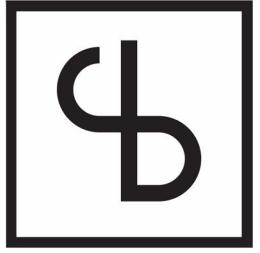


DESIGN ENGINEER
Bettina Sosa Röhl

PORTFOLIO



Bettina Sosa Röhl
Design Engineer

I N T E R E S T S

product design, web development,
sustainability, generative design, user
experience, user interaction, IoT.

I D E A T I O N

Quick sketching
Keyshot
Fusion 360
Solidworks
Mind mapping

P R O T O T Y P I N G

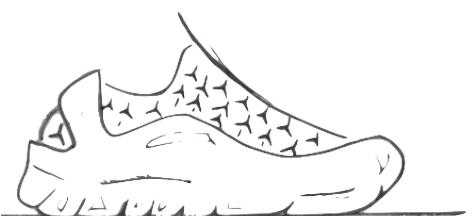
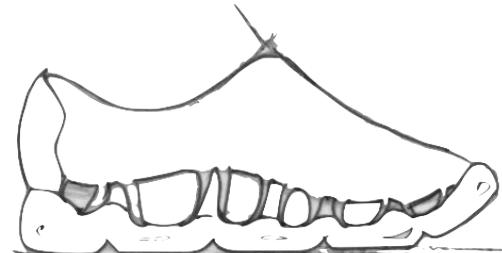
Laser cutter
3D printing
Cardboard
Blue foam
Woodwork
CNC cutter

