

RONAN WILDE

INDUSTRIAL DESIGN

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ABOUT ME



Highly motivated, hardworking and curious industrial designer who works well in a team environment with excellent communication and time management skills. Rising to any challenge to achieve my best by using my initiative and determination. Seeks to express creativity and develop technology in a professional team environment.

Content

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16. Watch Project

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24. 3D Modelling and Presentation (Clay)

26. Iron Project

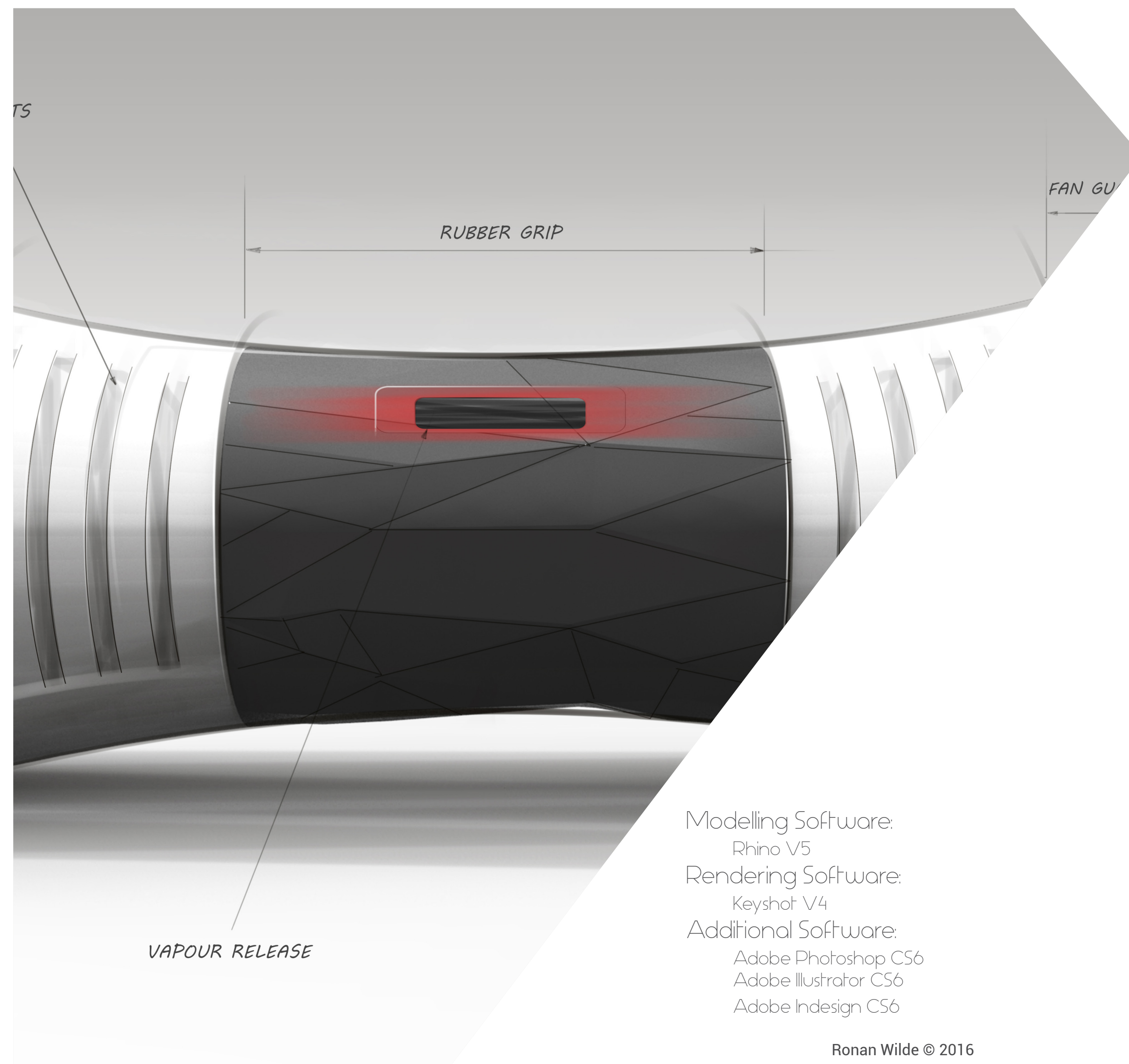


Final Major Project

Design a physical product that helps reduce some of the causes and/or effects of sleep disorders especially in insomnia. This should be done without medication. Help increase productivity of insomnia sufferers and allow for a method for tracking so the data can be displayed in an easy form that will demonstrate to the user whether or not they are improving.

Key Skills

- Research
- User profiling
- Concept visualisation
- Design for manufacture
- Prototyping
- User testing
- Evaluation

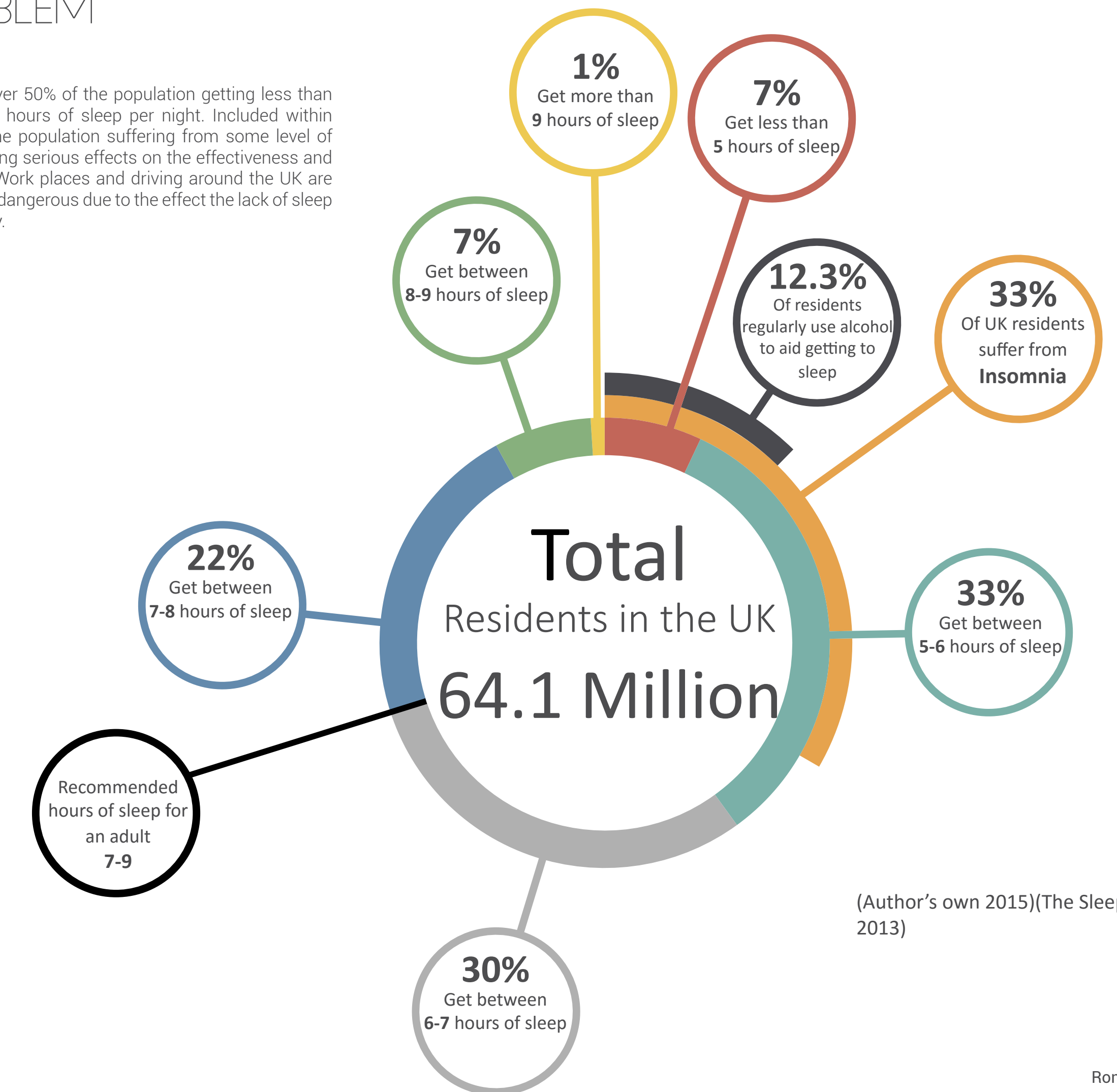


Modelling Software:
Rhino V5
Rendering Software:
Keyshot V4
Additional Software:
Adobe Photoshop CS6
Adobe Illustrator CS6
Adobe Indesign CS6

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THE PROBLEM

The UK is tired, with over 50% of the population getting less than the recommended 7-9 hours of sleep per night. Included within this figure is 33% of the population suffering from some level of insomnia. This is having serious effects on the effectiveness and safety of our country. Work places and driving around the UK are becoming increasingly dangerous due to the effect the lack of sleep has on the human body.

