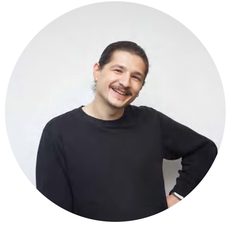
Sergiu Părgras

Portfolio



Părgras Sergiu

product designer

Bucharest, Romania
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Mobile: +40 755 790 929

Education

“Ion Mincu” University of Architecture and Urbanism	Bucharest	Product Design	2014-2019
Architectural and technical drawing course	Constanța	Architecture/Design	2013-2014
“George Georgescu” High school of Arts	Tulcea	Architecture	2010-2014

Professional experience

Atelier VAST | Designer/Project manager | solid wood carpentry custom shop 2021-2022
.designing and providing technical solutions to custom requirements, supervising, coordinating the production and generating files for CNC machines.

Kunst Atelier | Designer/CNC specialist | film/theatre/tv set and advertisement production 2019-2021
.designing and coordinating the build of custom objects for various applications in the creative field mainly by the means of numerical code machines: 6 axis milling robot, 3 axis router, co2 laser, hot wire cutter, 3D printers.

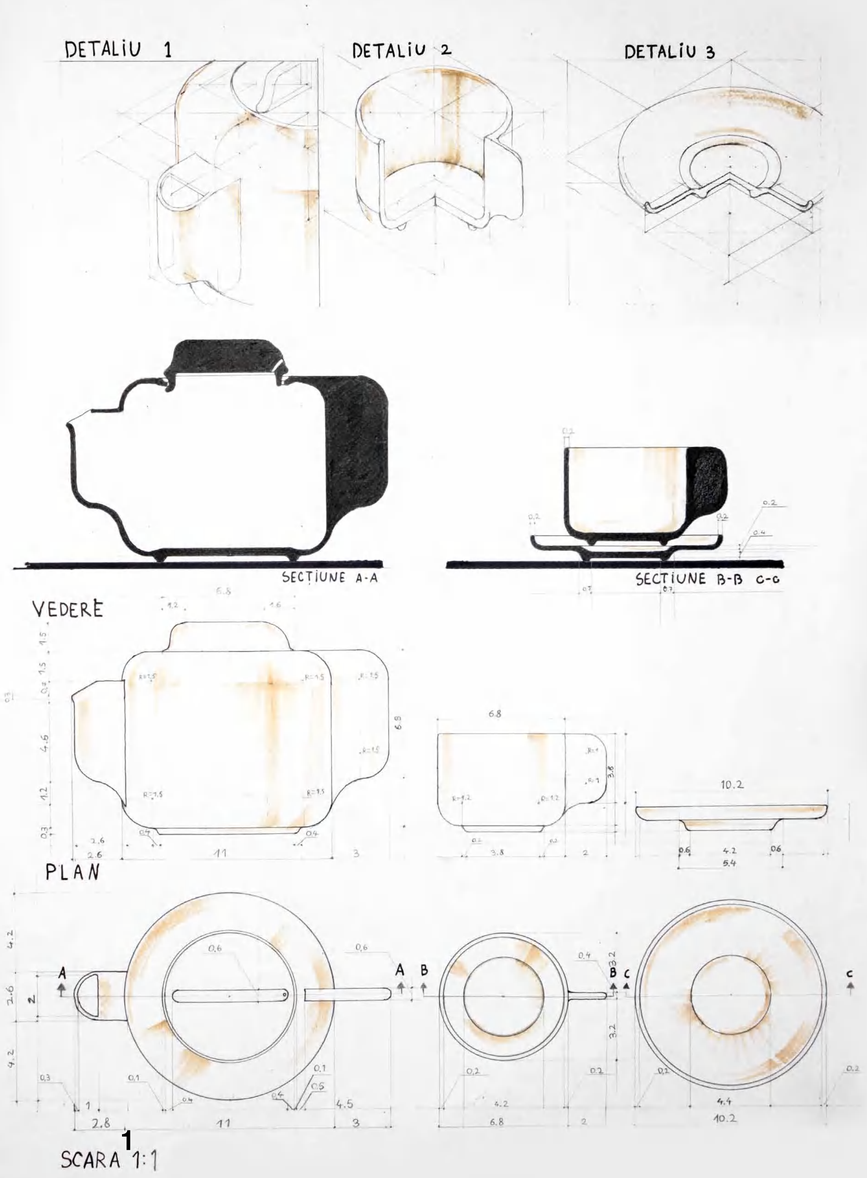
eematico | Designer/maker | educational toys and courses for children 2018-2019
.designing and making toys for the product line and course supports with the help of CNC laser and usual carpenter’s tools.

Skills

Rhinoceros 3D (+V-ray, Bongo, RhinoNest, Grasshopper), Vectric Aspire, SprutCAM, Fusion 360, Mach3, Cura, Slic3r, Photoshop, Illustrator, Indesign, Lightroom, Sketchup, SolidWorks, Blender, CNCviewer, Meshmixer.
3D modelling,3D printing, woodworking, metalworking, welding (MMA, TIG/WIG enthusiast)
english - experienced user

Interests

Photography | product, architectural and landscape
Music | drums, guitar, songwriting
Woodworking | jewllery, furniture, building and restoring musical instruments.
Fabrication | metalworking, welding, milling, lathing, subtractive fabrication, additive fabrication, plastic recycling
Sports | Snowboarding, skateboarding, running, badminton.



University projects

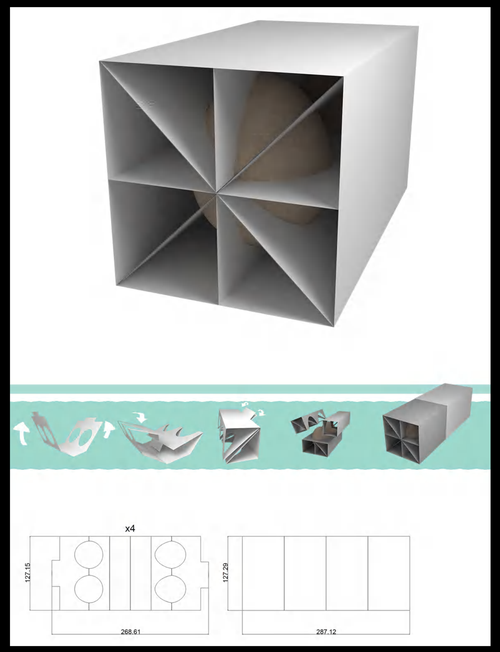
Teapot set project

In product design school, one of the first assignments was to design a set containg a teapot, teacups with dishes. This set had to use basic principles of ensemble composition, whilst maintaining function and aesthetically pleasing design.

Egg carton

The main objective of this exercise was to design an egg carton for just two eggs which can handle harsh conditions.

