

Product and Service Design

Portfolio

Hey, everyone!

Welcome
to my
Design
Portfolio

About me



My ambition is to collaborate in teams and projects that make a positive contribution to the human and social sphere, impacting the development of a more integrated and sustainable society.

In my process I follow the Design Thinking methodology focusing on a human-centred approach.

I am constantly eager to expand my knowledge, skills, and perspectives, and welcome opportunities to learn and grow every day.

Interests

Circular Design
User Research
Strategy
Design Thinking
Biomaterials
Innovation

Software

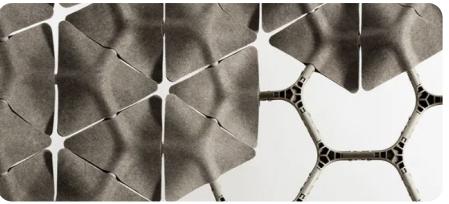
Fusion 360
Keyshot
Illustrator
InDesign
Photoshop
Procreate

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let's take a look at my **projects**

All images are by me.

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Exploring Waste as a Circular Design Strategy



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TOTO

TOTO

A Playful Stool
2021

Duration: 1 month

Team: 2 people

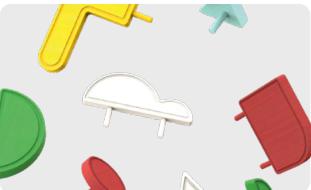
Type: Bachelor's Project

This project emerged from the need to create a timeless and adaptable child seat.

Crafted from cork and enhanced with accents of pine wood, TOTO is a bench meticulously designed to cater to the comfort and playfulness of children as well as it is adaptable for adults.

I was involved throughout the entire design process.

Product



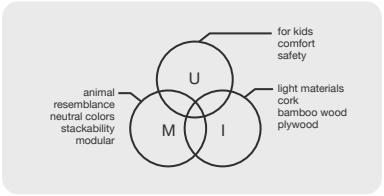
Immerse

Reflected on what I knew and outlined the research strategy



Explore

Started Desk Research, focused on Market Research

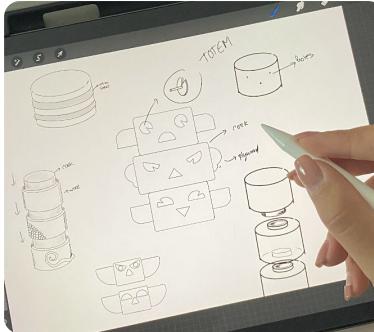


Define

Main Conclusions from Market, User and Industry Research

Prototype

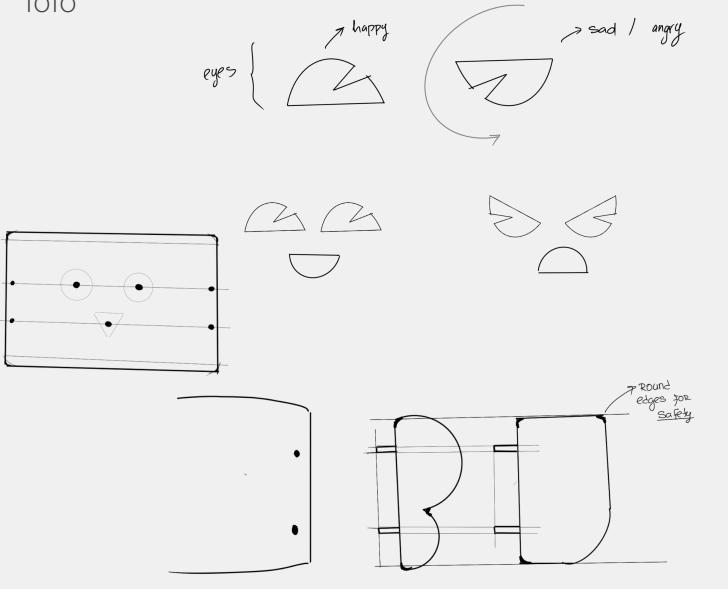
3D models done with Fusion 360
Renderings done with Keyshot



Ideate

Sketching done with Procreate

TOTO



With a thoughtful approach, we've created two benches, each with varying diameters, that can be ingeniously stacked to form a captivating totem. These benches not only stimulate children's imagination but also offer adaptability for adults.



The seamless blend of natural materials invites both young and mature users to experience ergonomic and imaginative seating in perfect harmony.



Meeting Booths

Meeting Booths

Acoustic Solutions
2022

Duration: 6 months

Team: 3 people

Type: Master's Project

Client: Castelhano e Ferreira

Castelhano e Ferreira is a Portuguese company, dedicated to the optimization of workspaces specialized in acoustic materials.