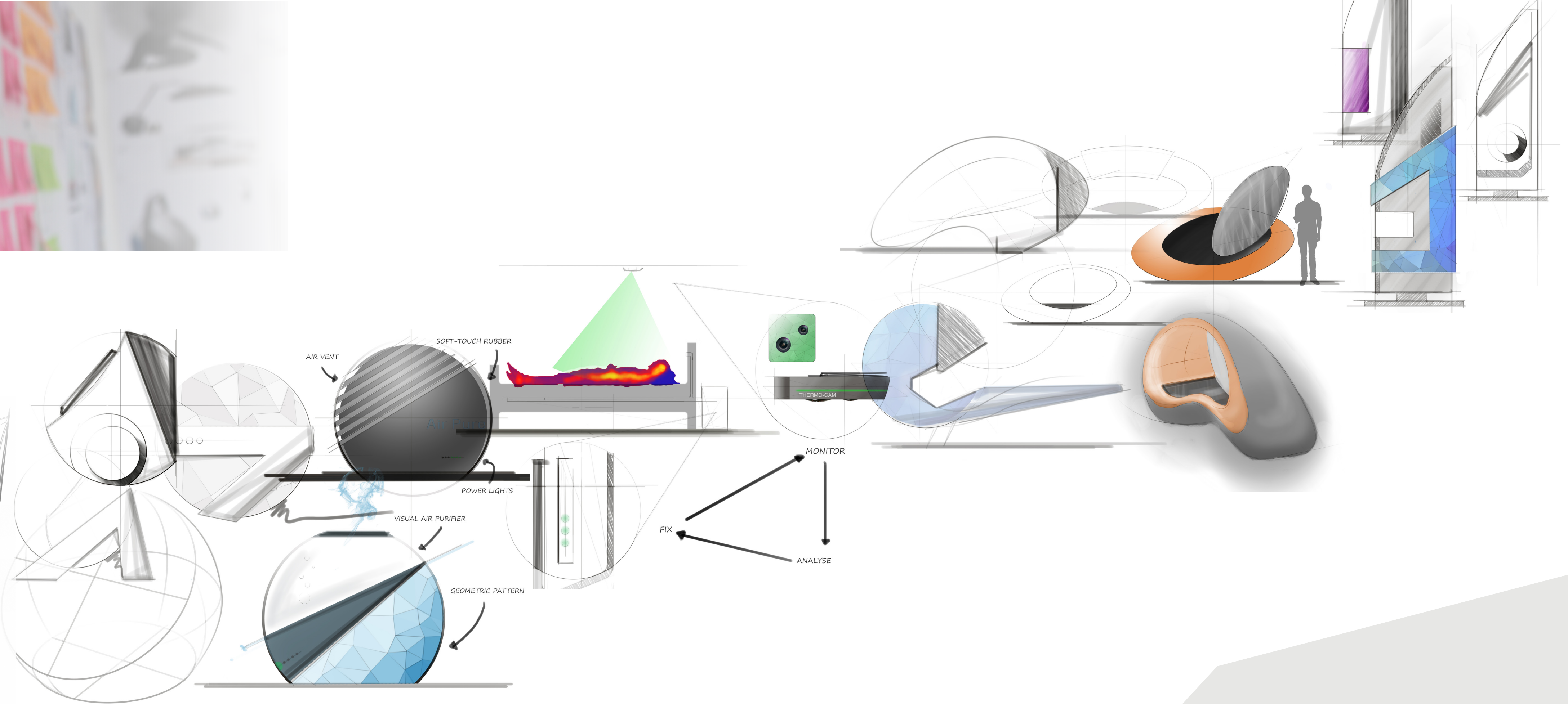
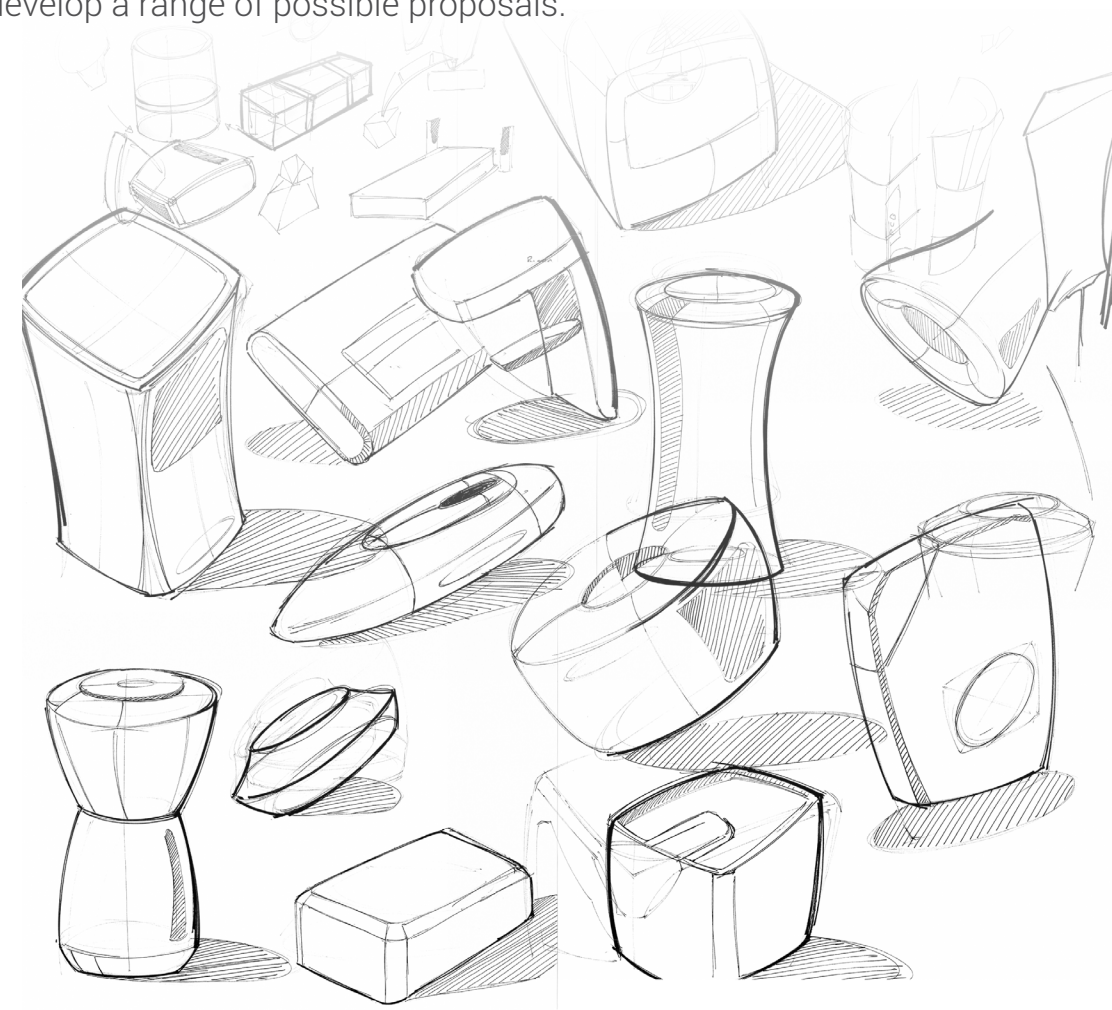


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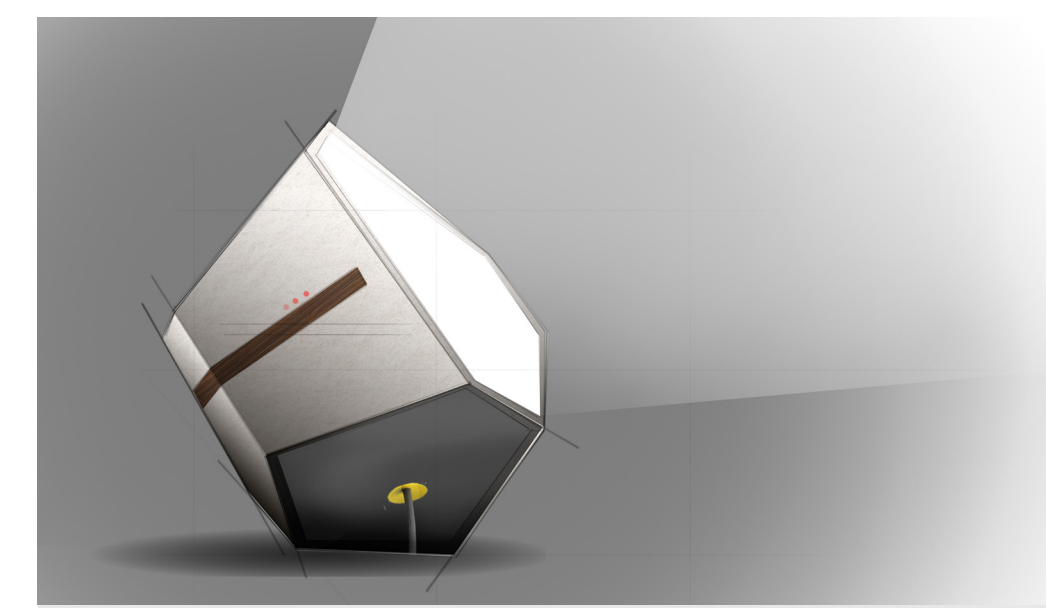
IDEATION

At first a wide range of ideas that had anything connected with sleep and helping relax people were quickly sketched onto post it notes. Some of these were combined and more conceptual sketch boards were developed with rough ideas as to how they would look and work that would help develop a range of possible proposals.



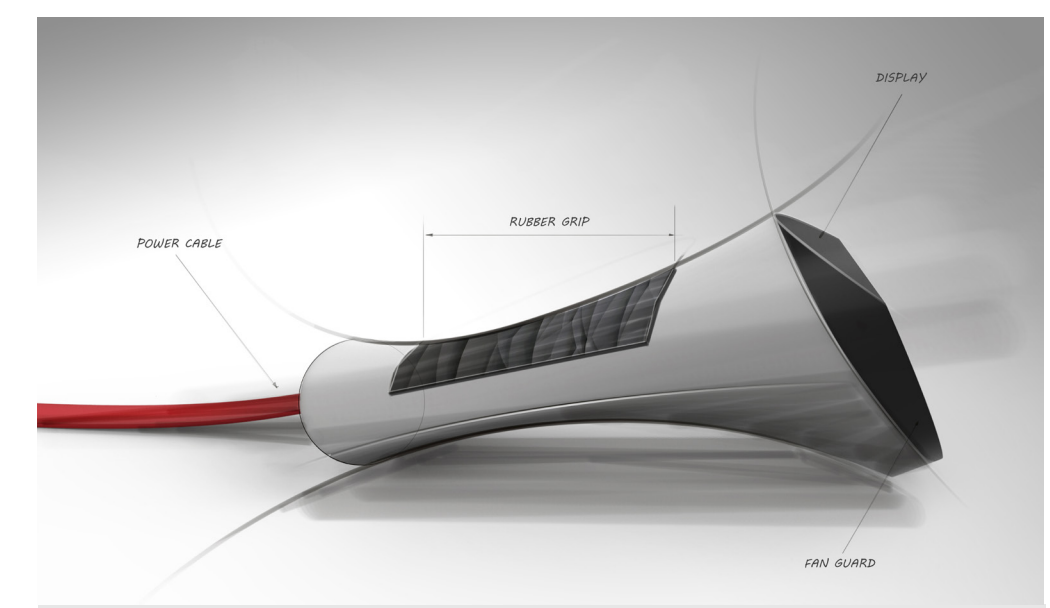
DEVELOPMENT

Sketches were taken onto Photoshop and details were developed with more aesthetically pleasing features. Notations were added to aid with the communication and explanation of the concepts.



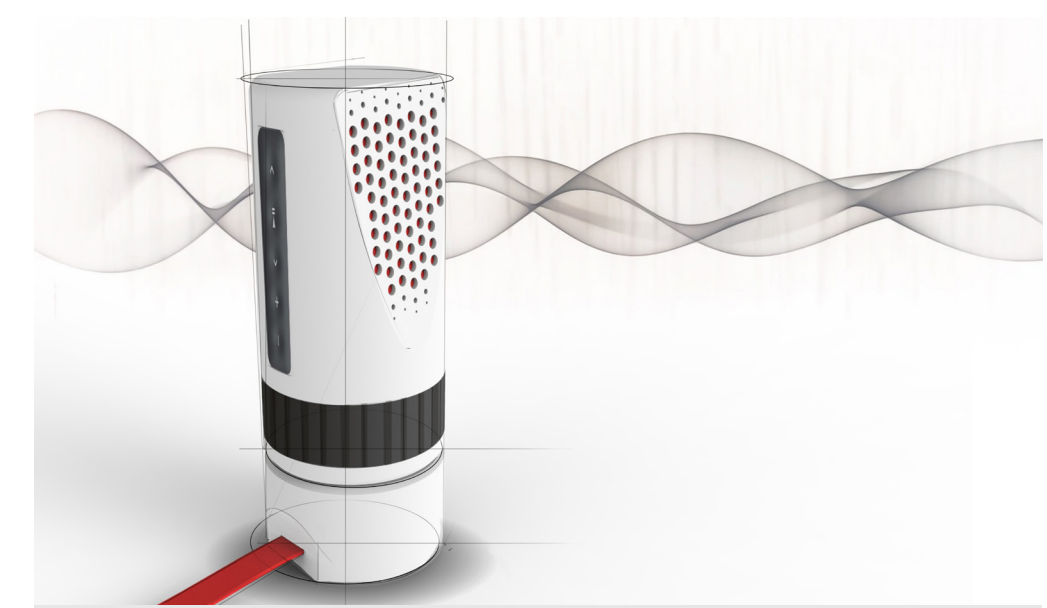
Light

Uses light in controlled intervals to keep melatonin levels in sync with circadian rhythms; used throughout the day it will help with the natural relaxation of the body before sleep.