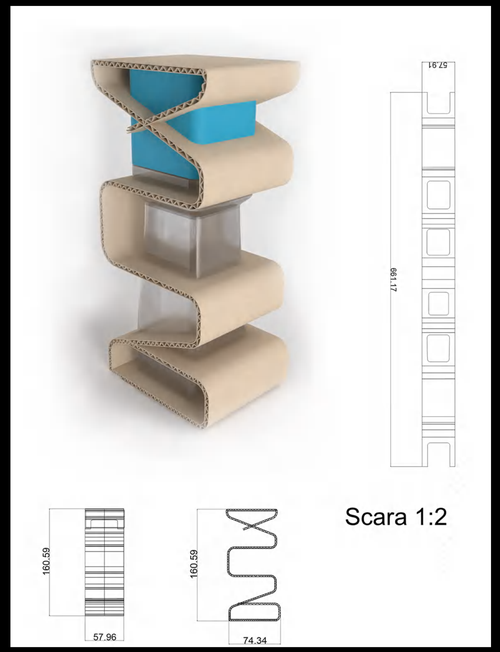
My design used single-ply stamped cartboard, obtaining protection only by geometry. It could withstand 10-20 drops from a height of 50 to 120 centimeters.

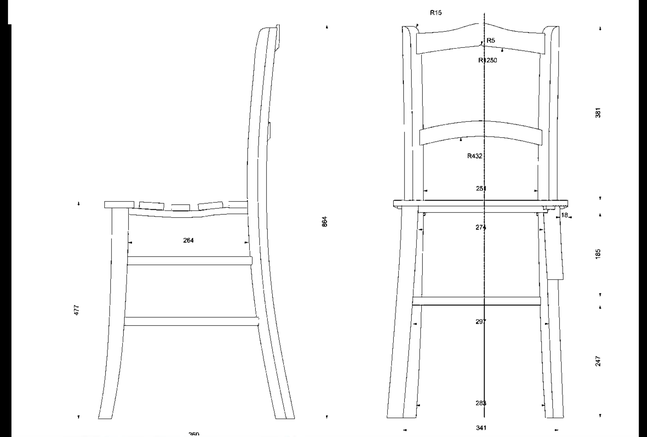


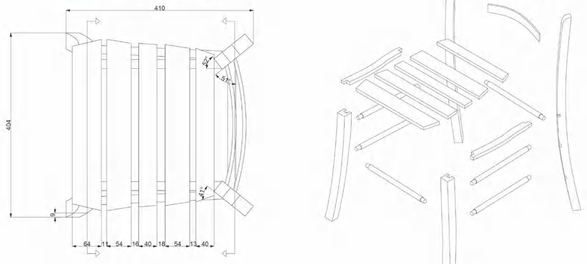
Salt crusher

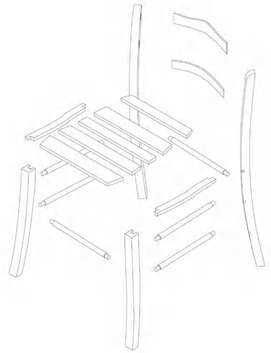
This packaging assignment focused more on the economical side of the protection requirements.

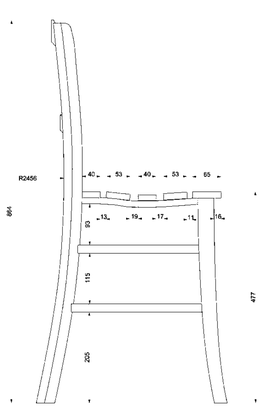
Whilst maintaing it's proprieties during shipping, this packing also could be used in the aisles of retail shops and supermarkets.

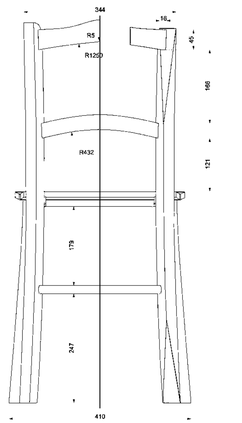












Renew design

Skills come from practicing. This project required analizing a chair with vernacular origins in the most in the most detailed manner. This chair had to be examined in order to have a better understanding of the craft for future improvement.

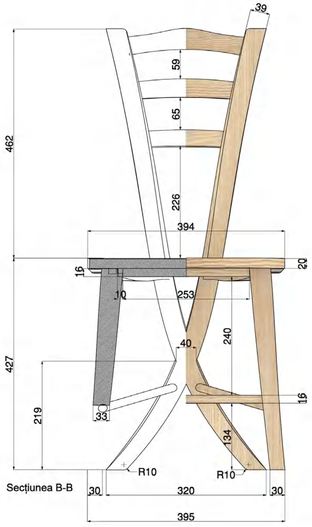
Chair reinterpretation

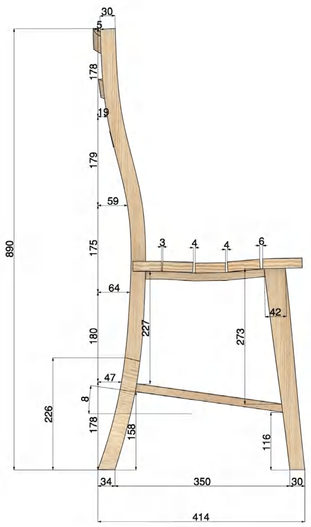
After the thorough examination of the first chair, we were tasked to redesign this common object.

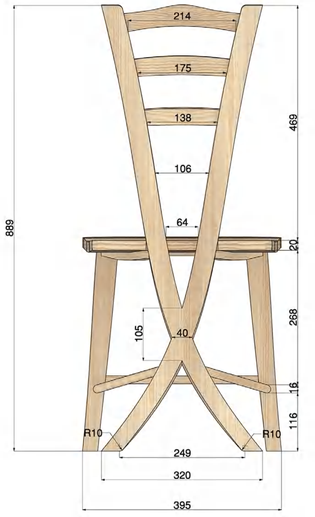
The redesigned chair combines the elements found in the original piece of furniture: the curves of the legs, the wavy motif on the back, the number of pieces and vernacular materials.

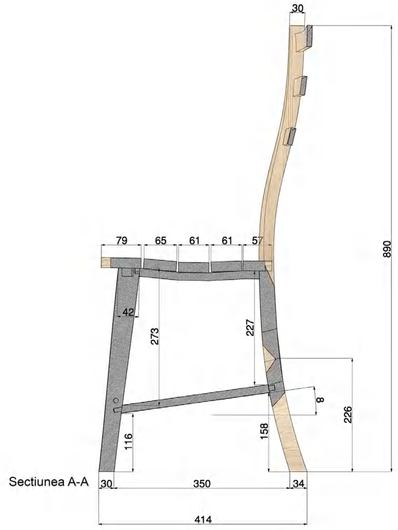
The object is a "home made" type of furniture that mimics the chairs of that period, such as Gio Ponti's Superleggera 699.

Given the fact that the chair was of vernacular origin, the choice of materials and volume resulted in an object with the spirit of objects from rural houses, combining in the composition the crossing of the hind legs, bringing the object to contemporaneity.