D E S I G N

Illustrator
Indesign
Photoshop
Sketch
XD
Premiere Pro

01

Future sustainable
Design



02

Product
Design



03

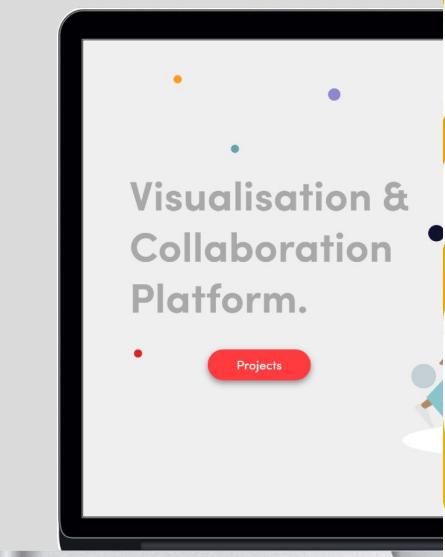
Packaging
Design



StackeRs
Sustainable packaging

04

UI / UX
Design



VCP
educational platform

05

Artwork



06

Physical
Computing



AXO
Potato footwear for Mars

ANDROMEDA
Video game controller for VI

ASTRA

Collection of some of my posters
and drawings

Space experience gaming arcade

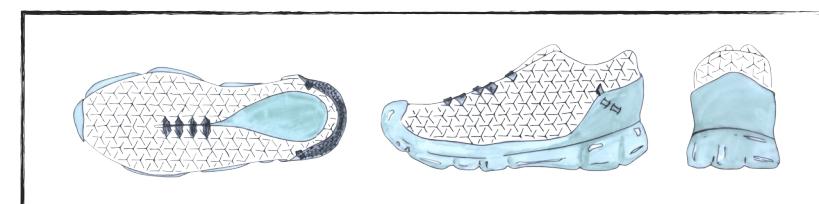
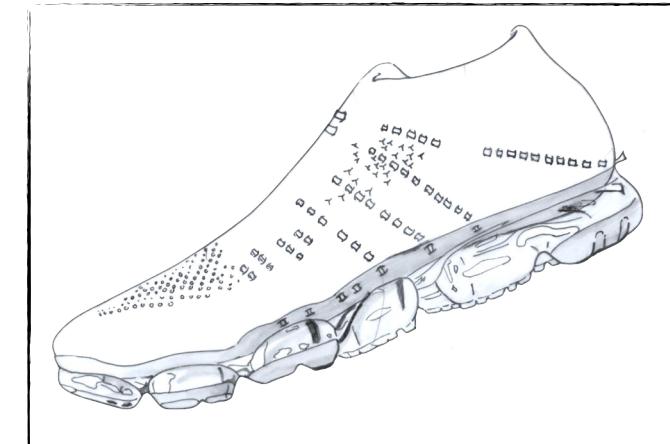
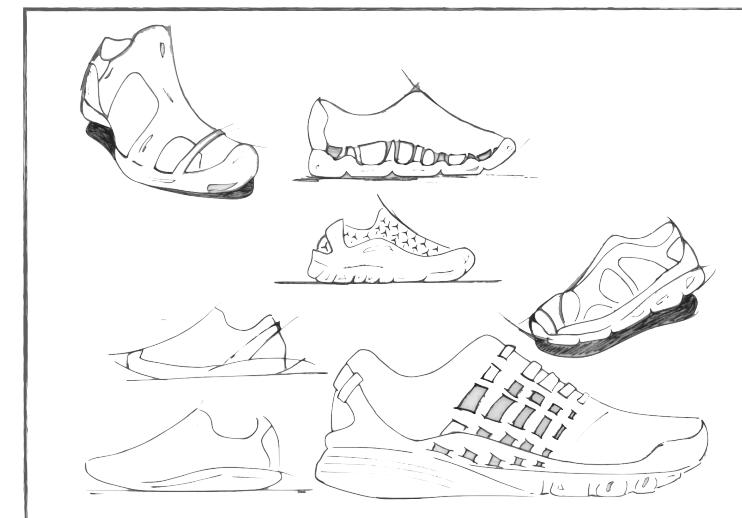
AXOwear