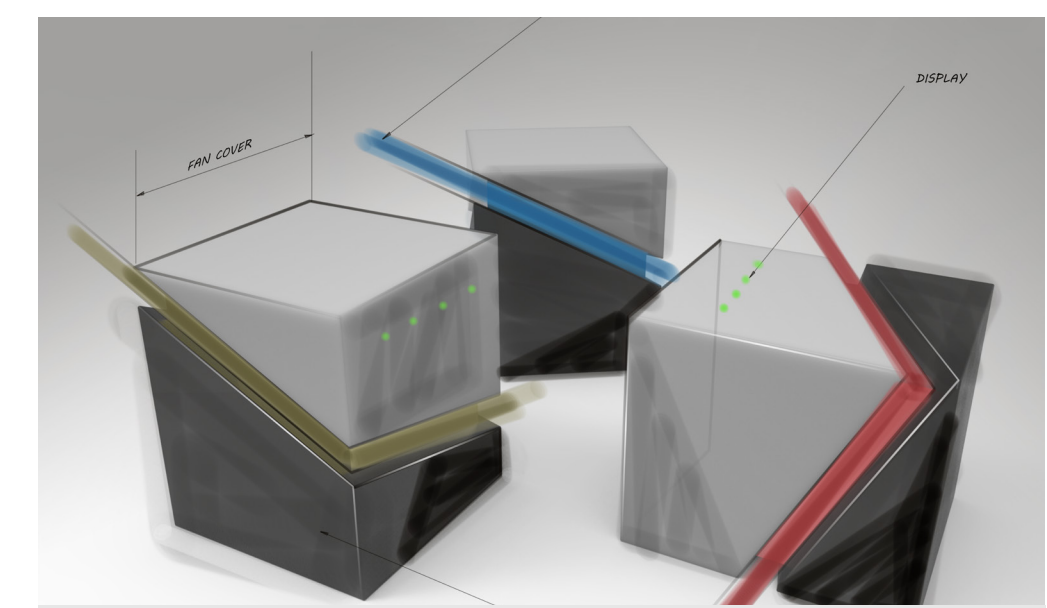
Air Quality

Powerful 120mm fan pushes air through a number of filtration systems inside the unit; by cleaning and ionizing the air it creates a better environment to relax in.



Sound

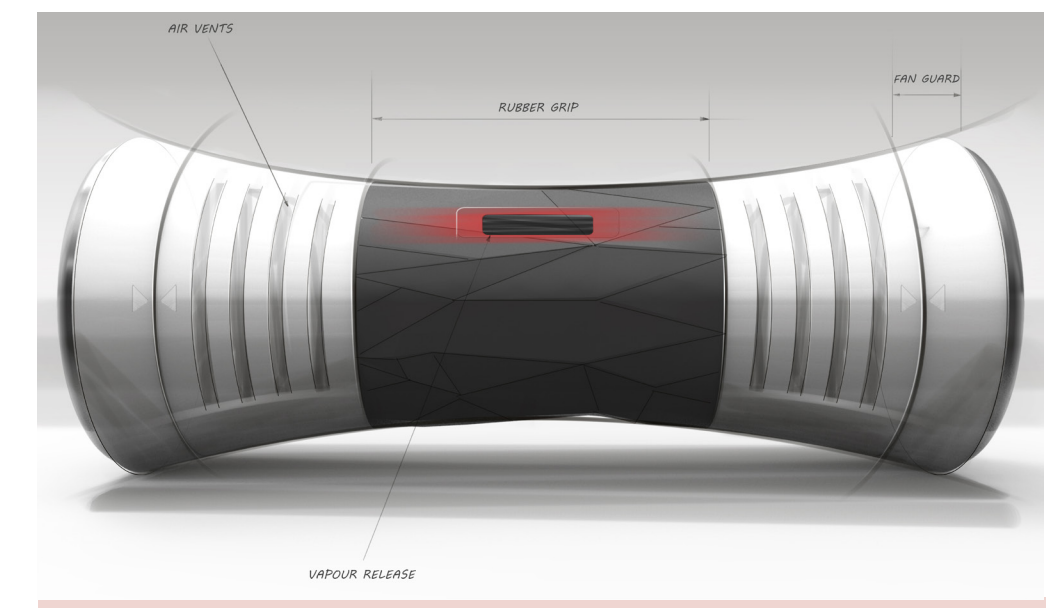
Uses sound during sleep to optimise the base level disturbance and reduce chance of being woken by peaks in noise.



Portable

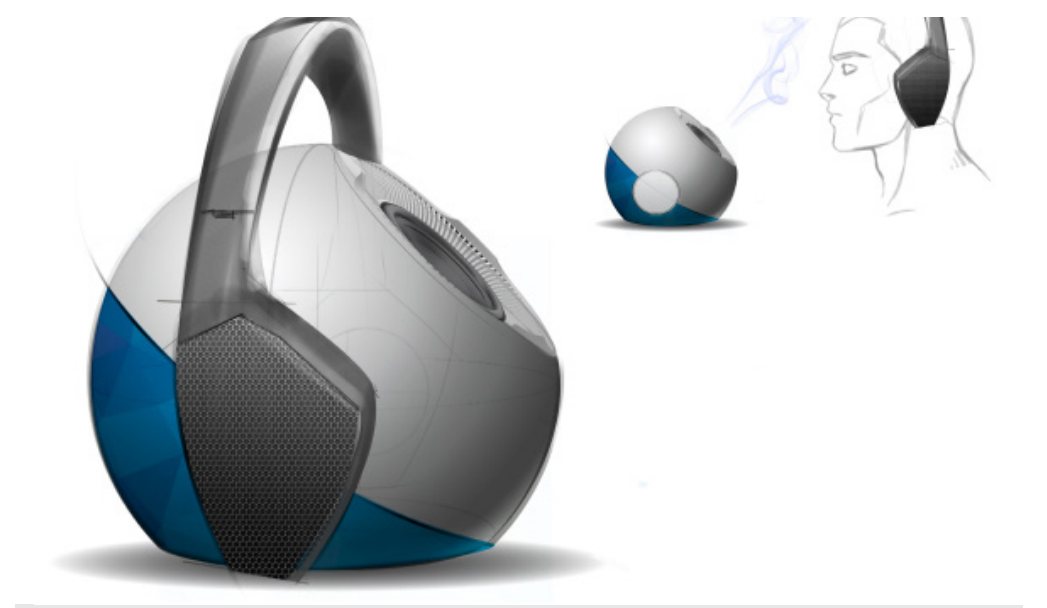
Each cube tackles a different potential issue that could arise in the users sleeping environment; using them in combination stacks the effects and allows for user customisation.

Idea that was developed



Environment

Uses sound and air to create and maintain ideal sleeping conditions; combines multiple functions with the ability to remain discreet and portable.



Relax

Uses sound and ionized air to help aid the body to get to a relaxed state; used before sleep, time must be set aside to allow the device to relax the user.

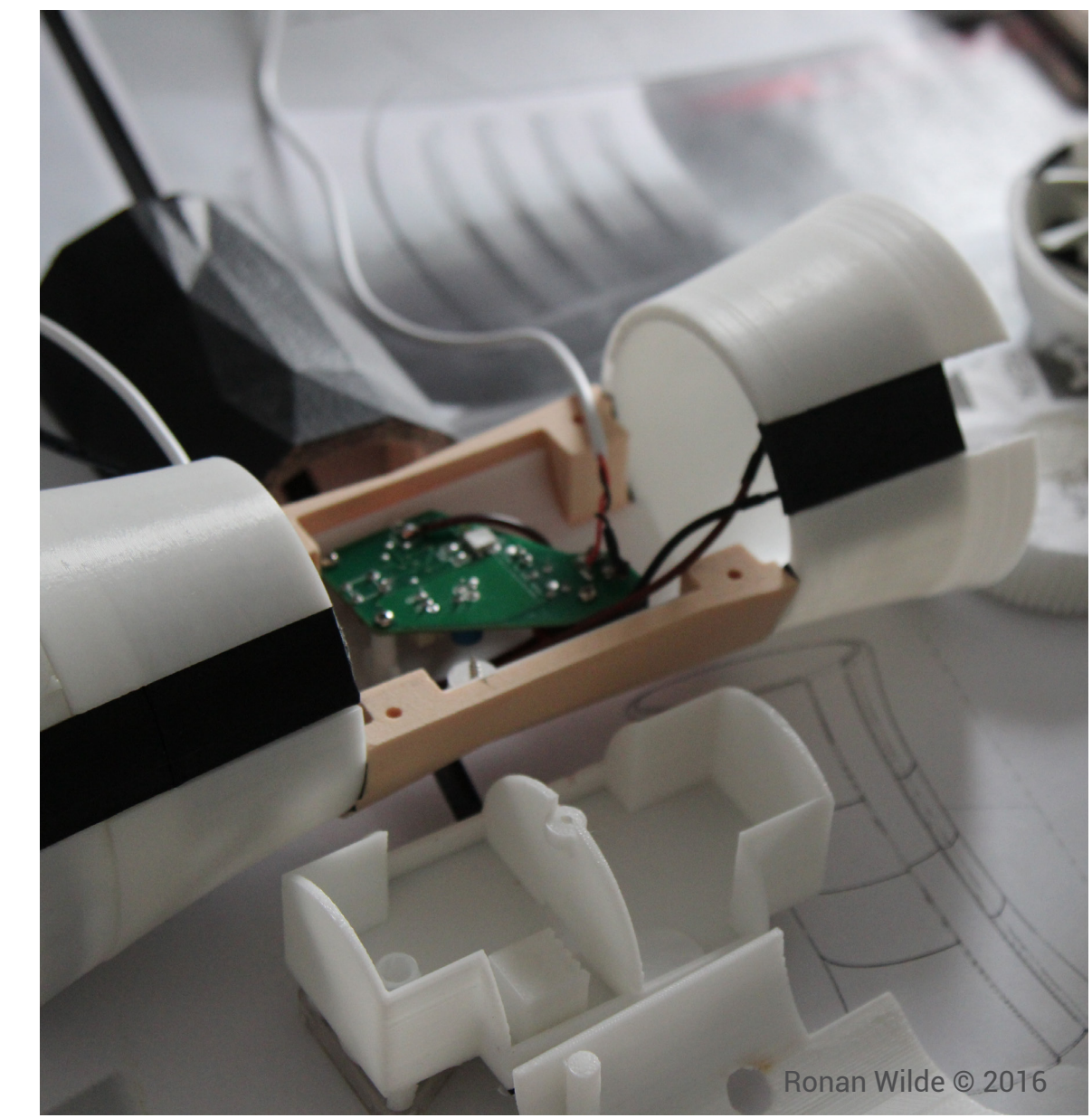


PROTOTYPING

One of the most important stages of development. Allowing to physically interact with the product, testing proportions, functions and usability. After each model was evaluated and tested sketches were used to help plan and develop the next model .