This project began when we were approached by the company with the intention of developing acoustic booths that enhanced the workspace and acoustics of open-plan offices.

I was involved throughout the entire design process, focused on industry research, ideation and rendering.

Industrial



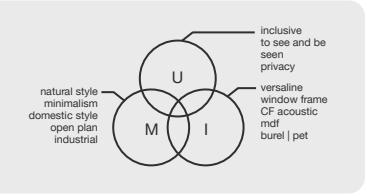
Process Meeting Booths

Immerse

Reflected on what I knew and outlined the research strategy

Explore

Developed research focused on Industry to understand how they're built and what main materials are used



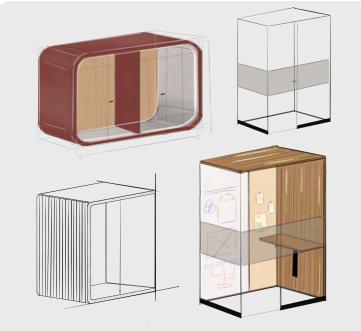
Define

User | Market | Industry Research Conclusion



Prototype

3D models done with Fusion 360
Renderings done with Keyshot



Ideate

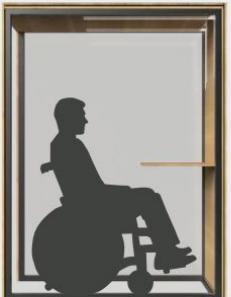
Sketching done with Procreate

Meeting Booths

The *Quick Call* cabin was conceived to be as accessible and inclusive as possible. Its lack of a floor and door facilitates easier entry and exit for individuals with reduced mobility.



The *Meio Meio* cabin was designed taking into account the fact that people feel more vulnerable from the waist down, so by covering this area of the body, it allows its users to feel more comfortable.



The premium version of *Quick Call* was designed to ensure optimized acoustic performance.



We also designed a version with an opaque door for extra privacy and acoustic performance, as well as a bigger version for group meetings

The *Open Space* cabin was designed for group meetings of up to 4 people, and its hinged doors capable of rotating up to 270 degrees allow the doors to fully open, creating a spacious and open workspace when needed.



Tourist Trains

Tourist Trains

Exploring the Future of Mobility

2023

Duration: 6 months
Team: 2 people
Type: Master's Project
Client: Deltrain

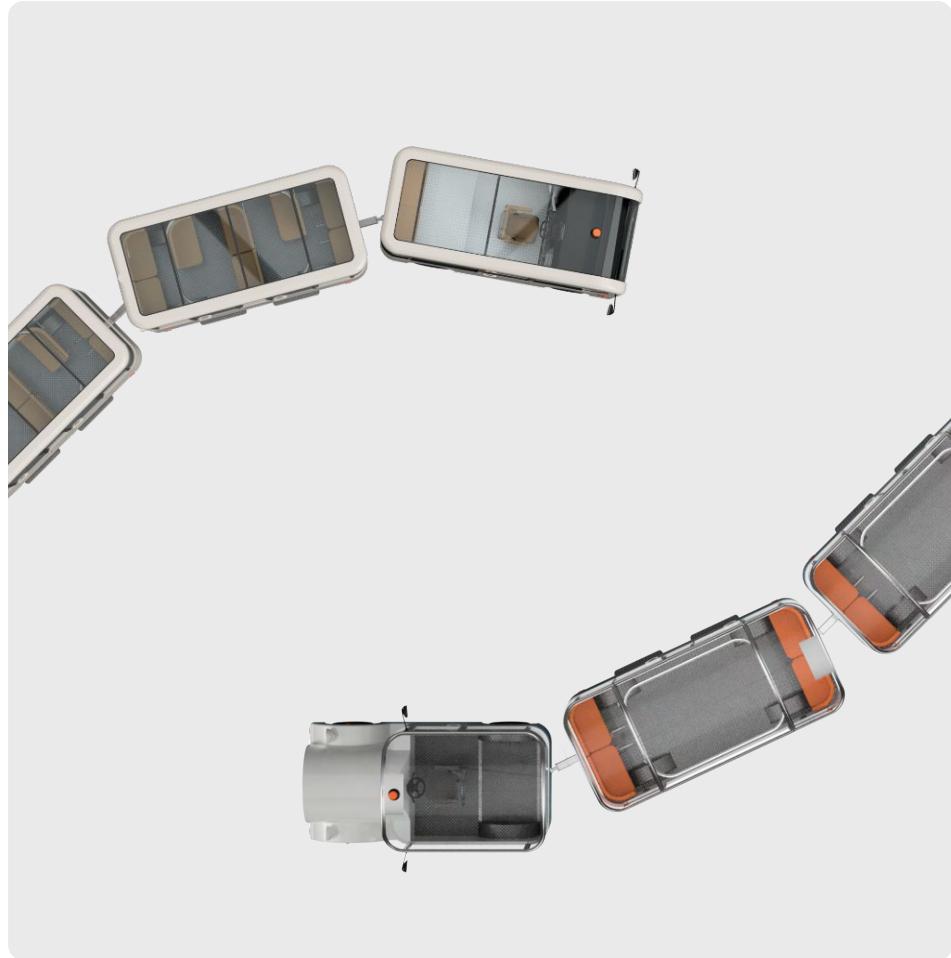
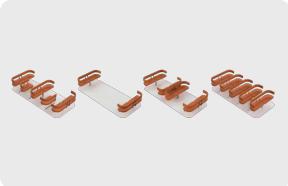
*Selected for: Design
Ecosystems - 1st Funchal
Biennal of Art and Design*

