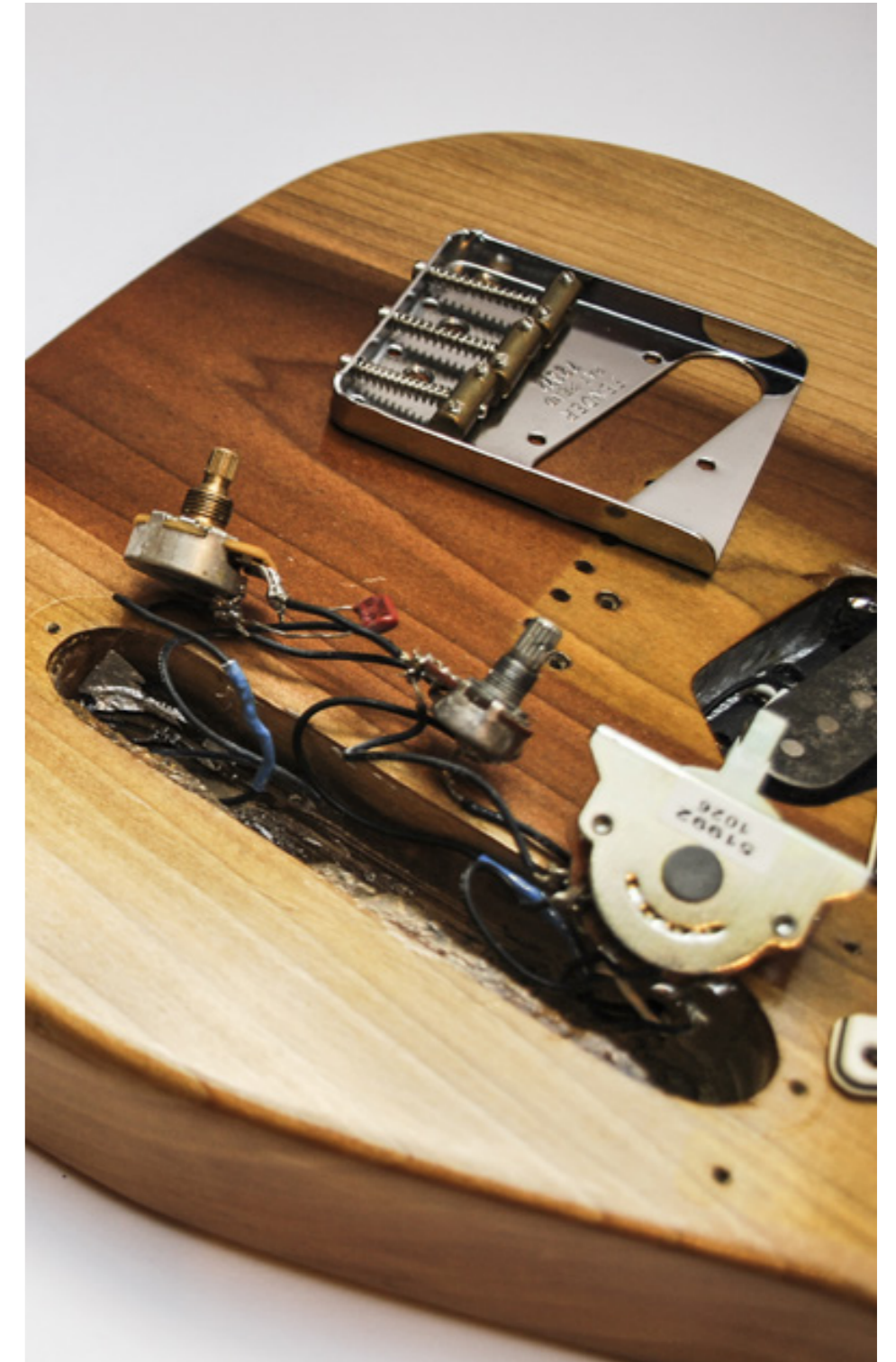
I was inspired by the Fender select series to build personal custom guitars, creating two unique instruments with a focus on the beautiful pattern of the wood.



Design

Research and learning

I shaped the body of both guitars from a solid piece of wood, using basic tools to create the contours of the guitar. All electronics are done from scratch, based on schematics from a 1967 Tele and 1950 Stratocaster wiring diagram.

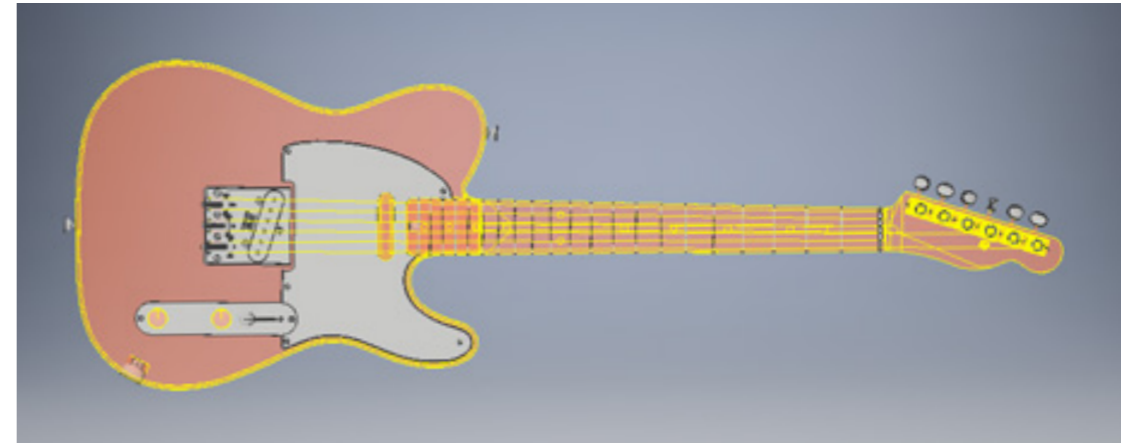
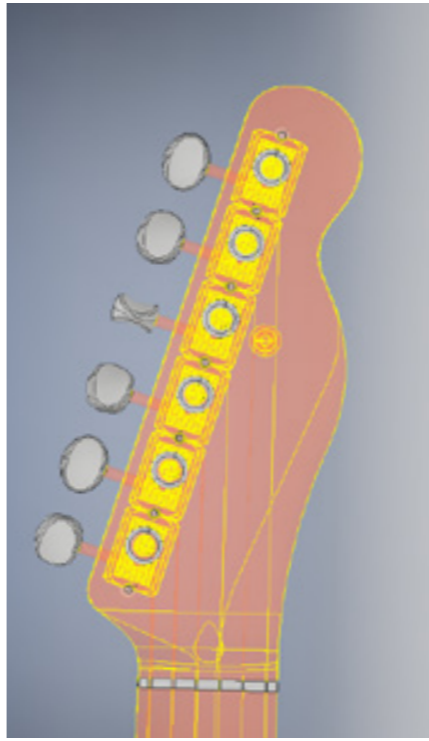




Solidworks model

Keyshot Renders

Autodesk inventor model



3D model
Modelling and rendering

I used this project to practice my 3d modelling and rendering abilities, creating 3d models of the guitars, one in Autodesk Inventor and one in Solidworks. I then rendered the guitars using Keyshot, practising with the different materials of the guitars.



Keyshot renders



Build

Fabrication

Using production and prototyping techniques to alter and create custom parts and components.



1978 GS550



1983 GS650



1983 GS650



1978 V50



Bart Gortworst

Industrial Design

Portfolio 2023