Form

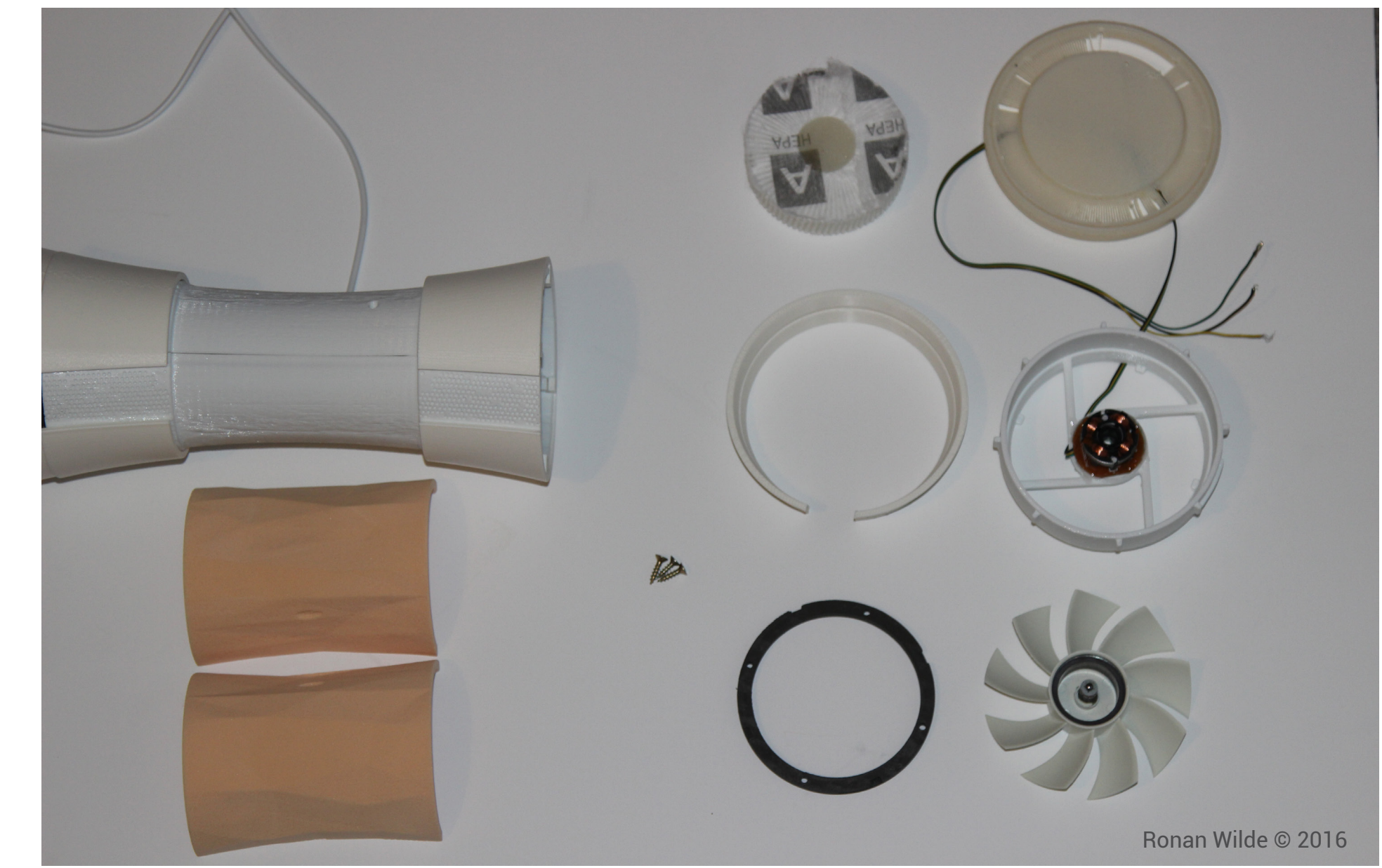
Sketch models were developed throughout the iteration stages. Each allowing for feedback from evaluation and to help further develop and optimise the design.



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Working Model V 1

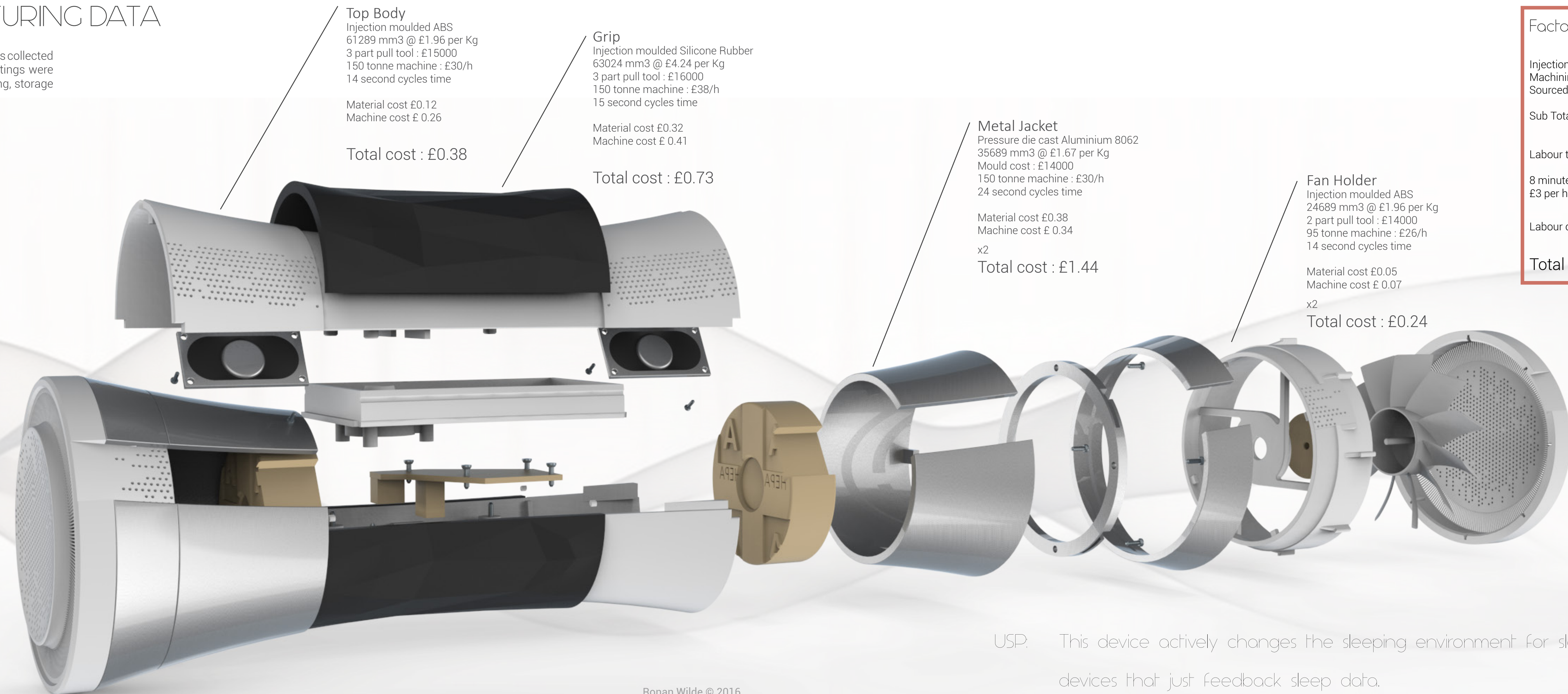
The first 3D printed model was wired up using the electronics from the breadboard prototype. This was then used to test the functionality of the product and to help further develop the design to be better optimised for manufacture.



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EXAMPLE MANUFACTURING DATA

To make the project more feasible manufacturing data was collected and calculated. This is a small example of how the costings were calculated but this was furthered by working out shipping, storage and profit margins to help provide an RRP.



Top Body
 Injection moulded ABS
 61289 mm3 @ £1.96 per Kg
 3 part pull tool : £15000
 150 tonne machine : £30/h
 14 second cycles time

 Material cost £0.12
 Machine cost £ 0.26

Total cost : £0.38

Grip
 Injection moulded Silicone Rubber
 63024 mm3 @ £4.24 per Kg
 3 part pull tool : £16000
 150 tonne machine : £38/h
 15 second cycles time

 Material cost £0.32
 Machine cost £ 0.41

Total cost : £0.73

Metal Jacket
 Pressure die cast Aluminium 8062
 35689 mm3 @ £1.67 per Kg
 Mould cost : £14000
 150 tonne machine : £30/h
 24 second cycles time

 Material cost £0.38
 Machine cost £ 0.34
 x2
Total cost : £1.44

Fan Holder
 Injection moulded ABS
 24689 mm3 @ £1.96 per Kg
 2 part pull tool : £14000
 95 tonne machine : £26/h
 14 second cycles time

 Material cost £0.05
 Machine cost £ 0.07
 x2
Total cost : £0.24

Factory Door Cost	
Injection moulding :	£2.60
Machining :	£3.07
Sourced :	£3.01
Sub Total :	£8.68
Labour time:	
8 minutes for assembly	
£3 per hour (china)	
Labour cost :	£0.4 per unit
Total :	£9.08 Per Unit

USP: This device actively changes the sleeping environment for sleep rather than traditional devices that just feedback sleep data.

USER SCENARIO

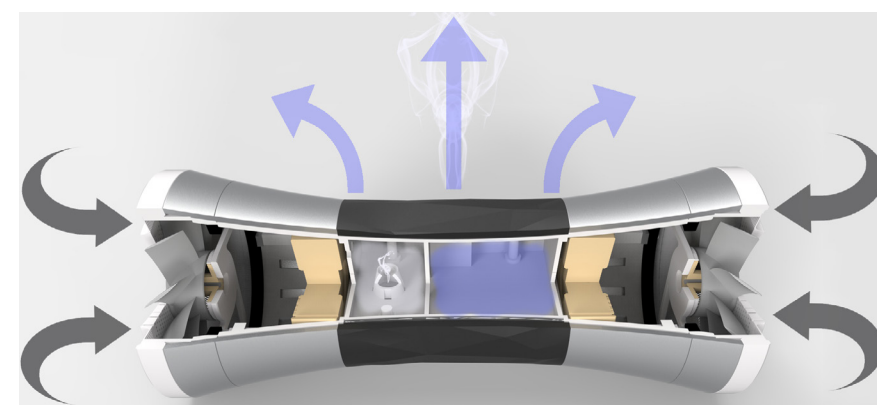
Monitor

As the device is in use, it records environmental data about the surroundings and the user. This is done via infrared and thermo mapping. This data is then evaluated and used to change and improve the sleeping environment in real time.