Much of the conversation about Mars has focused on topics such as terraforming, architecture, crops & space flight. Whilst these are all extremely important things to consider, the matter of what will a **Martian colony wear** in the everyday seems neglected.

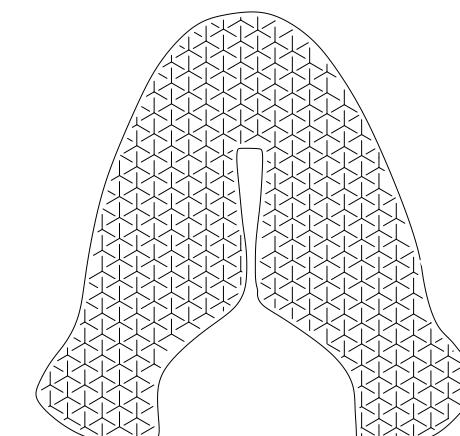
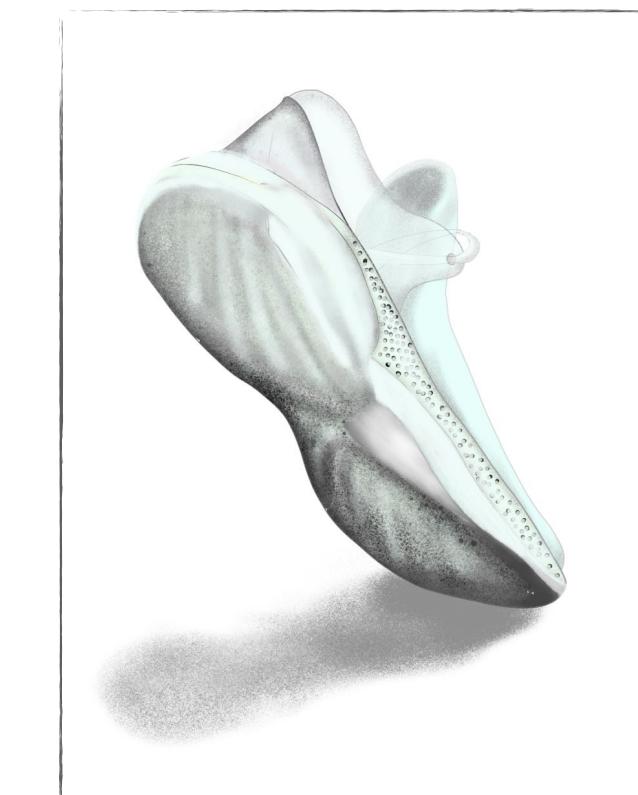
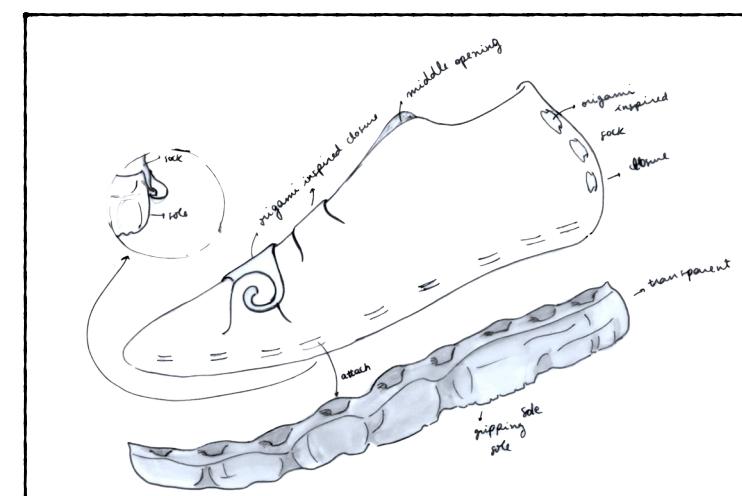
Mars resources are extremely scarce, there is solar energy, soil, CO₂ and little more. **Potatoes** have been recognised as an **ideal** vegetable to grow **on Mars**, they are nutritious and grow in very harsh conditions.