Deltrain is a key reference in the people movers industry at international level and has been a manufacturer of tourist trains in Portugal since 1997.

The project began due to the company's need to make the transition to electric trains and consequently make them lighter. The challenge involved giving them a new look while always keeping in mind the needs of its users.

I was involved throughout the entire design process, focused on user research, ideation and rendering. Only modelled 1 concept.

Industrial



Process Tourist Trains



Immerse

Reflected on what I knew and outlined the research strategy / deadlines



Explore

Going to the context for experience safaris, observation, and contextualised interviews with users

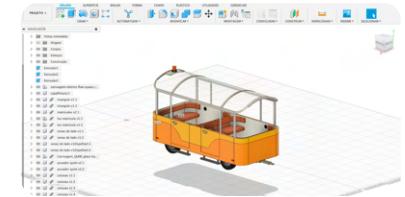


Define

Brainstorm Session based on User | Market | Industry Research Conclusions

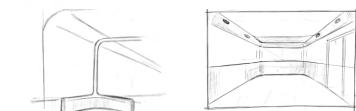


User research consisted of interviews, stakeholder map, personas, customer journey maps, and empathy maps



Prototype

3D models and rendering done with Fusion 360



Ideate

Sketching done with Procreate and on paper

Tourist Trains



Different Possible Layouts

In order to make the user experience as comfortable as possible, it was important to start from the *inside out*. Therefore, these seats were designed to allow for different layouts according to the customer's needs while also keeping ergonomic measurements.

The structure of this bench is attached to the train's structure, ensuring greater stability. One of the supports was utilized to serve as a footrest for passengers traveling in the back seat. Each seat fits 2 people and provides lumbar and feet support.



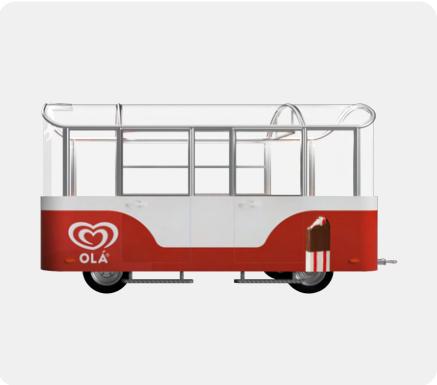
Tourist Trains



The *Imaginário* train transports people to a nostalgic and playful universe, designed with children and families in mind, this concept transforms the more traditional format and simplifies it. The contrast between steel and glass creates greater visibility to the outside.



Interiors



Customisable coatings



The *Flow* concept was designed to distinguish itself from the preconceived idea of trains, created from organic and contemporary lines, it provides a panoramic view that enables the connection between the interior and exterior.



Interiors



Customisable coatings

Universe

Universe

Promoting FBAUL's Services
2023

Duration: 6 months

Team: 6 people

Type: Master's Project

Client: Faculty of Fine Arts,
University of Lisbon (FBAUL)

Universe is a service that gathers and showcases all the services provided by FBAUL, consisting of the development of an app. It promotes greater interaction between the institution, its students, and society as a whole.

We believe it is beneficial to make all the services provided by FBAUL known to both society and all University of Lisbon students.

I was involved throughout the entire design process, focused on UI development.

Service



Immerse

Reflected on what I knew about the Faculty of Fine Arts, what was the main challenge and the services that needed to be shared

José Fernandes

Needs
Would like to pay a late tuition fee but doesn't have the availability to attend during college hours because he is working.

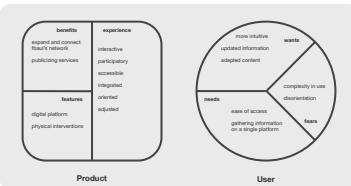
Frustrations
The office hours are incompatible with classes and work, so he can't pay because the only way to do it is in person.

Rita Cunha
student

Needs
Services more accessible remotely, problem-solving in a more autonomous, easy, and immediate way.