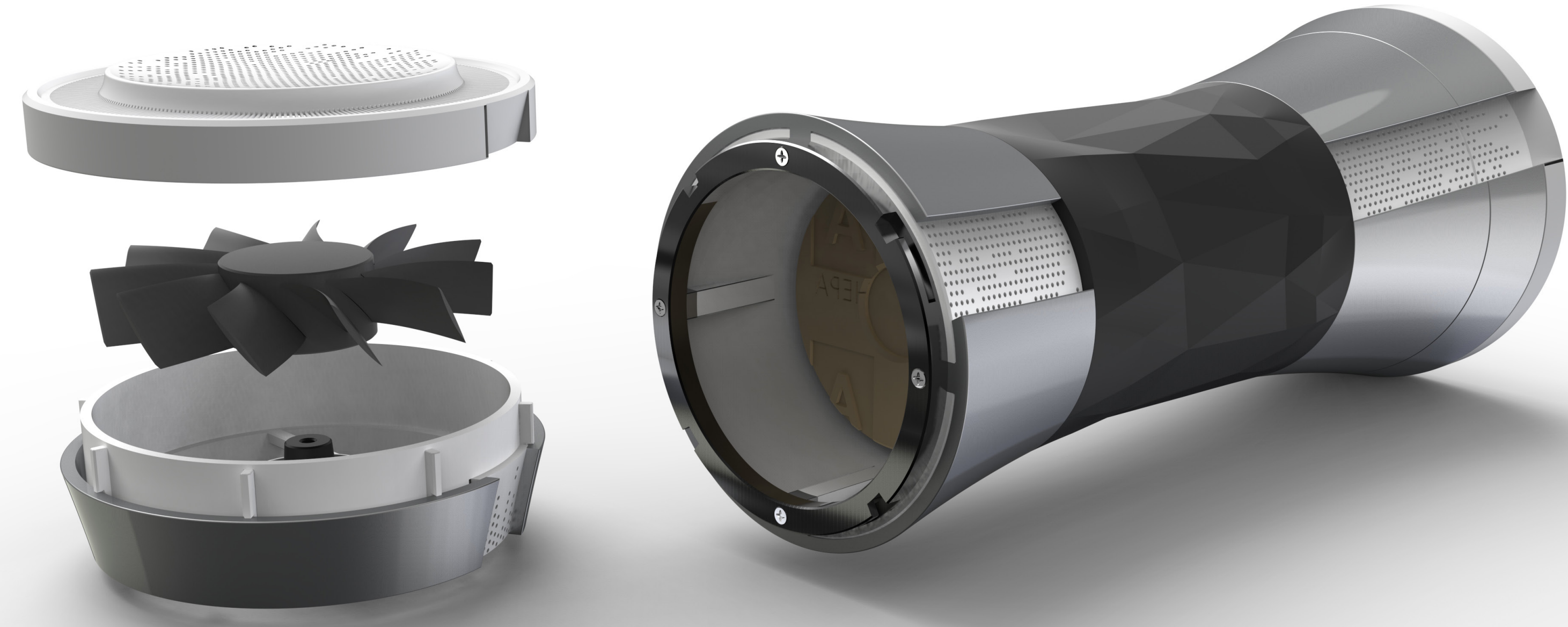
Change

The device reacts to the environment. After undergoing monitoring, the device uses a number of processes to optimise the sleeping conditions in real time to aid the user achieve and maintain good sleep. This includes humidification, air filtration and white noise generation.



Improve

Information is fed from the device to a web App that creates a personalised data infographic for the user. Providing information about their sleeping habits, potential problems that might arise and provide a tailored solution.



// Scenario

- Sean is having trouble maintaining sleep
- This is due to the air being very dry causing his lungs to become irritated and breathing disrupted throughout the night.

// Solution

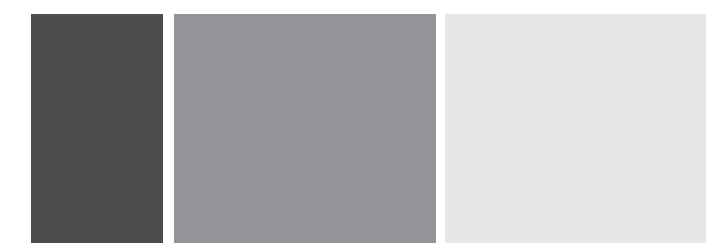
- The device monitors the air humidity
- It starts to release water vapour into the room creating a more humid atmosphere
- The air is less dry and Sean can sleep better.
- The device shuts off if it starts to get too humid.

WATCH PROJECT

The aim of this project was to create a visual appealing render that could be developed into a "hero shot" and then produced into a advertising type visual.

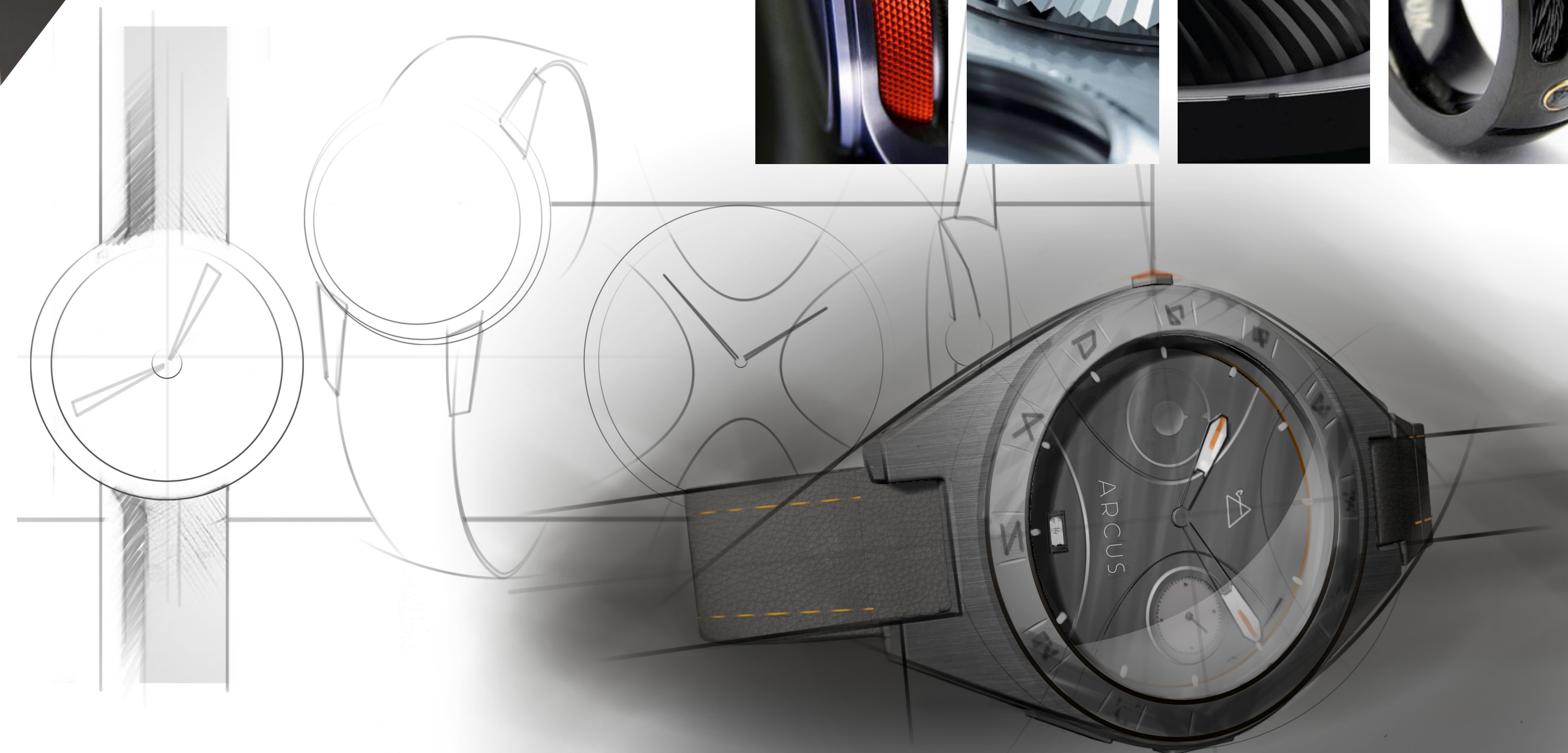
Key Skills

- Product conception
- Market Research
- Visual development
- Branding
- Presentation



Concept Sketches

"Colour, Material and Finish" images were used to help create a number of concept sketches that were then translated into Photoshop to add material and texture. This created the first concepts of the watch.



Modelling Software:
Rhino V5
Rendering Software:
Keyshot V4
Additional Software:
Adobe Photoshop CS6
Adobe Illustrator CS6
Adobe Indesign CS6

Tachymeter

To aid with timings and computing average travel speed for the user.

Leather strap

Genuine leather strap that adds a counterpoint feel to the high precision watch face.

Crown

Fully waterproof crown that allows the user to adjust the time and date displayed on the watch face.

60 second timer

60 second stop watch controlled by the buttons on the right of the watch.

Arcus

Rose or white gold logo that defines the brand of the watch.

Date

E-ink display that allows easy and accurate precision without consuming battery life while dormant.

ARCUS Endurance

“ Making telling the time more stylish since 1992 ”
(Jon Arcus 2015)

- Titanium alloy case
- 200M Water resistant
- Kinetic charging
- Leather strap, reinforced with kevlar
- Chronograph

HAND BLENDER

This project was to take a concept and develop it as close to prototyping as possible within a restricted time limit. Focusing on ergonomics and user interaction.

Key Skills

- Product conception
- Prototyping
- Ergonomics
- User Interaction
- Product continuity



Modelling Software:

Rhino V5
Cura 2.0
Solid Works

Rendering Software:

Keyshot V4
Bunkspeed

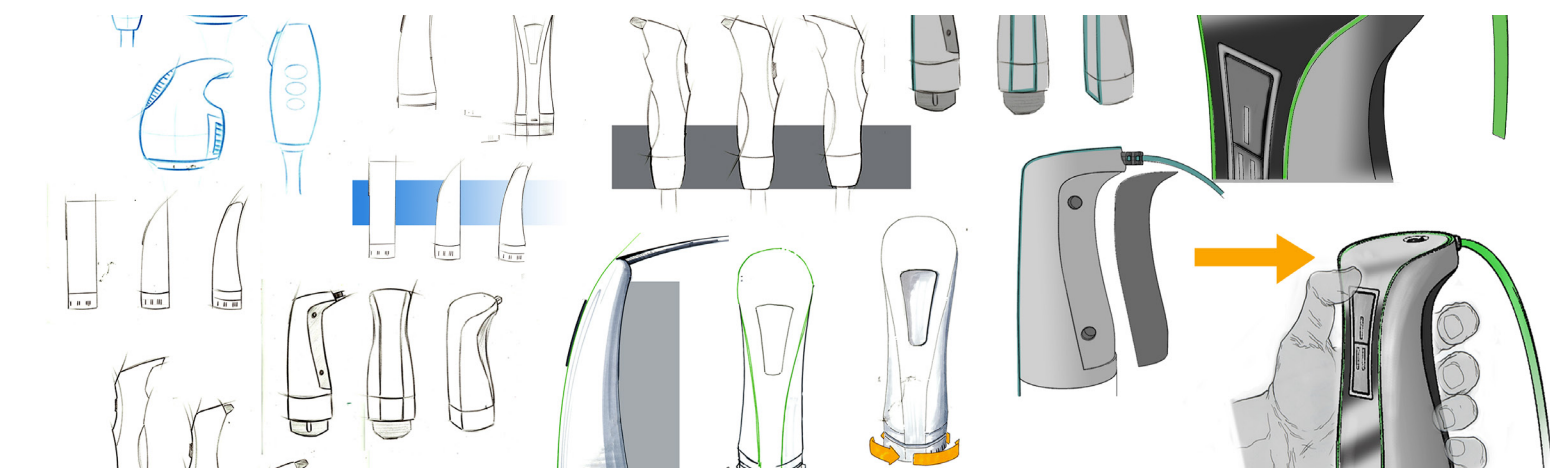
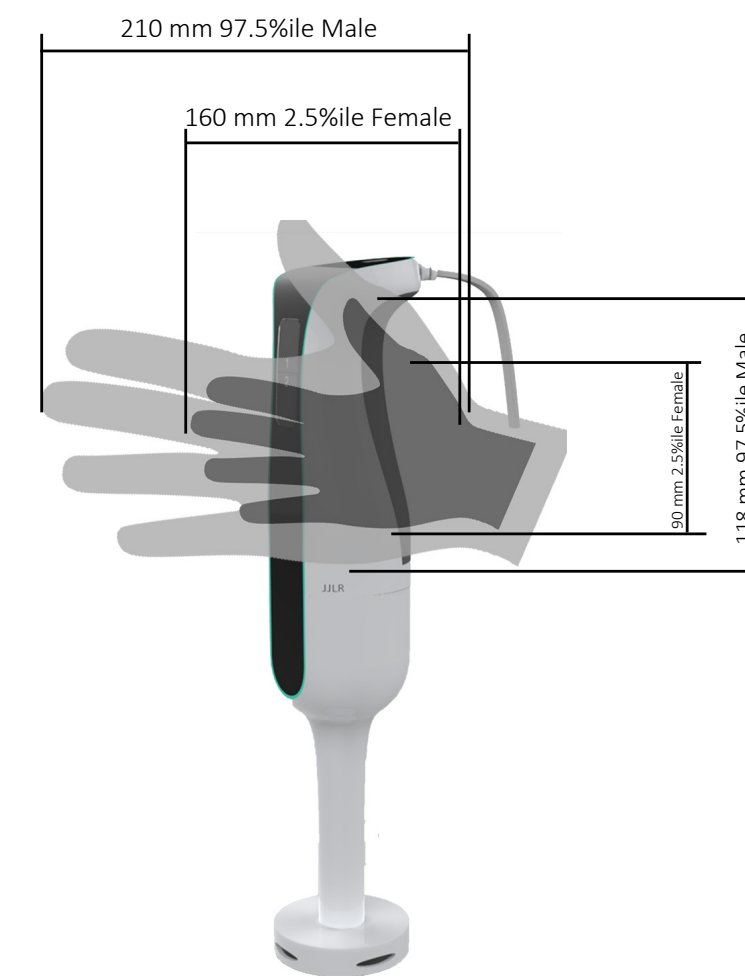
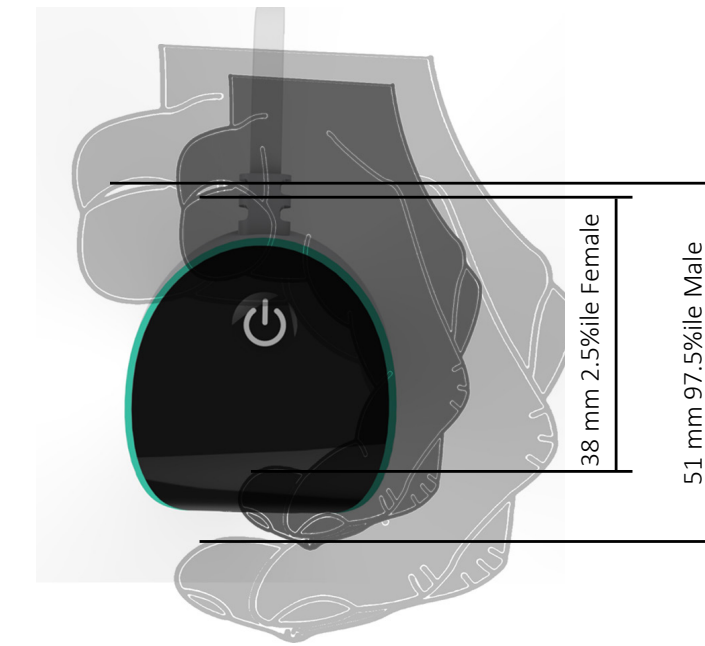
Additional Software:

Adobe Photoshop CS6
Adobe Illustrator CS6
Adobe Indesign CS6
People sizes 2000

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Ergonomics and Functions

Ergonomic and anthropometric data was taken from PeopleSize Pro. This data was then used to develop and determine the shape of the hand blender. Visual details were developed and placed onto the shape of the handle.



Power Switch

Speed Control

Indicator Light

Branding

Component Split Line

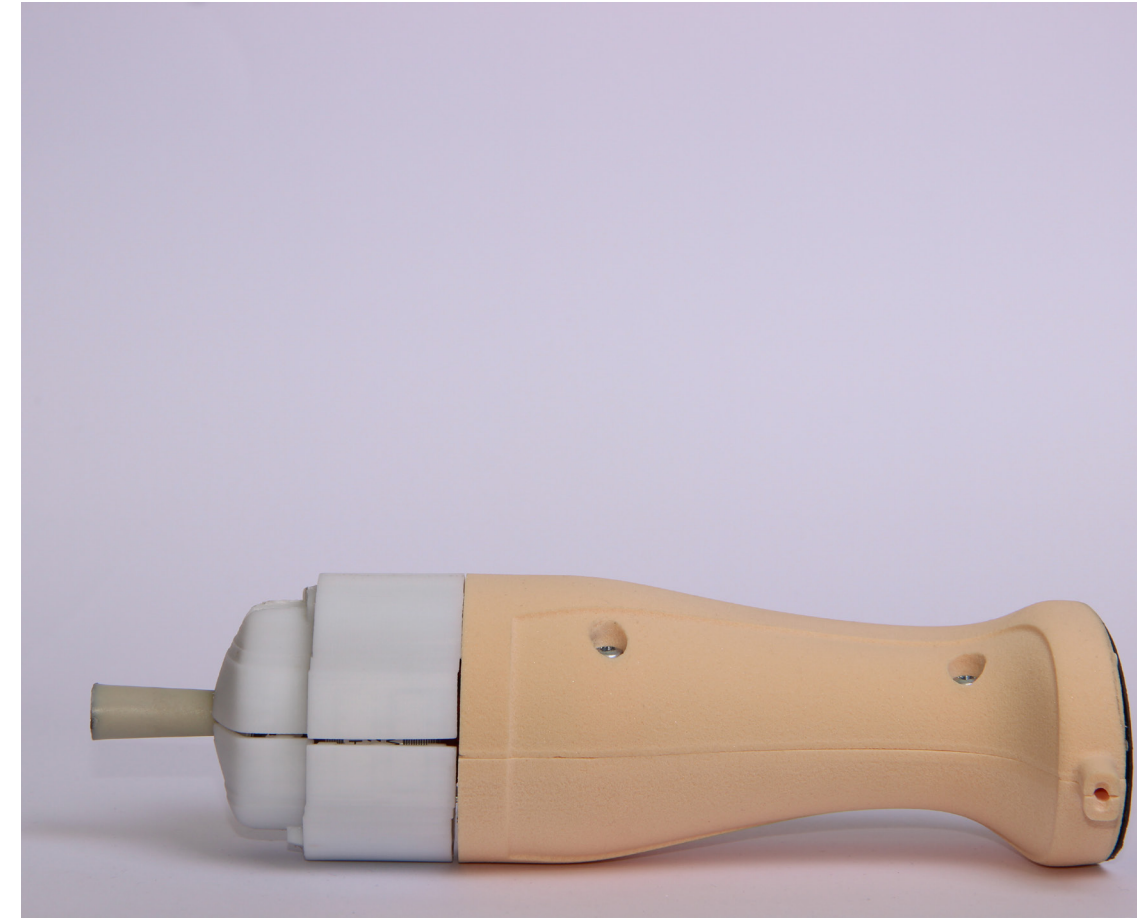
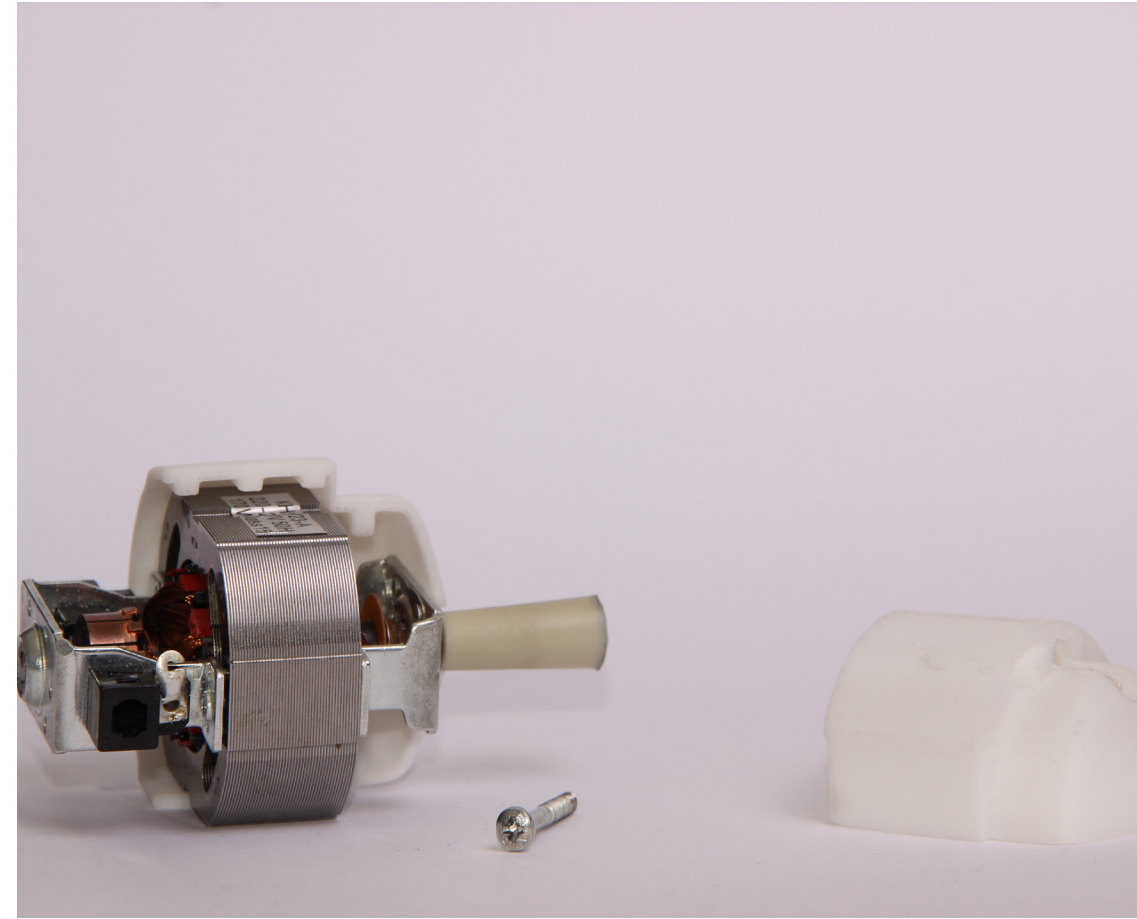