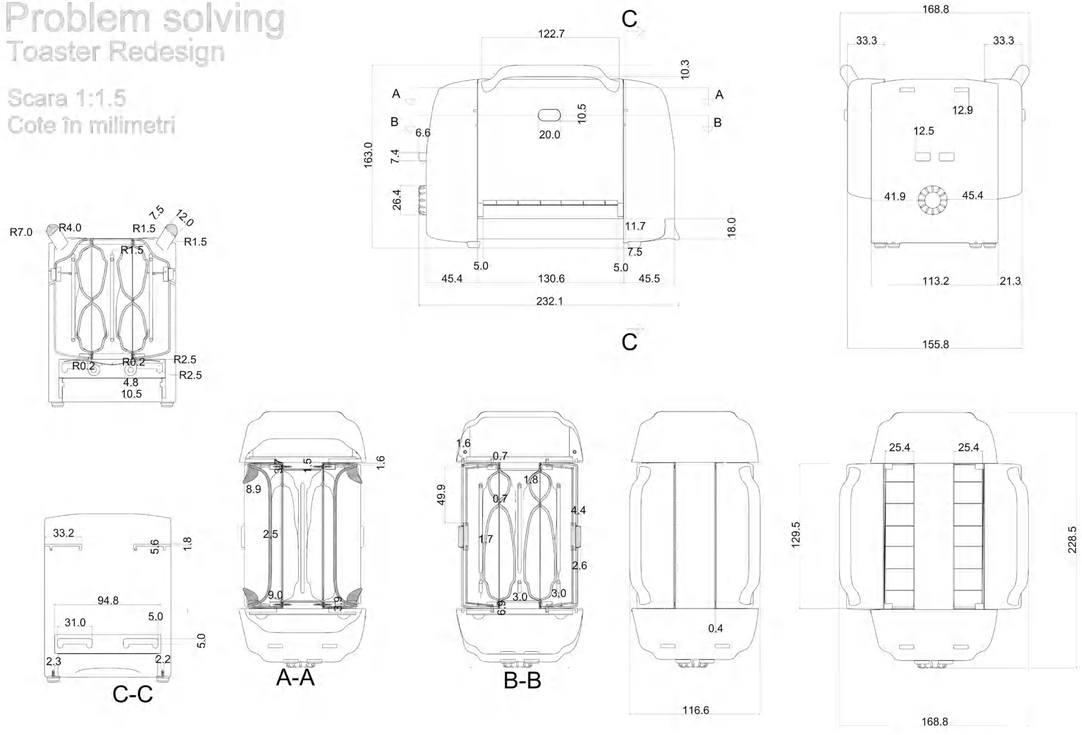


CROSSOVER

Re-new Design

Problem solving
Toaster Redesign

Scara 1:1.5
Cote în milimetri



Problem solving - toaster redesign

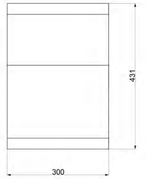
The requirement of the project was to choose an object from everyday life that does not fully fulfill its function or can be improved with the use of a redesign.

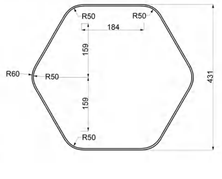
The object that resulted from this requirement was a kitchen device which combined the functions of a toaster and a sandwich maker, thus bringing the two functions into a single appliance, reducing the space occupied in the kitchen.

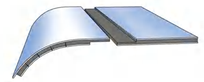
Raft din BOND îndoit

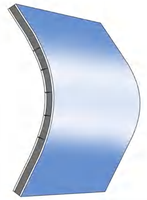
Hexashelf

Placa BOND este un panou compozit de tip sandwich
,alcatuit dintr-un miez de polietilena/mineral netoxica,
rezistent la foc,de joasa densitate,lipit intre doua placi subtiri din tabla de aluminiu fin,
cu grosimea standard de 0,5mm.Metoda de fabricare a produsului este de co-extrudare.

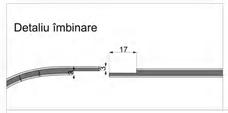


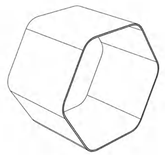


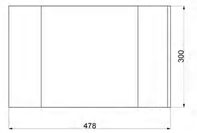




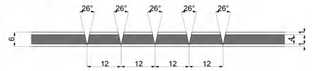
Detaliu îmbinare



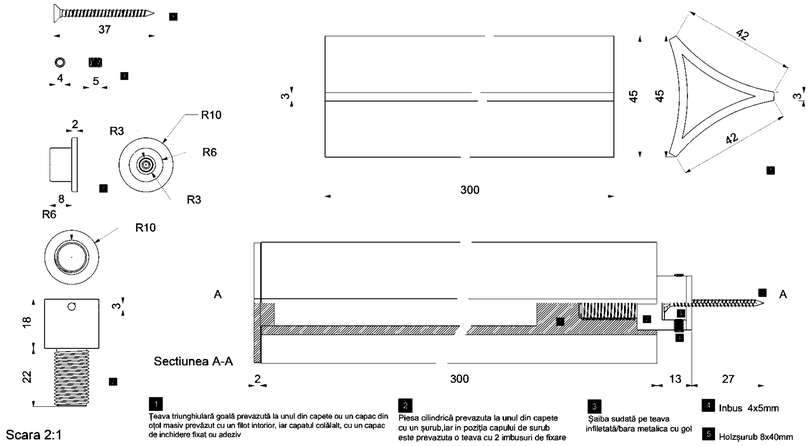




Detaliu frezare pentru îndoire



Sistem de prindere



Scara 2:1

1 Teava triunghiulară goală prevazută la unul din capete cu un capac din oţel masiv prevăzut cu un filet interior, iar capatul cotălalt, cu un capac de închidere fixat cu adeziv

2 Piesa cilindrică prevazuta la unul din capete cu un şurub,iar in pozitia capului de surub este prevazuta o teava cu 2 imbusuri de fixare

3 Şaiba sudată pe teava înfiletată/bara metalica cu gol

5 Inbus 4x5mm

9 Holzşurub 8x40mm

Composite material project.

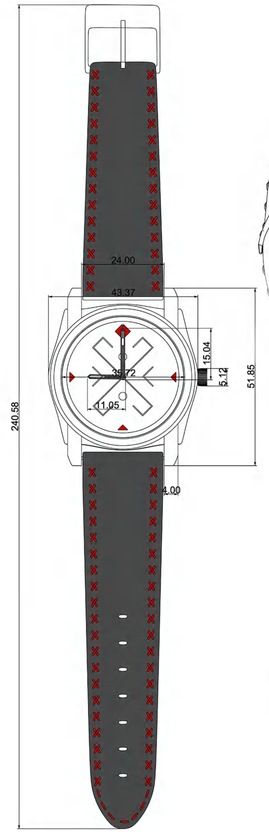
For this study we were assigned a composite material and had to explore its core strenghts and weaknesses to use in a product.