Frustrations
The information found on the website is confusing, and she feels overwhelmed because she can't contact the university.

Explore
Developed Personas based on students



Define

Developed Value Proposition Canvas and Interaction Scenario



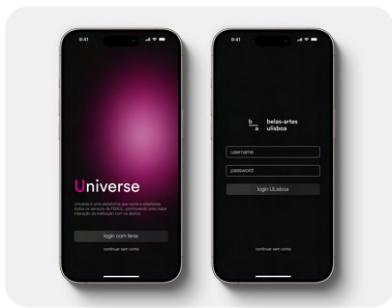
Ideate

Started with rough prototyping and moved to Figma



Prototype / Test

Developed low fidelity prototyping and used it to test with students

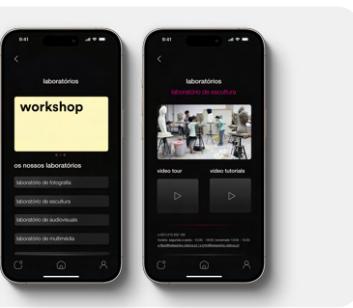


Login

Students can log into the app using their university-issued student e-mail and password. Outside users can continue without an account and freely explore the school's services.

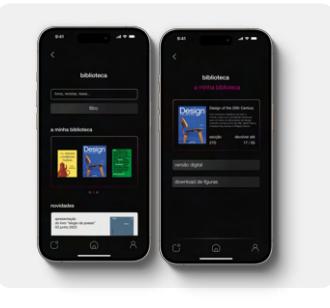


Home Page



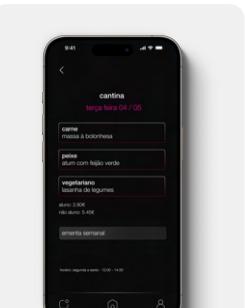
Laboratories

Here you can take a look at all the different laboratories provided by the school and get familiar with them by watching video tours and video tutorials.



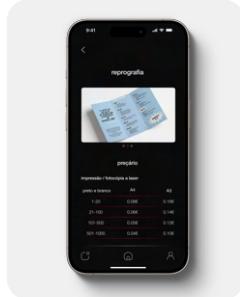
Library

Use the search bar to find the book you've been looking for, by filtering the results you could also get access to thesis and magazines. Select "my library" to take a look at your favourites and always know in which area of the library where to find them.



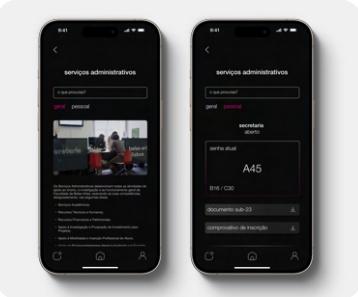
Canteen

Always know what's on the menu! You can check the canteen schedule as well as the daily and weekly menu.



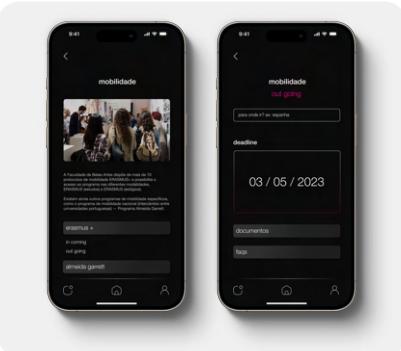
Reprography

Take a look at the reprography's catalog and check the prices in case you need to print your next work there.



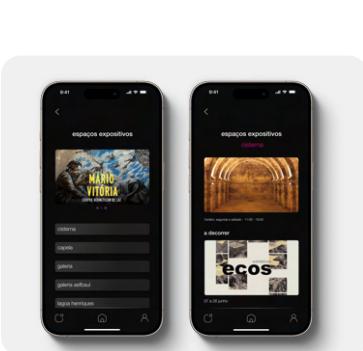
Academic Services

Did you get a ticket so you could meet with the secretary but have class and can't afford to wait around? No worries, check the progress on the app and know when it's getting close to your turn.



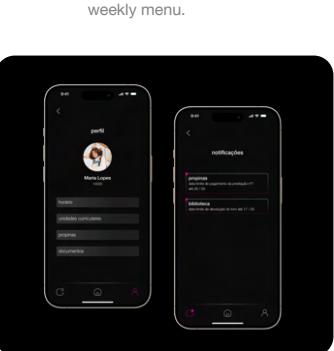
Mobility

Get to know the opportunities available for you. Search possible destinations, be informed on how to proceed and be reminded of the deadlines.



Galleries

Discover all of our school's galleries and the different exhibitions happening during the year.