This research led us to focus on creating clothing from potatoes. Using ingredients either derived from potatoes or available due to another system by-product on Mars. Due to a different gravity and manufacturing constraints, garments on Mars will need a complete redesign. After breaking due to wear the clothing can be composted in the soil, creating a fully circular economy.

Potato starch can be made rigid, soft, extruded into yarn or 3D printed. To showcase the potential of the material, the focus of the project is now to produce a **monomaterial, potato shoe for Martians**.



CONCEPTS



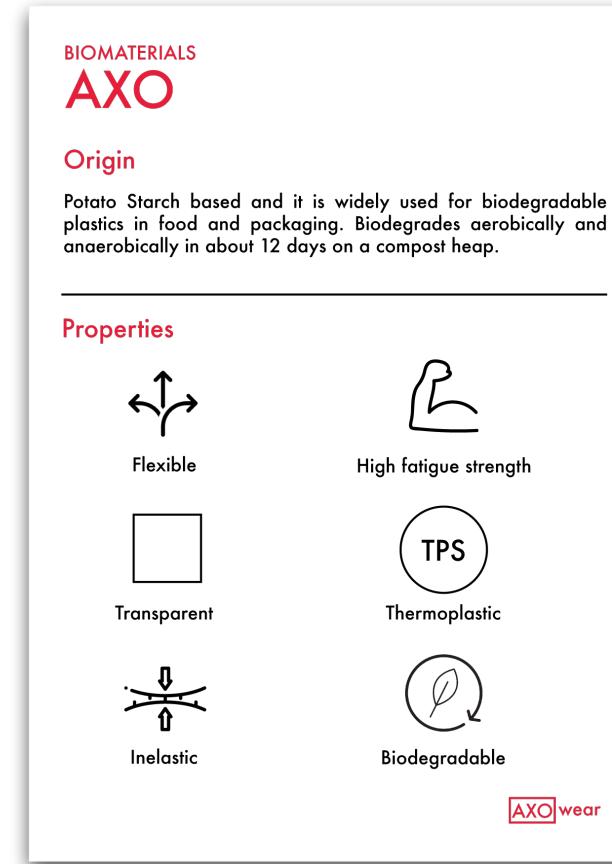
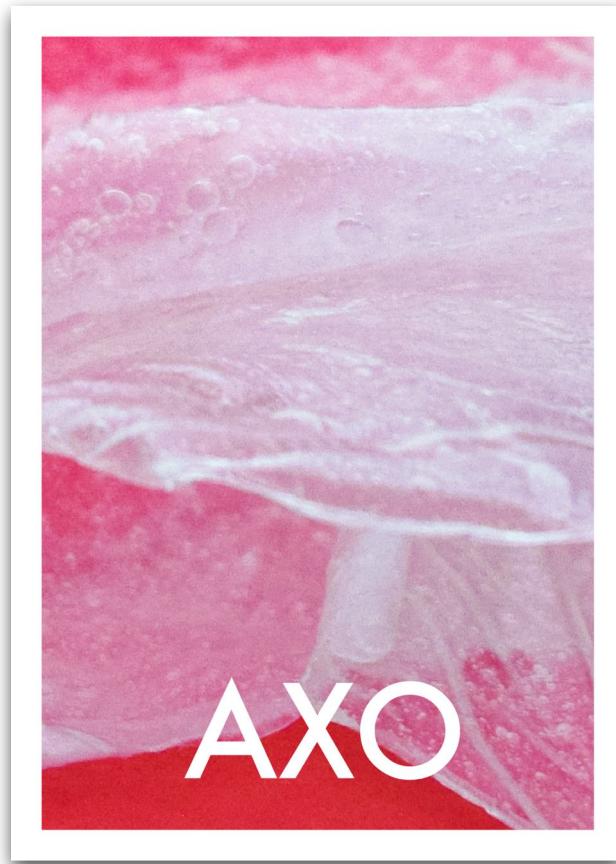
GROUP
PROJECT /