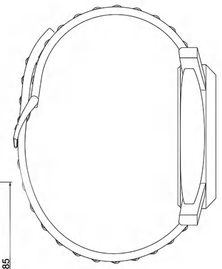
Ceas de mână cu motive tradiţionale

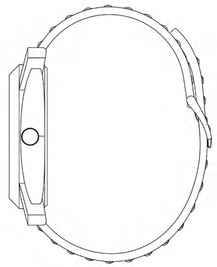
Scara 1:1
Cote în milimetri

Varianta A

Varianta B





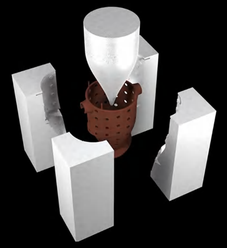


Watch design competition

Horologivm S.R.L. organized a competition with the theme of creating a watch with Romanian identity at U.A.U.I.M.

The competition was held in two stages. The first stage had as its theme the creation of a watch with identity without case dimensions. From this stage 20 projects were chosen for the next phase.

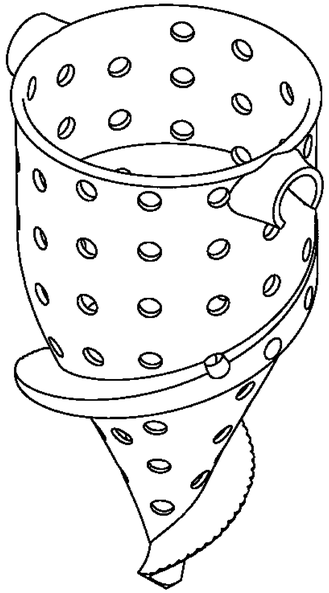
My project was chosen as a finalist for the second stage, which was not organised.



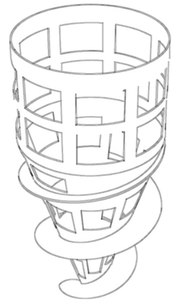
Biodegradable plant packaging

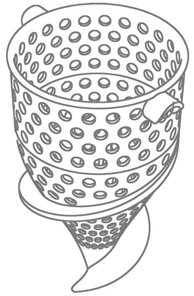
Constructed from bioplastic mass treated with ENSO RESTORE formula, the package biodegrades within two, three months.

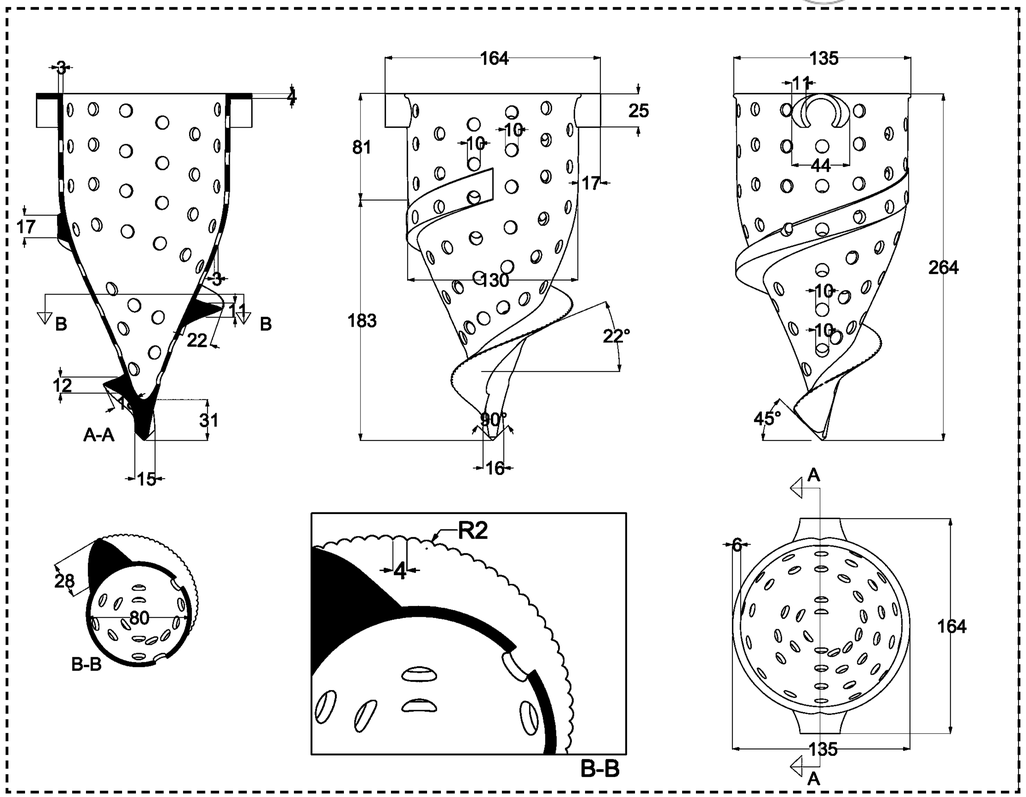
Once introduced into the soil, the product breaks down into fine granules and then its density decreases to the equivalent of 5-10% of its original density. The rotating movement of the object fixes it in the ground and the perforations in the body of the object make it possible to fix the roots of the plant at ground level.



Iterations







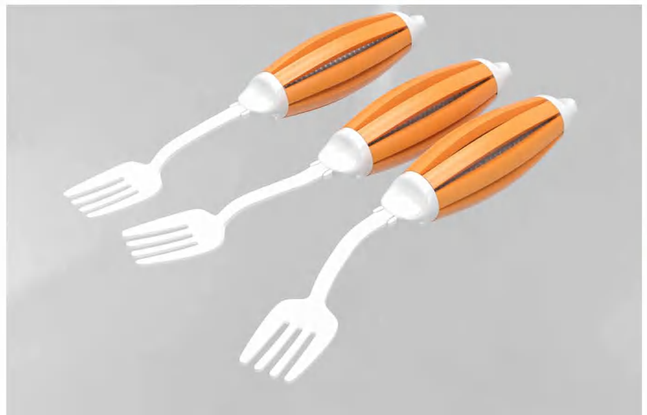
Technical

Set of utensils with adaptable handle

This utensil set is intended for people affected by degenerative muscle and joint diseases such as arthritis. Arthritis is a disease which sadly evolves over time, gradually impairing the mobiliy of the joints, thus restrictings ones abiltiy to grab objects.

With this in mind, I designed a product that evolves with the user, gradually adapting to their needs. For this need, I chose a simple solution, taking in consideration the cost of producing this set on a large scale.

The solution took shape by being inspired by the way a banana peel opens after the fruit has been eaten.