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FINAL PRODUCT

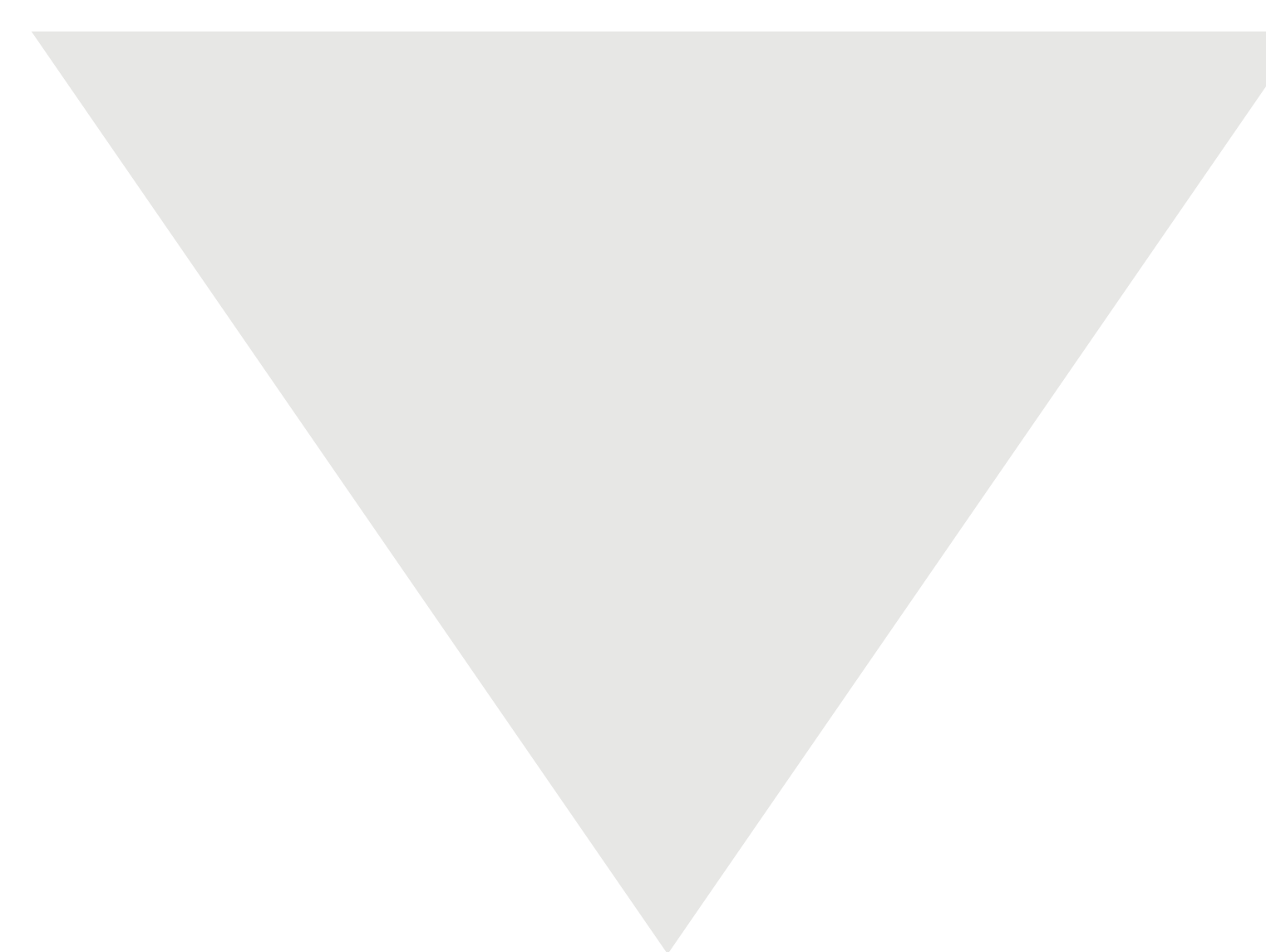
Prototyping

Different parts of the hand blender were printed and prototyped to allow for user testing. These CAD files were then further developed and thought was put into how these parts would be manufactured.



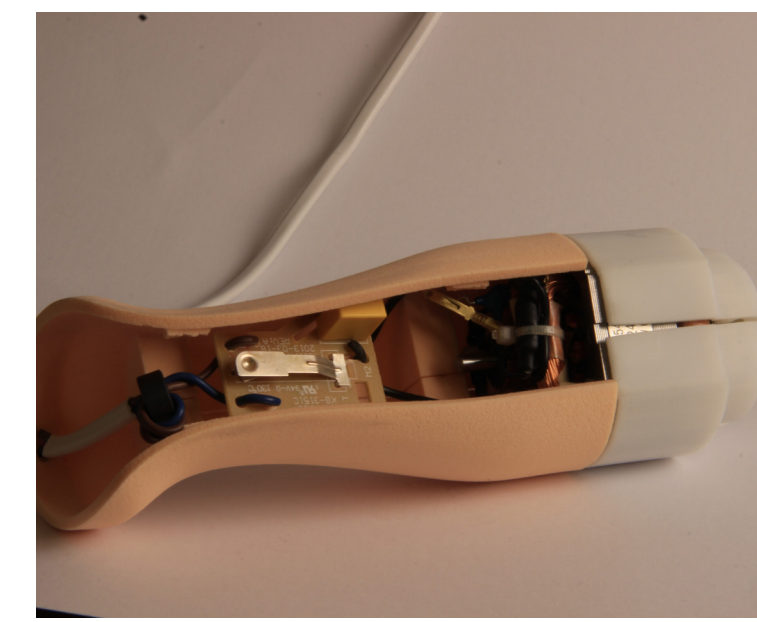
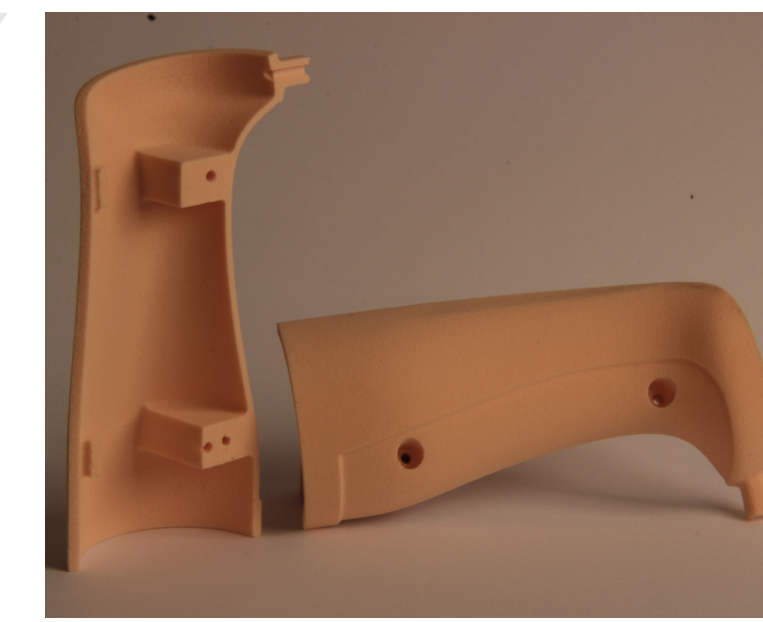
User testing

By using the printed parts the hand blender could be tested and evaluated against the intended user groups. Testing across the 2.5%ile to 97.5%ile.



Hero Shot

Final CAD renders were created to show the visual appearance and to signpost future and cosmetic development. More functionality and features could be designed into the product with the potential for a product range.



CLAY HEAD

Using clay to develop and practice 3D form in physical space. Spending time developing and creating iterations from a basic form to achieve different outcomes.

Key Skills

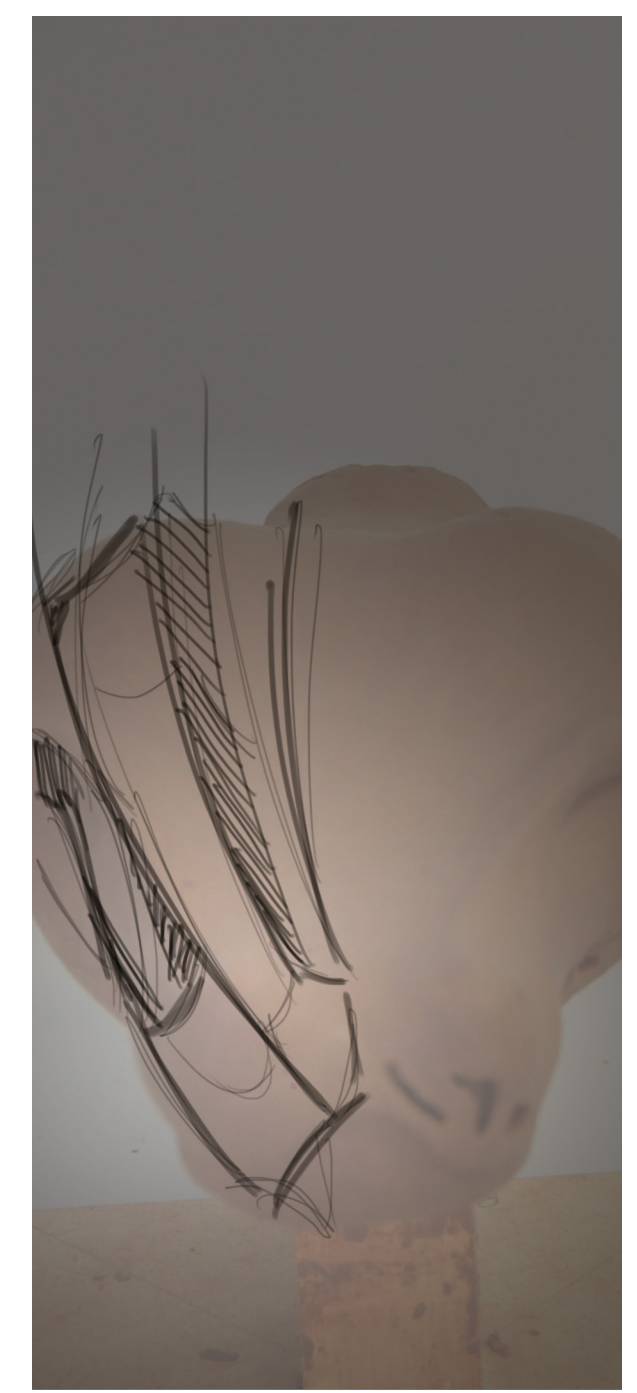
- Exploring 3D form
- 3D form development
- Working with modelling clay
- 3D visualisation
- Iteration process