Future Sustainable
Design

AXOwear



Pictures of the project exhibited at the **Design Museum London** on the 7th of February.



Material sample

Business card

Material card

**the
DESIGN
MUSEUM**

/06 ANDROMEDA

Product
Design

A video/audio game controller to make digital entertainment more approachable to the visually impaired



GROUP
PROJECT /

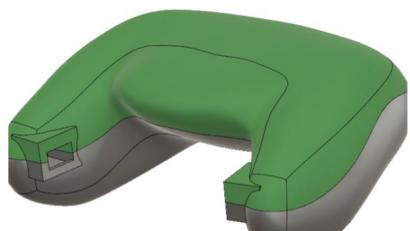
ANDROMEDA

Inspired by big players in the industry we performed several iterations in the form of our controller. Using blue foam for fast prototyping and validation

Approach to prototyping

CAD

WORKS LIKE CAD



FEELS LIKE CAD



ERGONOMICS

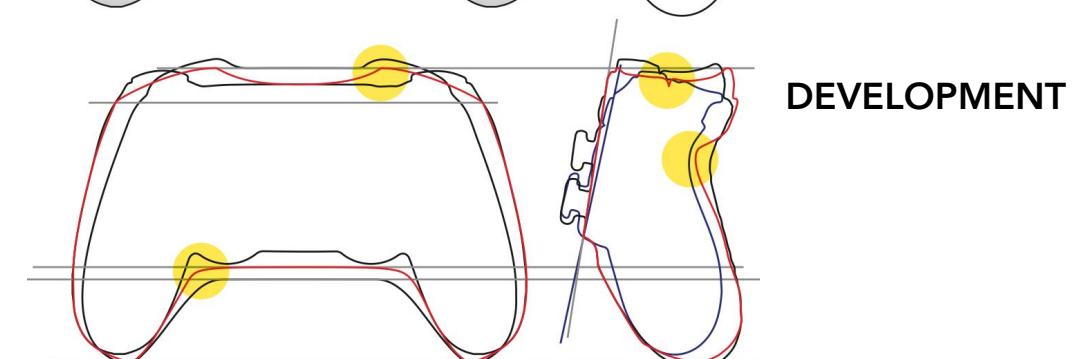
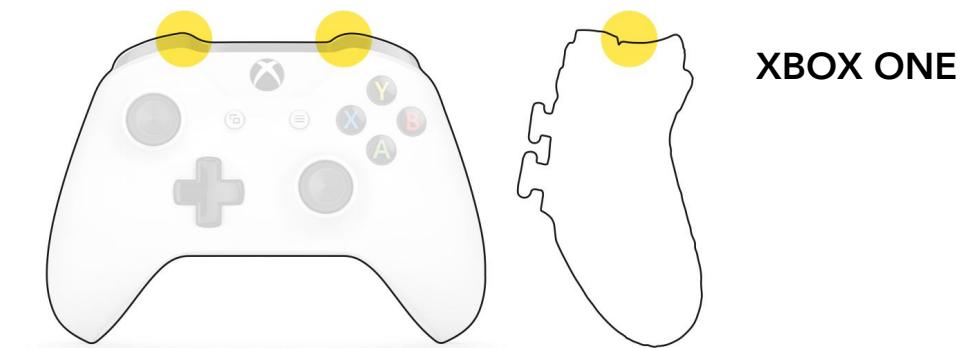
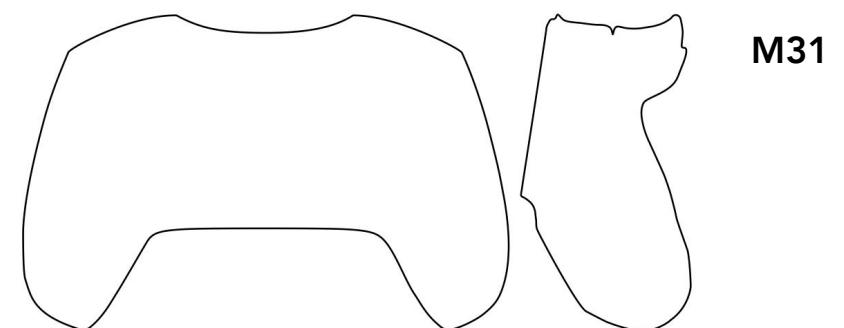
INITIAL FORM



FINAL FORM



ERGONOMICS COMPARISON AND INSPIRATION



TOP VIEW

TACTILE LOGO

3D logo on a de-bossed ring to enable users to feel the Andromeda brand and create a tactile association.

ANALOGUE STICKS

Asymmetrical analogue stick layout for identifiable variation in the controller layout. Rubber skin with for tactile grip during gameplay with a high contrast accent ring for easy identification for users with low vision.

D-PAD

A simple yet classic D-Pad design for traditional gameplay and compatibility with 3rd party consoles. High contrast accent symbols for easy identification for users with low vision.

BUTTONS

Traditional button layout with the high contrast labels corresponding with North, South, East, and West for intuitive control that can be identified by audio during gameplay.