Diploma Project

Welding mask

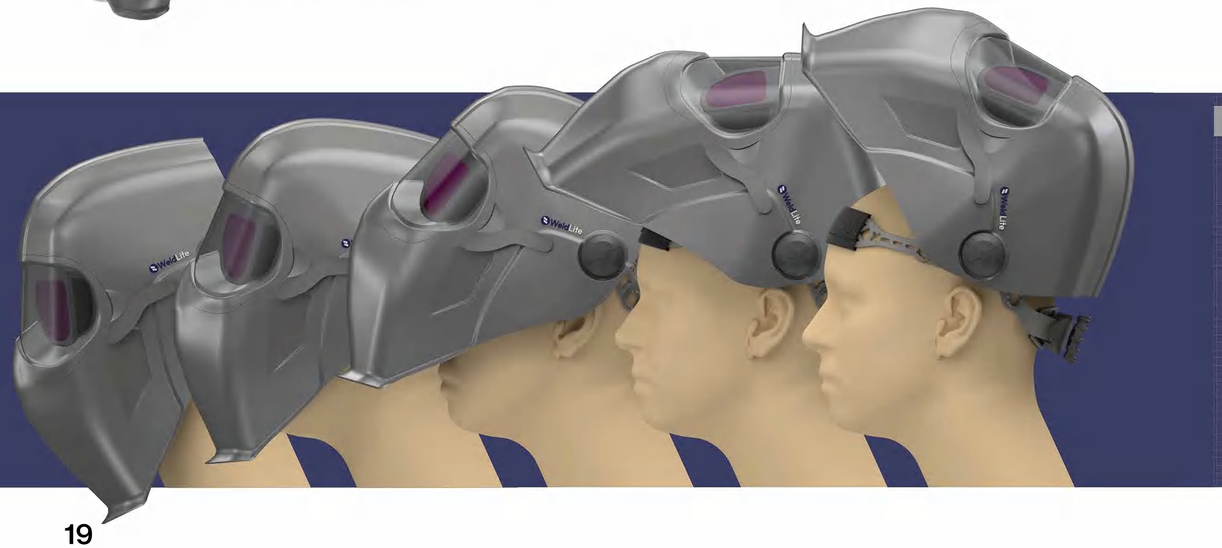
Welding is one of the technologies that led to the evolution of construction and science. Along with its advantages comes a set of risks that can endanger the health of the welder, making the need for protection essential.

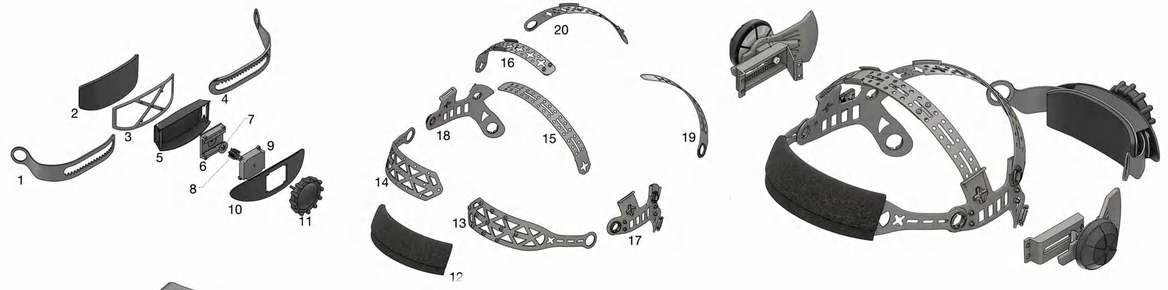
Most high-quality protective equipment is intended for those in the professional field; and as a result, those who wish to learn or do not weld professionally risk exposure to medical conditions.

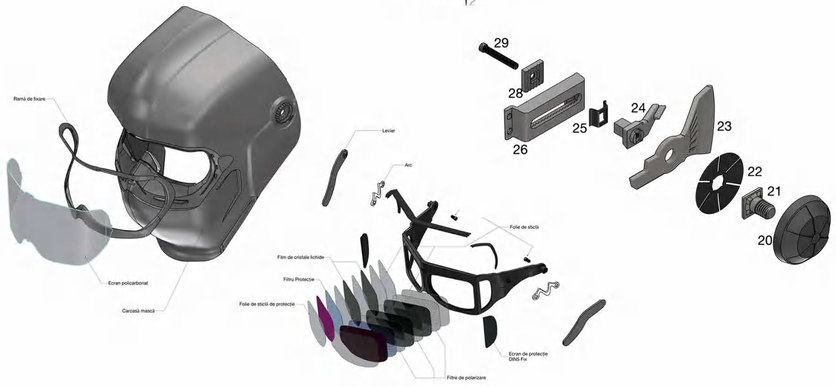
The product I propose is aimed at all welders of all experience levels. I have rethought the welding mask typology so that it has protective parameters at a low cost.

Like any project, it all starts with a cardboard model.
This time I decided to introduce the model into the virtual space through the photogrammetry process, thus being as close as possible to the empirically obtained model.

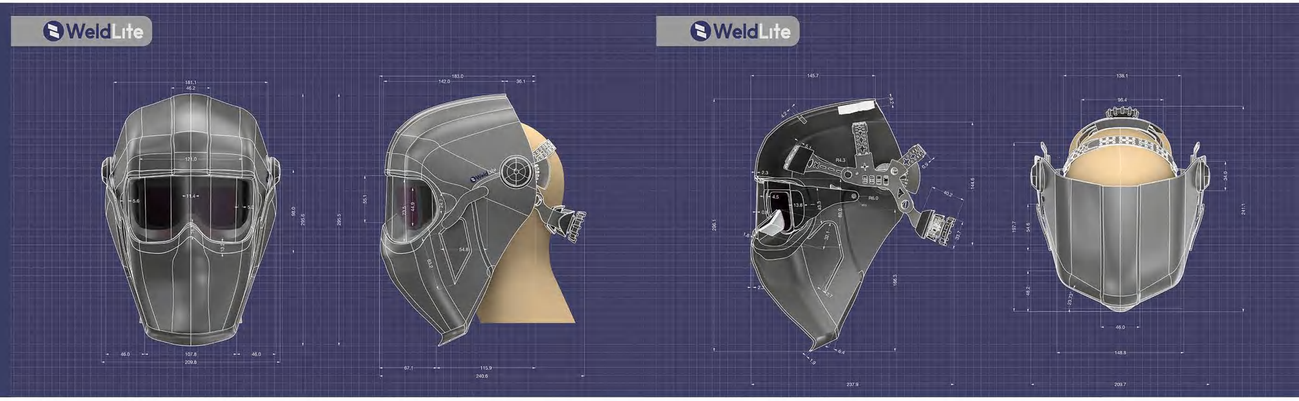
Given the purpose of the product, the ergonomic relationship is very important, and each iteration has been checked for maximum comfort.