Profile / Notifications

Rockpellet

Rockpellet

Modern Design.
Natural Impact.
2024

Duration: 4 months
Team: INNGAGE
Type: Work Project

INNGAGE's client is developing new sustainable materials in the form of pellets (polymers). One of the materials under development is called "rockpellet", a biopolymer produced using stone dust with a polymeric binder. The aim of this project was to find product paths / product families for this new material. The goal was to achieve solutions with a strong impact, but also with great commercial capacity.

The team was divided and focused on different research areas. On a first phase I was responsible for Market Research regarding biomaterials. On a second phase I was responsible for research / development of outdoor furniture.

Industrial



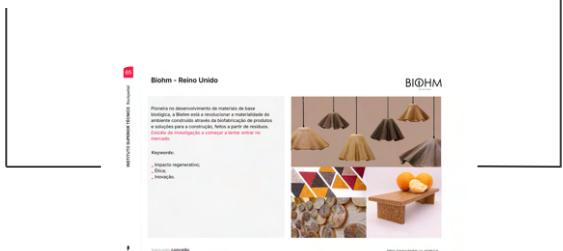
Process - 1st Phase

Rockpellet



Immerse

We conducted Workshops with the client to try and understand the material, it's properties, strengths and weaknesses. After some reflection on the workshop outcomes the project manager assigned responsibilities. I was responsible for Market Research



Explore

Developed Market Research about biomaterials, B2B, different products and companies that use biomaterials / bio plastics and how they're applied

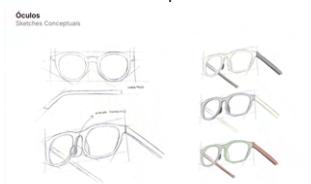


Define

The team defined different possible product scenarios for the *rockpellet* material. I helped create personas and moodboards for each scenario

Meeting with the client

We then had a meeting with the client to try and choose only 3 scenarios to continue working on



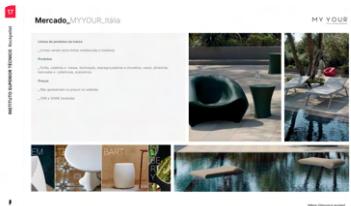
Ideate

Started sketching for the different possible product scenarios

Process - 2nd Phase

Rockpellet

After the meeting with the client we defined what product scenarios to keep developing. I was assigned the Outdoor Furniture scenario. I had to restart the process



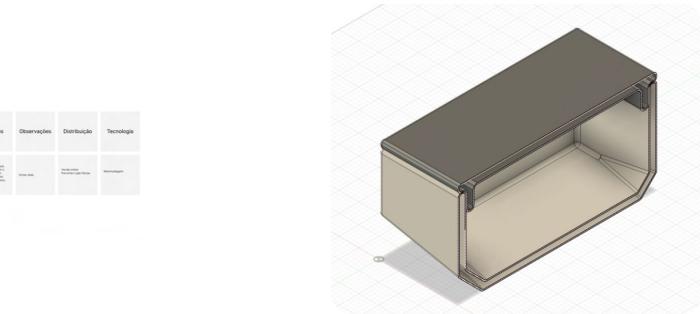
Explore

Developed Benchmark research and analysed different brands and corresponding products, from aesthetics, to technology, strategy, pricing, etc...



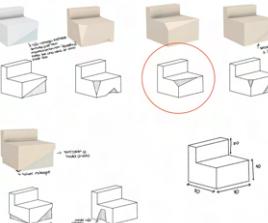
Define

Defined where we would like to be situated compared to other brands / products. Product Design Specification (Product, Market, Material, Details, Observations, Distribution, Technology)



Prototype

Developed models and renders to show to the client and to be approved. Modeled with Fusion 360, renders were done with Keyshot



Ideate

Started sketching, the aim was to resemble stones to emphasize the nature of the material

Outdoor Furniture
Rockpellet



The collection consists of 4 different models. 1 chair, 1 corner, 1 bench and a table that the client can choose if they want to get a normal one or a table with a lid for extra storage.

Since the material can have different colours depending on the type of stone dust used, it is possible to choose the lids colour.

The pieces are engraved with the phrase *I used to be waste* to create a story and appeal to the clients consciousness.