Additional Software:
Adobe Photoshop CS6



Original

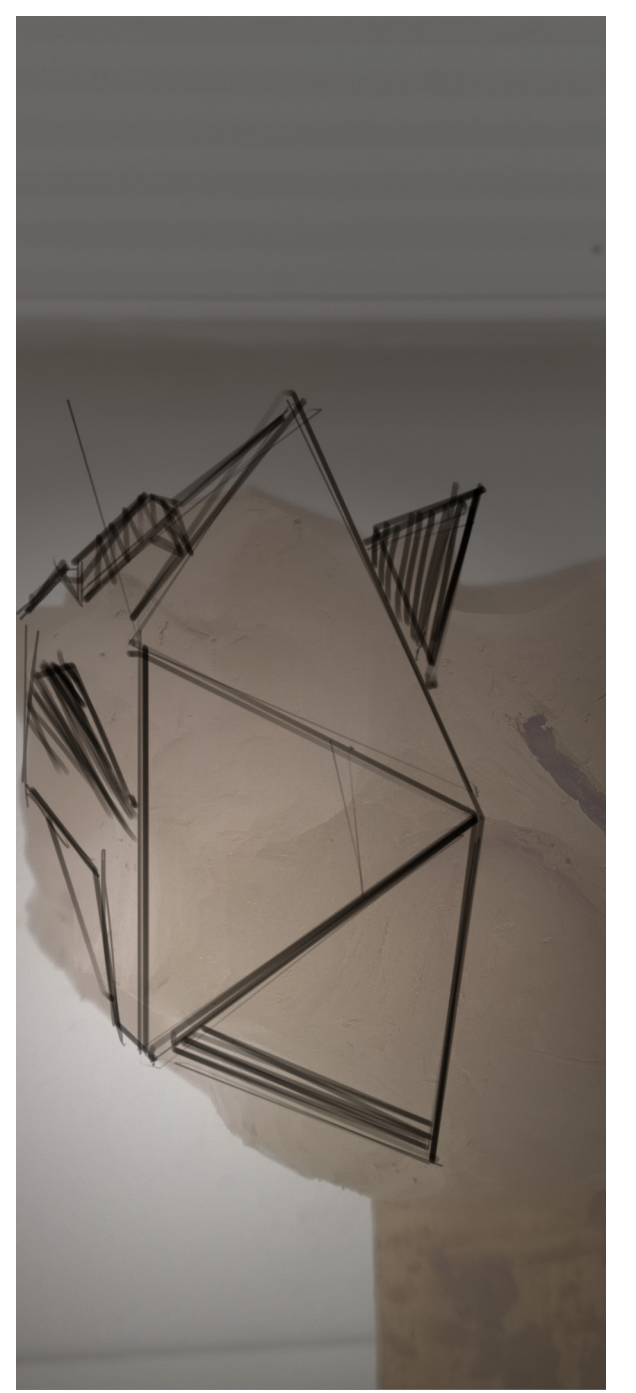


Fluid



Process

Long swooping lines and soft edges were used to create flowing surfaces. This was developed by using a mood-board in conjunction with sketches.



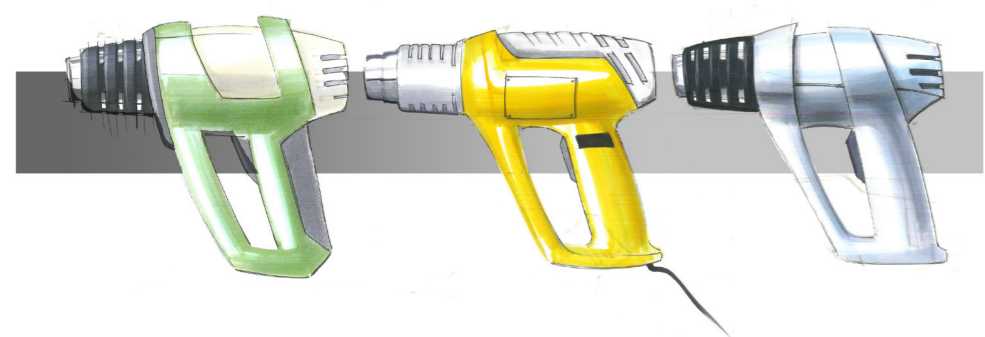
Monolithic



Process

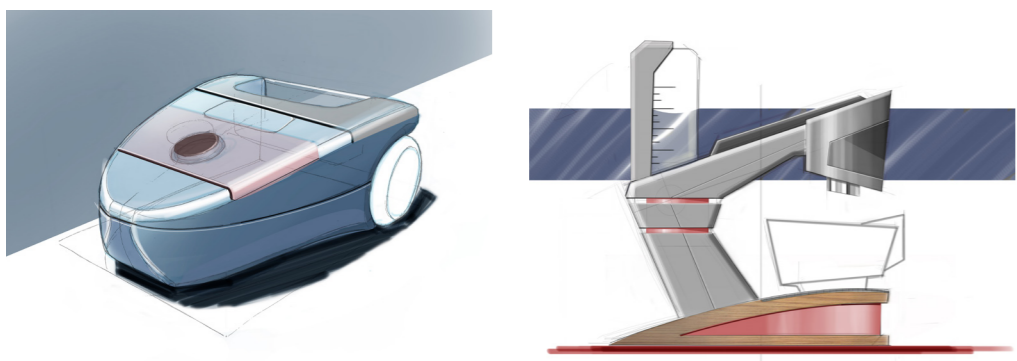
Straight-edged faceted surfaces were used to create a simplified shape to give a monolithic impression. This was developed by using a mood-board in conjunction with sketches.

Other projects

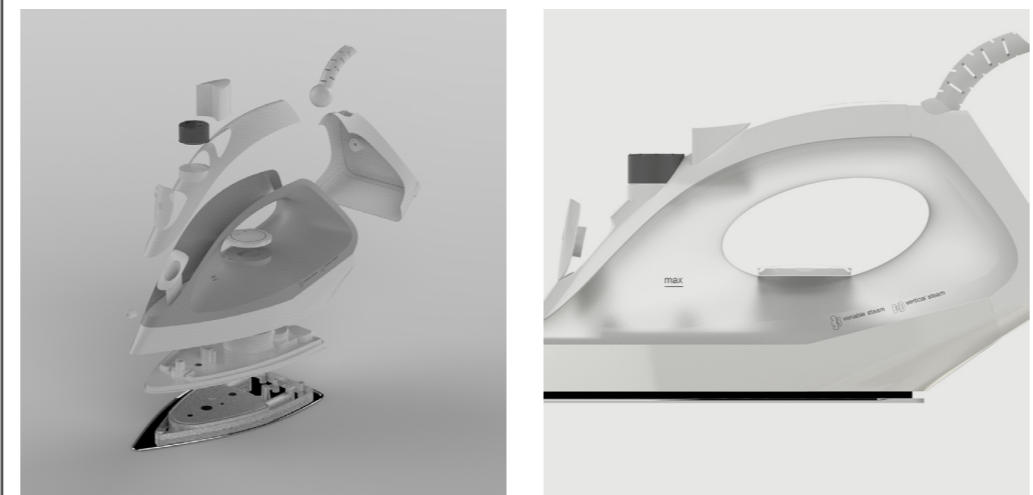


Sketching

A few sketches during my year abroad in the Netherlands (TU Delft) where I was taught a different style of drawing with a much more quantitative style of development.

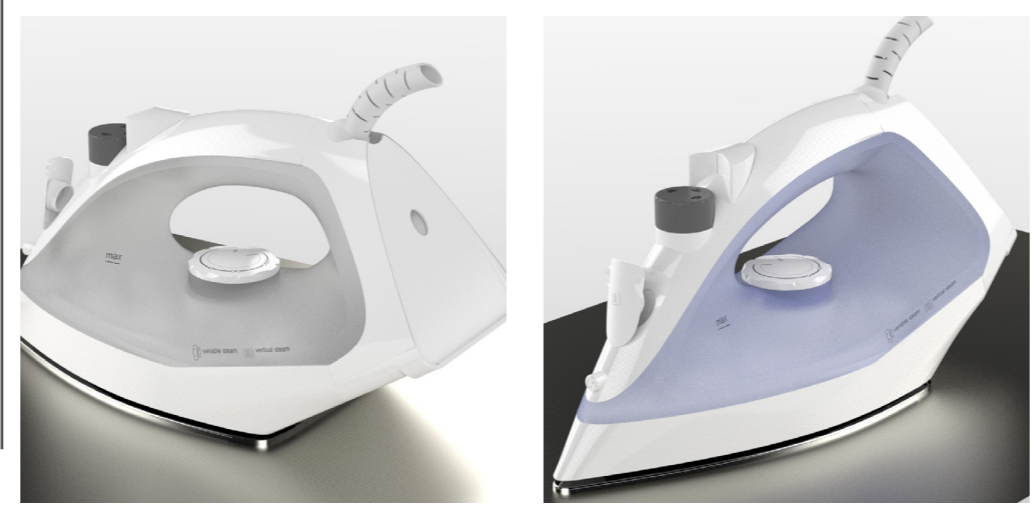


CAD

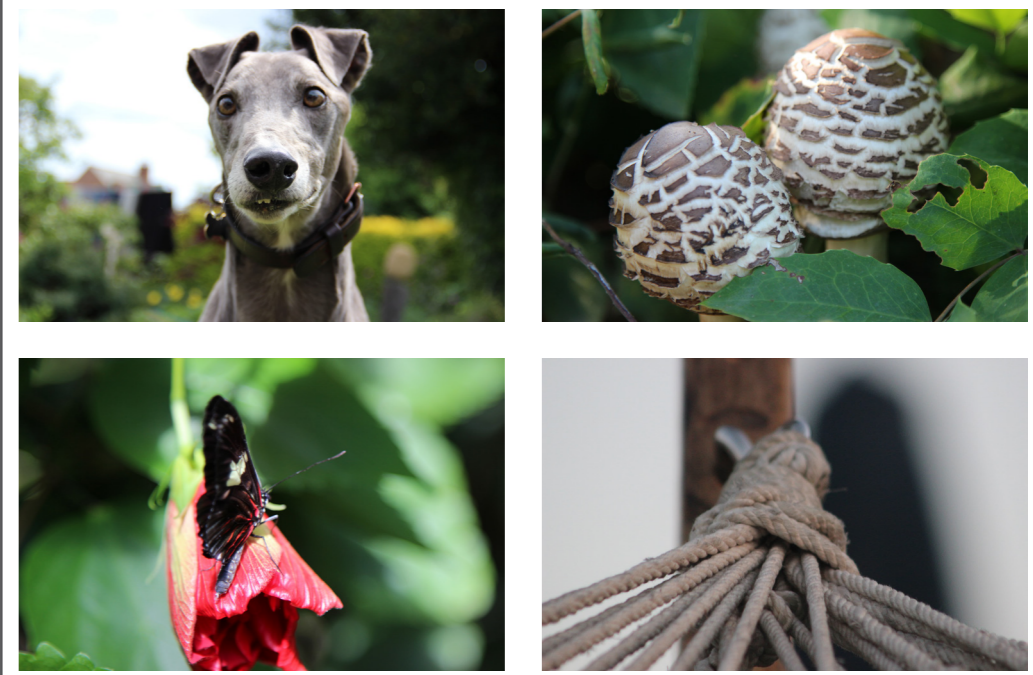


For a while I had some of my work featured on the home pages of the RHINOceros gallery home page.

<http://www.rhino3d.com/gallery/1/47510>



Photography



I often participate in photo competitions run by viewbug.com I have had a few honourable mentions and top 10 class positions but unfortunately no podium places.... Yet!

<http://www.viewbug.com/member/ronanwilde>