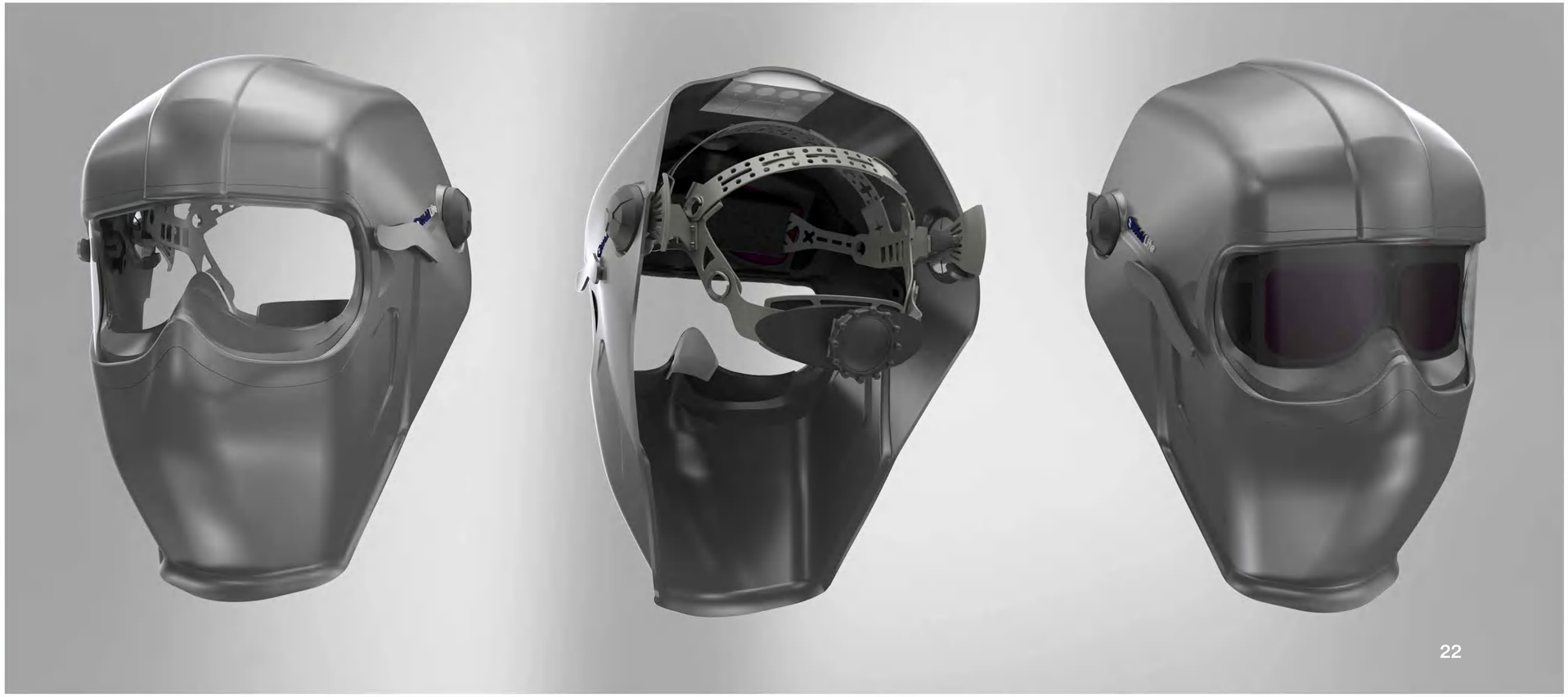




1	Curea dințată stânga	TPU
2	Burete	PU
3	Suport burete	TPCP
4	Curea dințată dreapta	TPU
5	Carcasă mecanism	ABS
6	Carcasă mecanism	ABS
7	Arc diafragmă	Otel
8	Roată dințată	Nylon
9	Carcasă mecanism	ABS
10	Capac Carcasă	ABS
11	Roată directoare	ABS
12	Tampon din bumbac	Bumbac- Elastan
13	Curea frontală negativa	TPU
14	Curea frontală pozitivă	TPU
15	Curea superioară negativă	TPU
16	Curea superioară pozitivă	TPU
17	Conector	TPCP
18	Conector	TPCP
19	Curea parietală negativă	TPU
20	Curea parietală potzivă	TPU
21	Roată cu clichet de tensionare	PP
22	Element filetat de fixare	ABS
23	Arc diafragmă	Otel
24	Element de reglare al unghiului	ABS
25	Element de fixare filetat	ABS
26	Arc platband	Otel
27	Șină de prindere clichetată	ABS
28	Piuliță dreaptă	ABS
29	Șurub m3.5x20mm	Otel



This welding mask concept was designed to compete with the professional range of masks but at a low to mid-range cost, yet maintaining the features of professional masks, such as large field of view, auto-darkening filter and grinding visor.

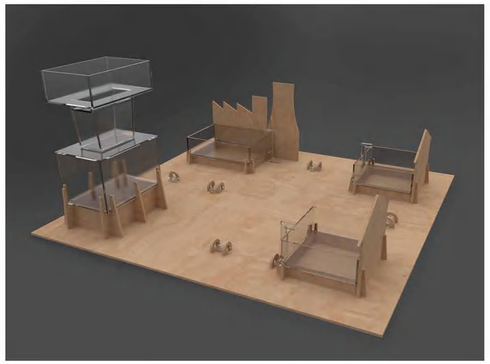


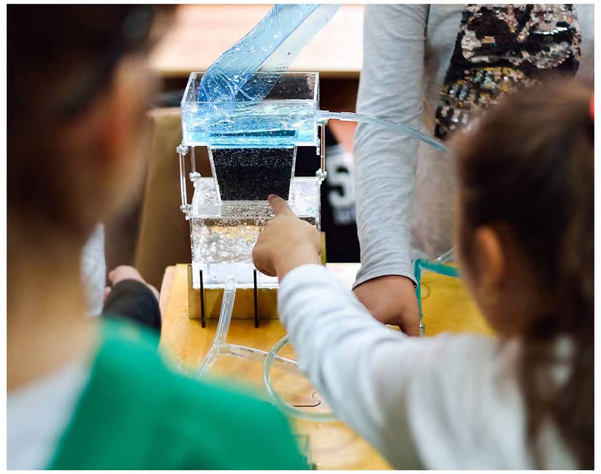
Professional work

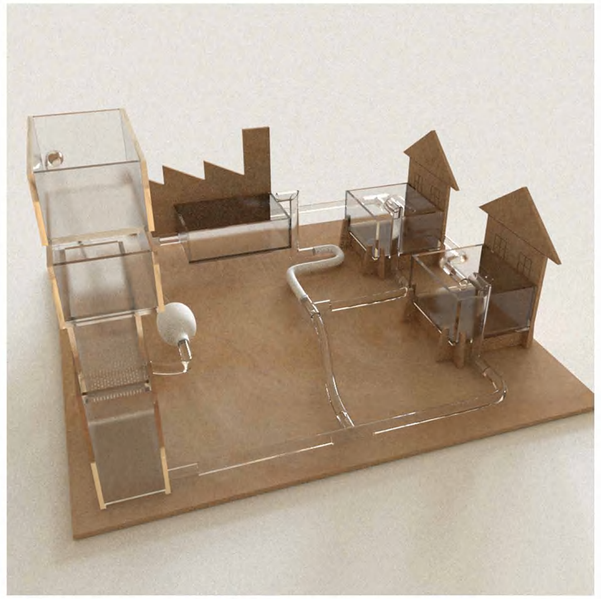
eematico

Course support materials were the main focus of the eematico design team. Some of these courses also took place in schools on the outskirts of the city, intended for children from disadvantaged families.