Isu Chair

Isu Chair

Architects Chair 01
2024

Duration: 1 month

Team: 3 people

Type: Buildner's Design Competition

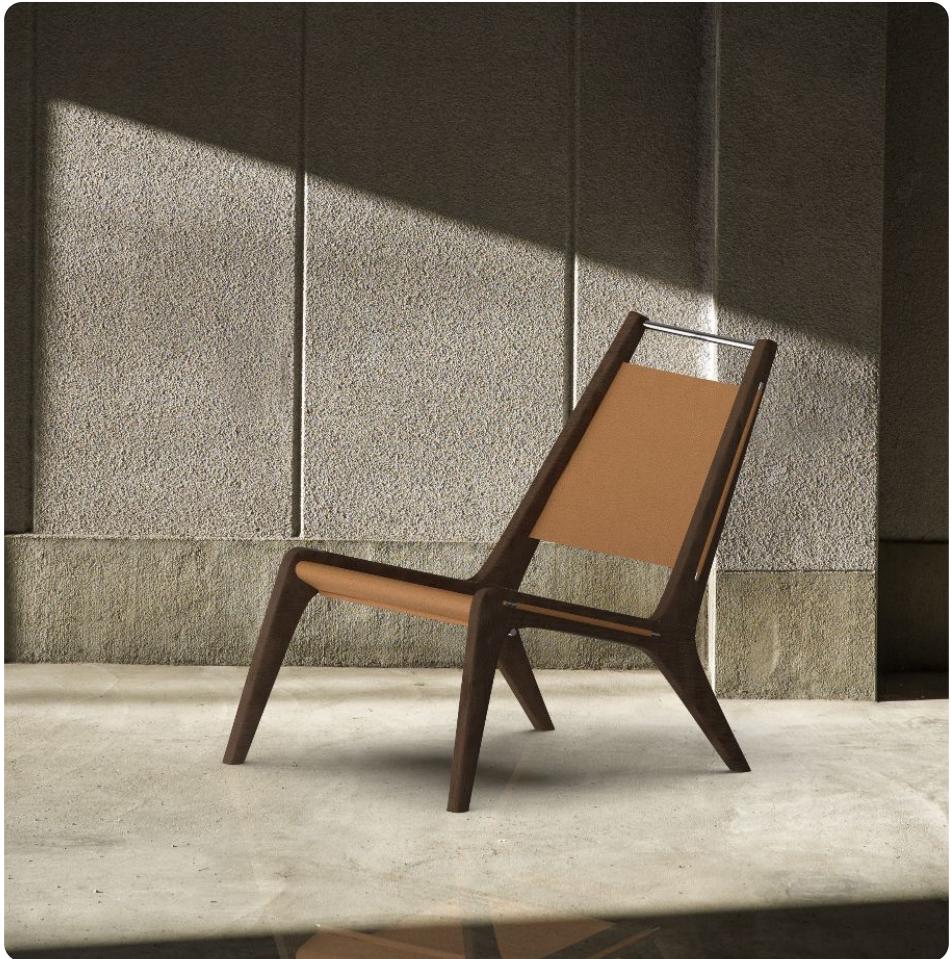
Featured on: "The Architect's Chair 01, Take a Seat and Make a Statement" book, page 168

The Architect's Chair Competition is an annual international design competition that invites architects and designers worldwide to submit designs for a signature chair. The goal was to develop a visually striking and unique design that embodies the chosen architect's personal style, making the chair an iconic representation of their design philosophy.

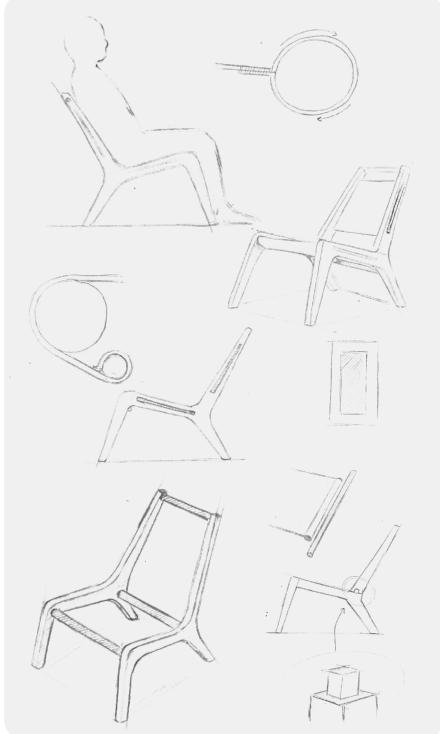
Isu (chair in Japanese) was designed to showcase the architects Carlo Scarpa's and António Garcia's design philosophy, two renowned artists inspired by the culture.

I was involved throughout the entire design process, focused on sketching and rendering.