AUDIO JACK

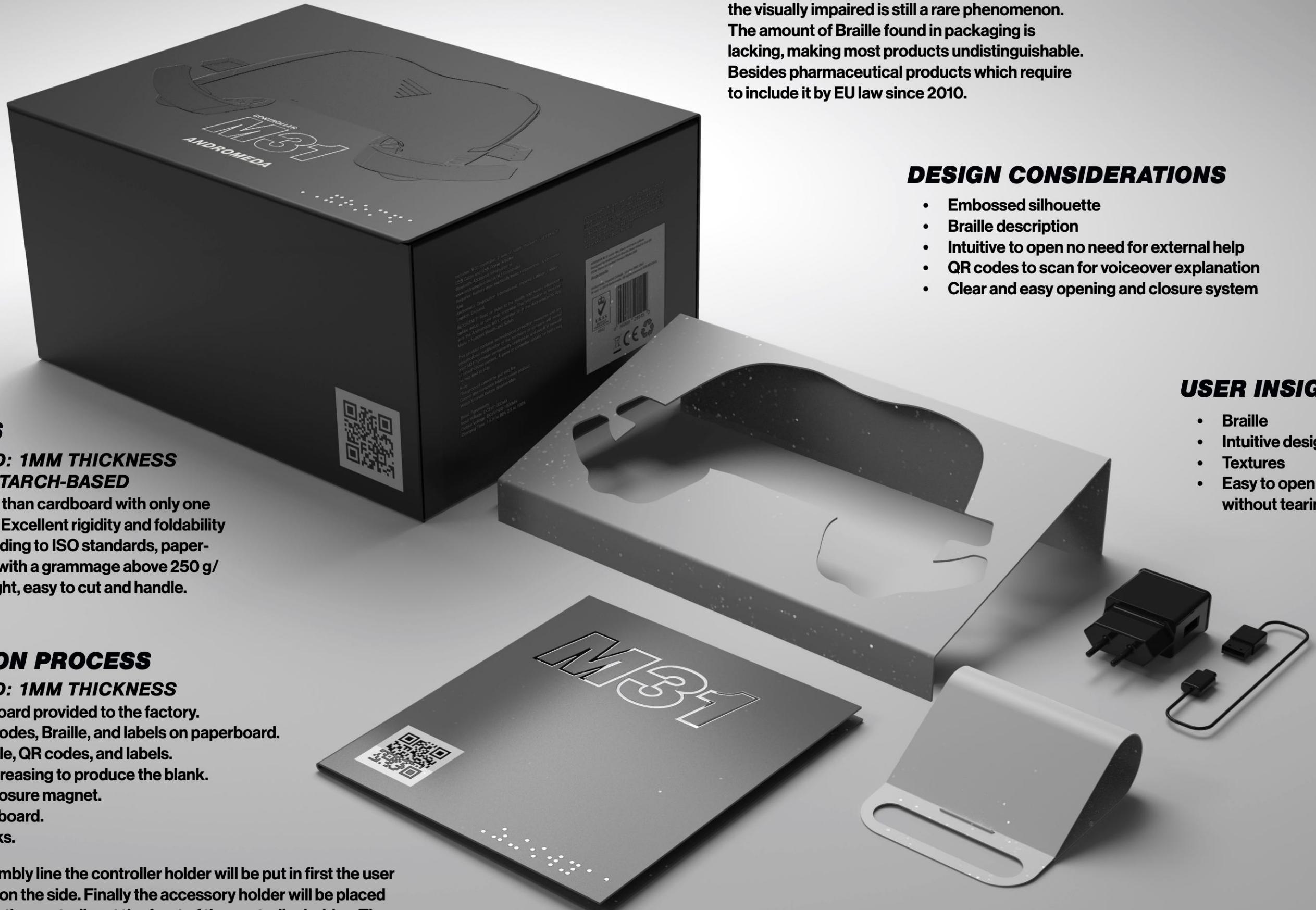
Integrated 3.5mm audio jack to allow users to use their preferred headset to experience the binaural sound in the audio games.

HAPTIC MAPPERS

Rubber rings with two integrated haptic motor drivers on each side to provide haptics vibrations that correspond to directions during gameplay and allow for variable information to be communicated (i.e. intensity, speed, damage)



PACKAGING



MATERIALS

PAPERBOARD: 1MM THICKNESS

ADHESIVE: STARCH-BASED

Easier to recycle than cardboard with only one layer of material. Excellent rigidity and foldability attributes. According to ISO standards, paperboard is a paper with a grammage above 250 g/m². It is lightweight, easy to cut and handle.

PRODUCTION PROCESS

PAPERBOARD: 1MM THICKNESS

1. Dyed paperboard provided to the factory.
2. Printing QR codes, Braille, and labels on paperboard.
3. Emboss Braille, QR codes, and labels.
4. Cutting and creasing to produce the blank.
5. Adding the closure magnet.
6. Gluing paperboard.
7. Quality checks.

On the final assembly line the controller holder will be put in first the user manual on a gap on the side. Finally the accessory holder will be placed on the gap left by the controller at the front of the controller holder. The packaging has been designed to use the minimum amount of material without compromising accessibility. The box will have padding on the inside sides to preserve the controller. The box will be closed with a magnet situated at the tip.

RESEARCH

Packaging design that takes into consideration the visually impaired is still a rare phenomenon. The amount of Braille found in packaging is lacking, making most products undistinguishable. Besides pharmaceutical products which require to include it by EU law since 2010.