The object in the pictures is a material demonstrating how a city's public water system works and how water is recycled from our homes.







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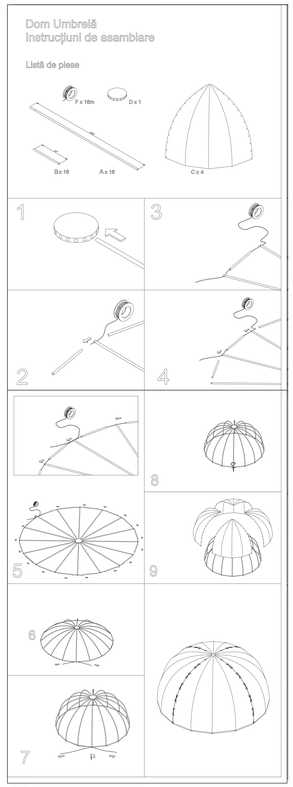

eematico is an experiential education company and they offer extracurricular courses and educational toys.

The item in the pictures is a "dome" for eematico summer camps. The purpose of the object was to provide a small space for the children and unite them for the raising of the structure.

This construction uses a tensioned structure out of RPP pipes, joined in a central piece, held in tension by a rope and a polyester tarp.

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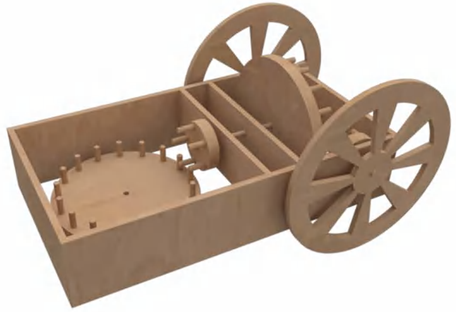


These courses teach children about many topics in different fields of science.

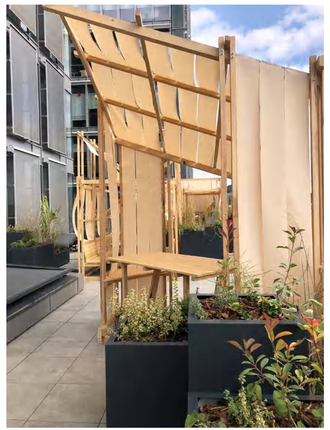
This course material is an invention of Leonardo DaVinci. It represents an odometer and children could learn about the genius of its creator and how the gears work in a gearbox.

The design and prototyping department was also looking to improve our products. One of these improvements is a solution for joining the “tyres” to the wheels of the “Rubo” cars without the need for an adhesive and cutting the rubber bands in the kit.

The course material in the photos shown is an interactive board demonstrating to children what sound representations look like and when two cables connect, they close the circuit which triggers an audio module with the sound of the respective frequency.

Office building exterior furniture

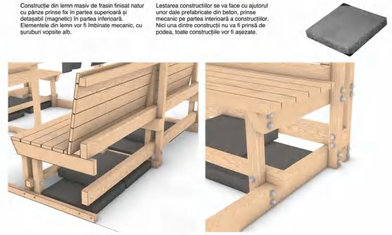
The project required designing 3 types of wooden pavillions for the WPP headquarters in Bucharest. These structures were intended for working, eating, relaxation and events.



Modul Work/Lunch

Construcție din lemn masiv de frasin finisat natur cu pânze prinse fix în partea superioară și detașabil (magnetic) în partea inferioară. Elementele din lemn vor fi îmbinate mecanic, cu șuruburi vopsite alb.

Lestarea construcțiilor se va face cu ajutorul unor dale prefabricate din beton, prinse mecanic pe partea interioară a construcțiilor. Nici una dintre construcții nu va fi prinsă de podea, toate construcțiile vor fi asezate.

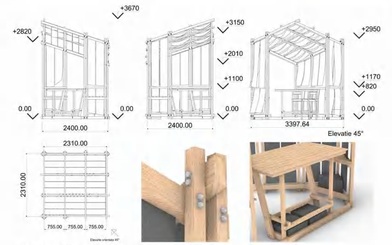


Modul Work/Drinks

Greutate totală esimată - 460.78 kg

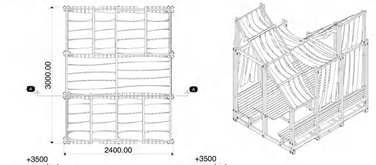
Încărcarea dată de vânt a fost diminuată cu 40% datorită modului de prindere al închiderilor de structură - sistem magnetic + fâșii înguste de pânză independente pentru acoperiș. În cel mai defavorabil caz, sunt necesare elemente de lestare care însumează cel putin 7,97kN, sau 105kg/m2 pentru întregul ansamblu.

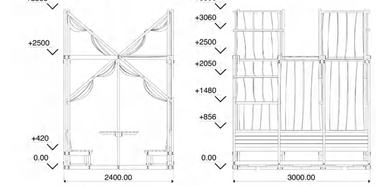
Pentru soluția propusă, sunt necesare elemente pentru lestare care să însumeze cca. 95kg/m2 pentru ansamblul de acest tip (1)



Scara 1:50 A3 Cote in milimetri

Modul Work/Lunch x 2





Scara 1:30 A3 Cote in milimetri

Greutate totală esimată - 711,38 kg

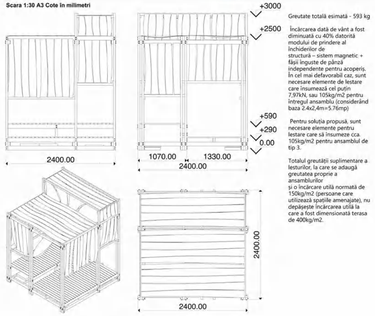
Încărcarea dată de vânt a fost diminuată cu 40% datorită modului de prindere al închiderilor de structură - sistem magnetic + fâșii înguste de pânză independente pentru acoperiș. În cel mai defavorabil caz, sunt necesare elemente de lestare care însumează cel putin 7,97kN, sau 105kg/m2 pentru întregul ansamblu (considerând baza 3.00x2.4m=7.2mp).

Pentru soluția propusă, sunt necesare elemente pentru lestare care să însumeze cca. 95kg/m2 pentru ansamblul de tip 1, cca. 105kg/m2 pentru ansamblul de tip 2. Pentru ansamblul de tip 3 se consideră că soluția este asemănătoare cu ce a ansamblului de tip 2.

Totalul greutății suplimentare a lestuilor, la care se adaugă greutatea proprie a ansamblurilor si o încărcare utilă normată de 150kg/m2 (persoane care utilizează spațiile amenajate), nu depășește încărcarea utilă la care a fost dimensionată terasa de 400kg/m2.