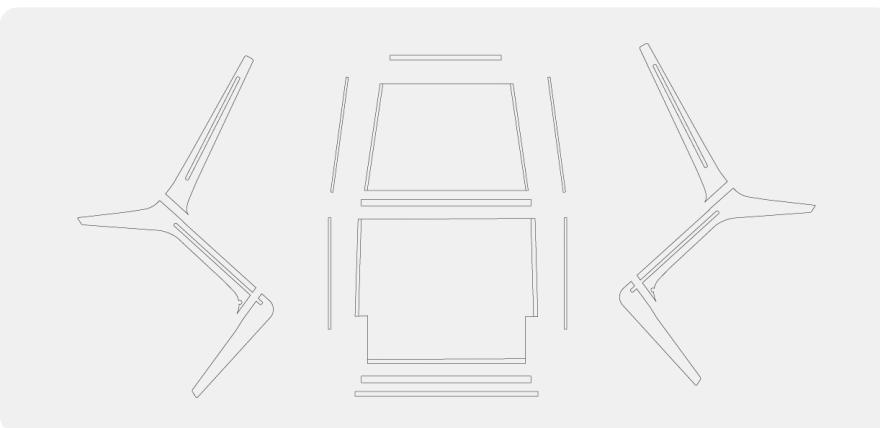
Product



Isu Chair



This leather comes in various colours which makes this chair customizable



This chair has adaptability in mind as its easy to assemble and disassemble. With environmental accountability in mind the isu chair uses three materials in its most efficient way. Wood as the structure, vegan leather for a cozy touch, and metal as a transition and structural solution.

Isu uses a fine-tuned system that minimizes the number of parts produced. With this solution there is no need to use screws or glue.

C MATTERs

C MATTERs

Exploring Waste as a
Circular Design Strategy
2024

Duration: 1 year

Team: Individual

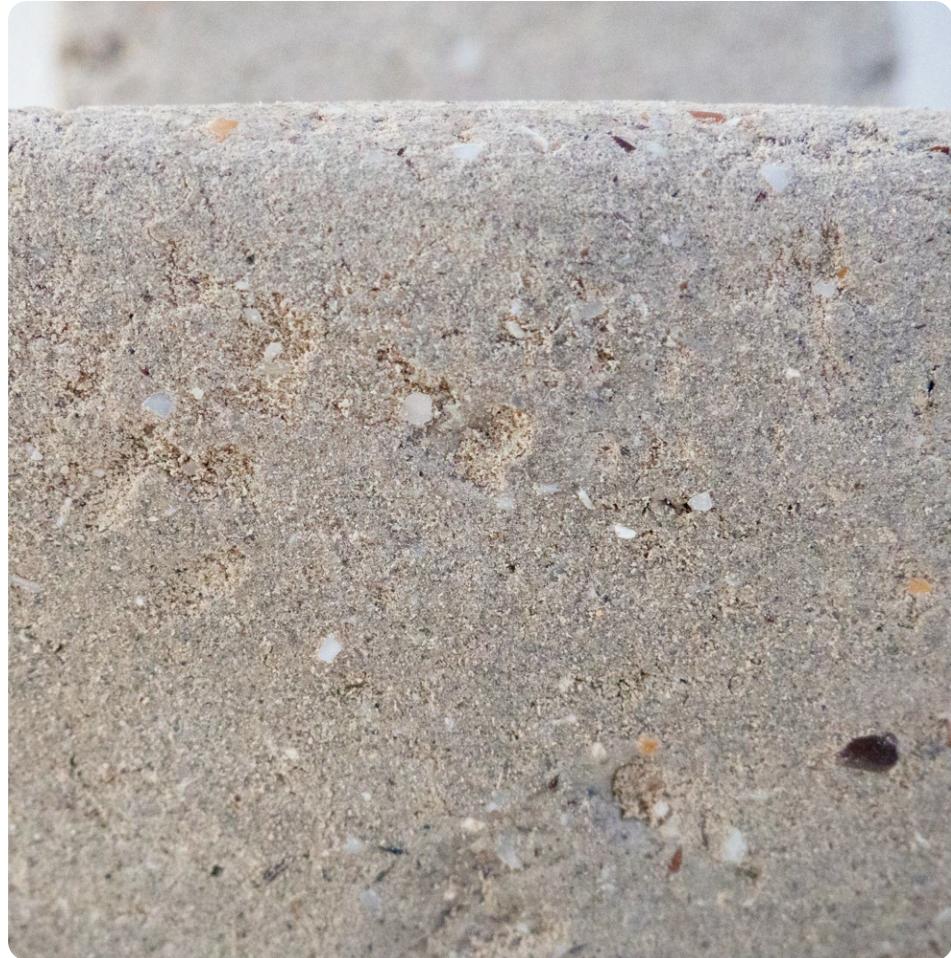
Type: Master's Dissertation
Project

Selected for: *Interspecies*
Exhibition at CCB (Cultural
Centre of Belém), Lisbon

C MATTERs is the result of my Dissertation Project, and it presents a biomaterial created from local construction and demolition waste combined with discarded shells from the local food industry.

This project transforms urban and industrial byproducts into sustainable building solutions, demonstrating the power of Circular Design to reshape cities.