DESIGN CONSIDERATIONS

- Embossed silhouette
- Braille description
- Intuitive to open no need for external help
- QR codes to scan for voiceover explanation
- Clear and easy opening and closure system

USER INSIGHTS

- Braille
- Intuitive design
- Textures
- Easy to open and close without tearing apart



StackeRs

Brief,

Create a **sustainable** alternative to package **baby products**

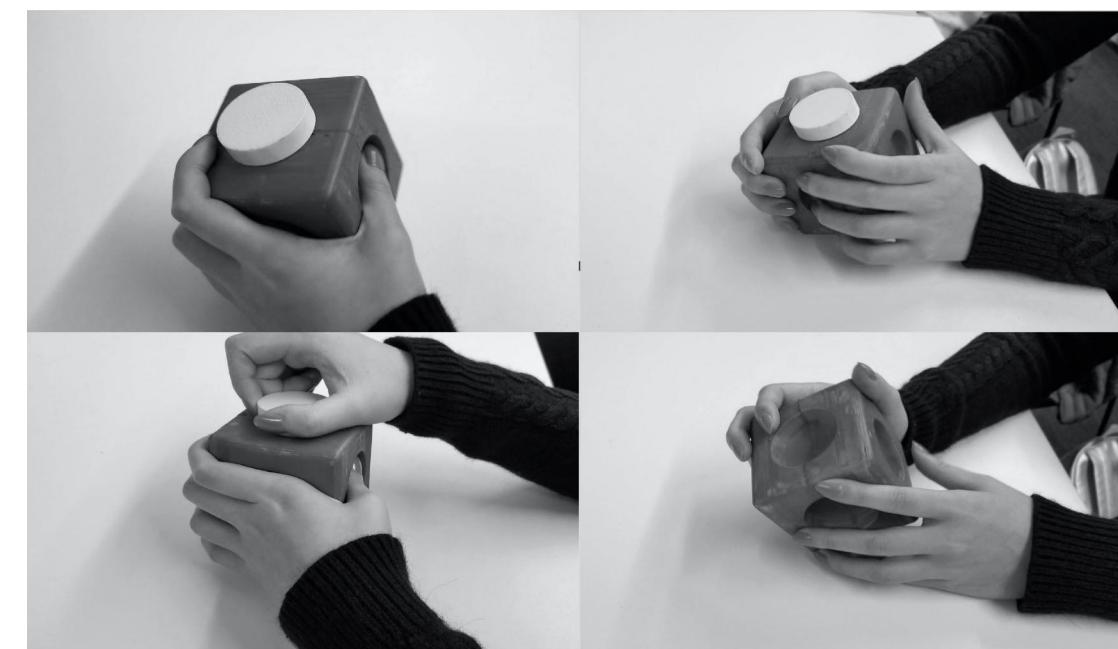
A sustainable packaging that aims to tackle single use plastics for baby bathing products.

StackeRs is a squeezable cube that can be reused as a toy. They are stackable and encourage parents to keep and collect the packaging so that the kid has more cubes to play with. They come in four different colours depending on the type of bathing product.

CASE STUDY

packaging = toy

- Users have busy daily routines and find recycling inaccessible and inconvenient.
- Users search for cute, colourful, childlike branding
- 'baby-like' themes draw them in emotionally.
- Trend for sustainable packaging and taking care for your child's future.



GROUP
PROJECT /

Packaging
Design

StackeRs

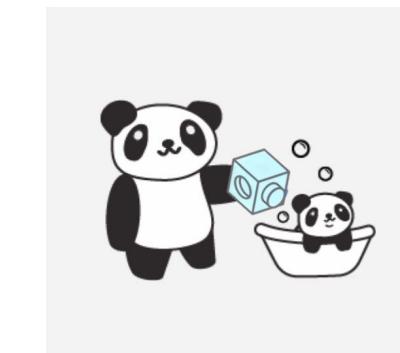
SCENARIO /

Packaging specifications /



01 USE IN BATH

Parents can use the **squeezy** bottle in the bath with their children like any other soap bottle until the product contained inside finishes.