Modul Relax

Scara 1:30 A3 Cote in milimetri



Greutate totală esimată - 593 kg

Încărcarea dată de vânt a fost diminuată cu 40% datorită modului de prindere al închiderilor de structură - sistem magnetic + fâșii înguste de pânză independente pentru acoperiș. În cel mai defavorabil caz, sunt necesare elemente de lestare care însumează cel putin 7,97kN, sau 105kg/m2 pentru întregul ansamblu (considerând baza 2.4x2.4m=5.76mp)

Pentru soluția propusă, sunt necesare elemente pentru lestare care să însumeze cca. 105kg/m2 pentru ansamblul de tip 3.

Totalul greutății suplimentare a lestuilor, la care se adaugă greutatea proprie a ansamblurilor si o încărcare utilă normată de 150kg/m2 (persoane care utilizează spațiile amenajate), nu depășește încărcarea utilă la care a fost dimensionată terasa de 400kg/m2.

This project was part of the WPP terrace arranging project which was done by Cumulus Architecture.

I've worked on this project whilst working at Atelier Vast.

My responsabilities regarding this project were to design the modules and to coordinate and plan the construction once the design was approved by the client.

The structure was designed with production efficiency in mind. Structural pieces follwed a 45mm module for wood profiles and holes. This decision made for an easy woodworking process and assembly. This also helped the jig building process.

The pavillions are built from White ash, M8 bolts with capped nuts, polyester woven fabric and held down by concrete pavers to withstand the wind conditions.

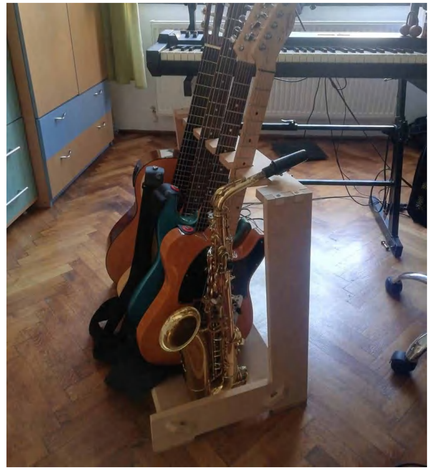
Mounting accesories for E-drums

Mesh head
electronic drums

Personal projects

During my training as a designer, I kept and developed my passion for manufacturing. From boxcutter carving to argon welding, all of these methods have proven usefull in building various objects.

The objects in the following pictures are designed and manufactured by me with some of these techniques.



Acoustic Uke-Bass

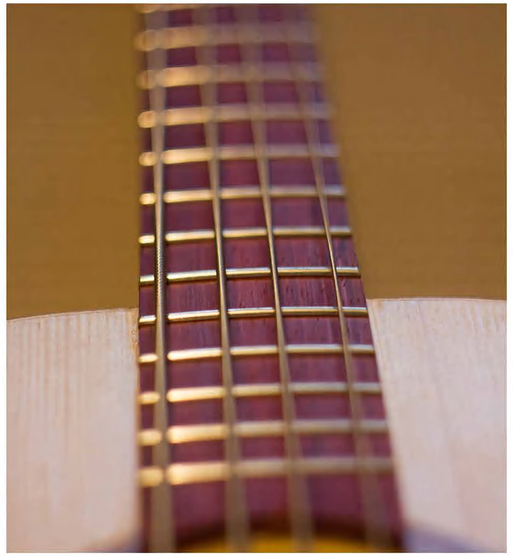
Out of the pleasure of woodworking and a passion for music I decided that the next logical step would be to build a guitar.

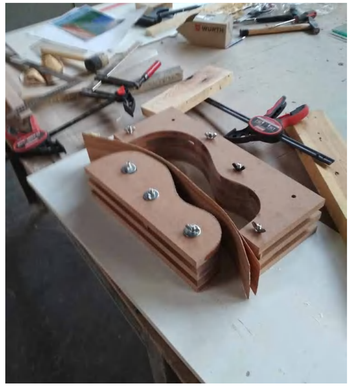
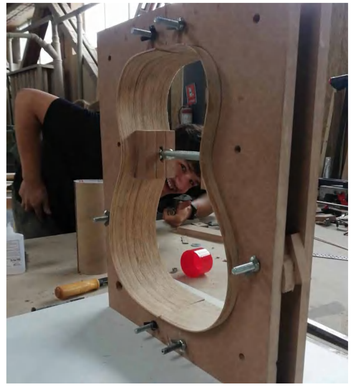
I decided that this guitar would be an acoustic bass ukulele, given their rarity.

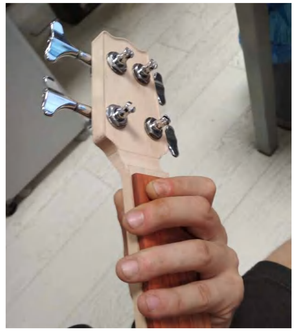
The materials used for this instrument were mostly recycled.

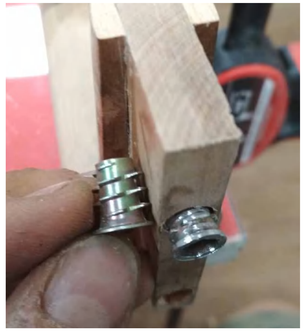
The body is constructed from quarter-sawn spruce pieces, the sides and back from laminated oak veneer with walnut and maple details and inlays. The neck is made of maplewood and the fingerboard of padouk.

Scale: 540mm
Nut width: 38mm

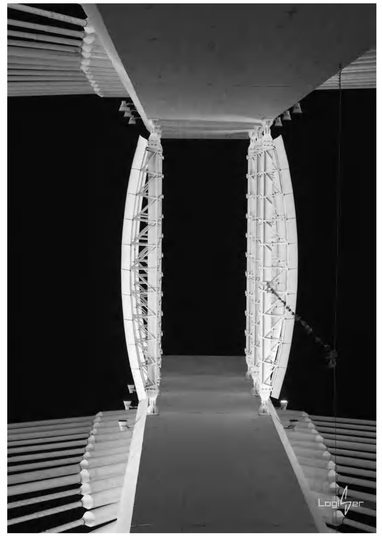


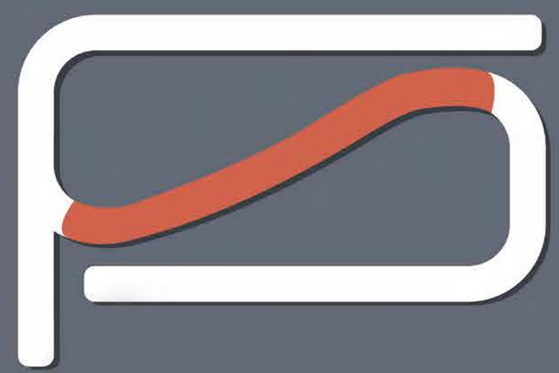







I chose to build this object due to the complexity and sophistication of the art of luthiery. This was the moment where I could apply all the skills I've developed over the years.





Contact: pargras.sergiu@gmail.com