Circular Design



Project Framework

Climate change, environmental degradation and social inequality are urgent challenges that require innovative and sustainable solutions. Design, traditionally associated with the creation of new products, can play a key role in mitigating these problems by rethinking its impact and promoting more responsible practices. This study explored how Design can contribute to sustainability, transforming **urban waste** into valuable resources.

The C MATTERs project focuses on the requalification of Lisbon's Martim Moniz Square through the reuse of discarded materials. Rather than just creating street furniture, the aim is to stimulate reflection on the potential of Design to regenerate public spaces and raise community **awareness**. The aim is to promote systemic changes in the way we design and use urban spaces, reinforcing the importance of circularity and sustainability.



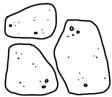
Brief

This project aims to exploit the potential of urban waste, such as **seashell waste** from the food industry, as well as construction and demolition waste, such as **recycled concrete**, in order to make cities more circular and promote social interactions that contribute to environmental regeneration.

The waste typology was chosen after detailed research and interviews with environmental engineers.

The Material C MATTERS

Concrete
from Construction and Demolition Waste



concrete waste



break down with hammer



after grinding process

01

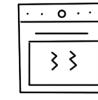
Shells
from Food Industry Waste



shell waste



wash properly



put in the oven at
180°C



after grinding process

02

Material Mixture



concrete

+



shells

+



sodium alginate

+



water

03

After the material has been mixed, it is transferred to a mould where it is left to dry and then submerged in a mixture of calcium chloride and water until the material completely solidifies.

The Material
C MATTERs



This study explored the feasibility of creating a new biomaterial from waste. With an exploratory nature, only the aesthetics of the material were analysed, no mechanical or chemical tests were conducted.

The results offer directions for future research and possible sustainable applications.

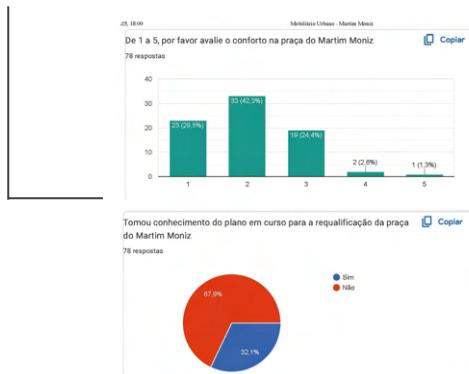
Furniture Project Process

C MATTERS



Immerse

Reflected on what I knew about the Square and developed a Cognitive Map



Explore

Developed Surveys, Interviews, Stakeholder Map and Market Research / Benchmark



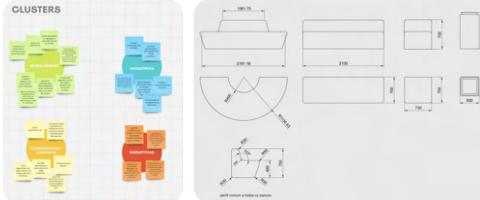
Define

Product Design Specifications



Prototype

Modeled with Fusion 360
Rendered with Keyshot
3D Printing



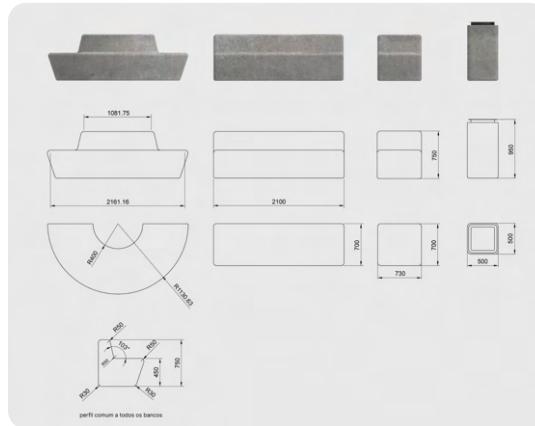
Ideate

Developed various workshops, focus groups, brainstorm sessions and started sketching



The semi-circular benches were designed to be used in pairs, positioned around the trees in the Martim Moniz Square. Their circular shape guarantees a certain level of privacy, as people sit with their backs turned to each other.

The individual benches were created for those looking for a more private space without compromising on safety, meeting the needs identified in workshops and questionnaires.



For those who prefer to be in groups, the long bench seats three people.

The waste bin, with a single module and indicative colours for separating waste, was developed to be modular and to increase collection points, keeping the square cleaner and more pleasant.



Extra



As mentioned on my CV, I've also done some freelance work for Fresh Design, a Graphic Design studio in Lisbon. Here are some of the Renderings I did for them.



Was responsible for Modeling the YoPro cups and the Tonosol display stand, as well as all the respective Renderings.

Thank you for taking
the time to take a
look at my work!

hope to hear from you
soon :)

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<https://www.linkedin.com/in/mariana-silva-949688277/>