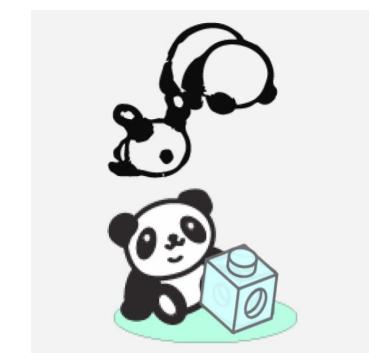
02 RINSE OUT

The empty container should be **rinsed** out thoroughly and left to **dry** completely before attempting to engage in any further use.



03 PLAY

We want to **encourage reuse over recycling**. Building block toys are versatile and timeless - children play with them for more than **3 years**.



04 STACK

Users are encouraged to see the toy as a **collectible** and develop a sense of brand loyalty. With our entire range of products, the blocks are **easy to stack and store**.



A new educational platform designed to the specifics of students.

UI and UX design of the platform. Inspired by the psychology around studying and student feedback. Taking a close look into fluidity, practicality and visual identity.



UI / UX
Design

Explanation of different features in the main page of the platform.

VCP

Project Info
Design 2
Design and sustainability
DE2-DES2
Dr Shayan Sharifi

Weekly task %age widget
- Clicking X hides widget
- Hue of wheel and number changes based on percentage completed.

Module countdown widget
Days Left
26
Out of 63

Daily Agenda
Today's Agenda
Write meeting notes
Finish Cad
Email Shayan
Research locking me...
Enter your task...
Enter your task...

Meeting Agenda widget
"I let's talk about renders tomo"
"Prototyping meeting in 2 days"
- Clicking X hides widget
- Updated meeting agenda causes change to displayed message on icon
- Update to 'blog' activity causes flag on widget icon
- Widget accessible for GROUP projects only

Timeline Gantt chart
Your Timeline
Task Date
Task Date
Task Date
Task Date

Handbook

Showcase

Surveys

News

Calendar
Thursday 25

Home

Log out

Add New

Weekly Tasks
70%
Complete

Artwork



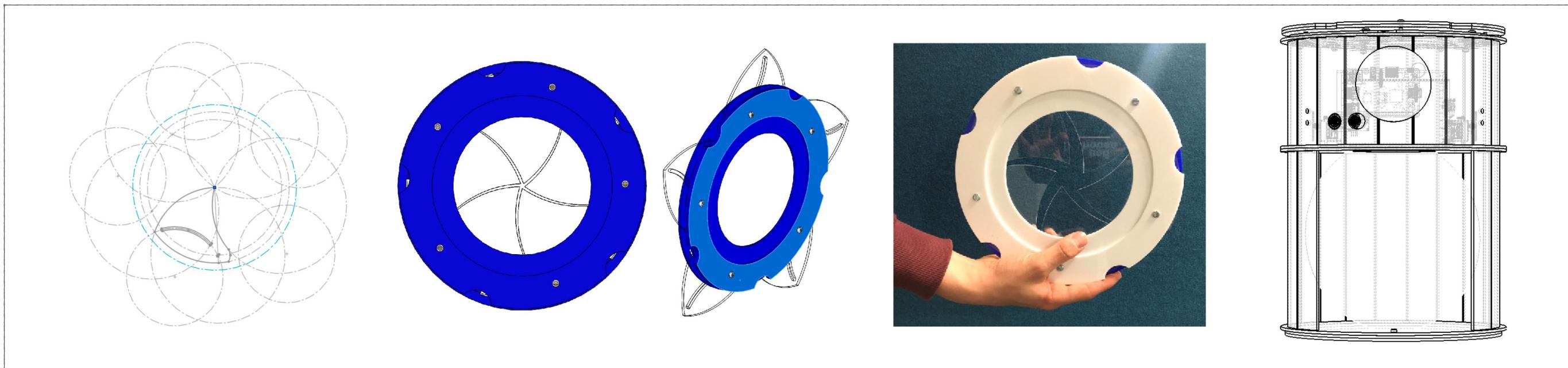
Pattern used in the department's student handbook



Fashion sketching

ASTRA

Physical
Computing



A small space themed arcade console. Using a hologram to project the game. Its aim is to generate curiosity and entertainment to the user.