



WILLIAM THEORELL

Industrial Design Portfolio

MULTI-TOOL



Brief

"Build an easy to use multi tool for the brand Husqvarna motorcycles. The tool is going to be small enough to bring when you're out riding, but still contain the most important tools for your bike."



Problem

The first problem I discovered was that the tools you need the most when working on your bike are always missing or hard to find in your toolbox. The second problem was that there is no product that you can bring with you when are out riding that just contains the most important tools for your motorcycle.



Tools To Include

After looking at the bike and interviewing motocross riders and a motocross-shop and team owner it was clear that the tools most often used on motocross bikes are:

Wrench sockets:

6mm

8mm

10mm

13mm

Screwdriver

Star screwdriver

Torx size 20



Sketches and Models

The first idea was to have the handles flip down to be as a cover for the tools. I realized the design was way too big, complicated and hard to use.



The new design was a lot smaller and easier to use. The handle would still work as a cover for the tools but would now be taken off making the tool smaller and more convenient to use. This design worked really well both in its function and how small and narrow it was.



Now the tool worked as I wanted but it still had to be designed in its form. I looked at the radiator cover (the part where the logo on the bike is) and made an illustration of the multi tool inspired by that part. The design was still a little bit two dimensional.

I looked closer on the radiator cover and its three-dimensional shape and found three lines that I wanted to have in my design as well. I made some simple form mockups in foam.



Final Product

The final 3D printed Prototype is a really narrow and small multi device with all the most important tools for your Husqvarna motorcycle included. It is easy to bring both for riders going out riding and mechanics helping their riders on the motocross track.

It has a convenient way of getting the tools in and out. The tool connects to the brand and you can clearly see how it belongs to the bike.





GARDEN KNEELER



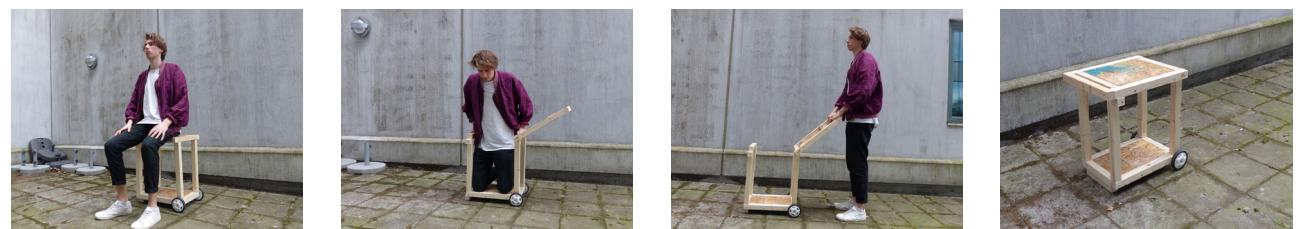
Brief

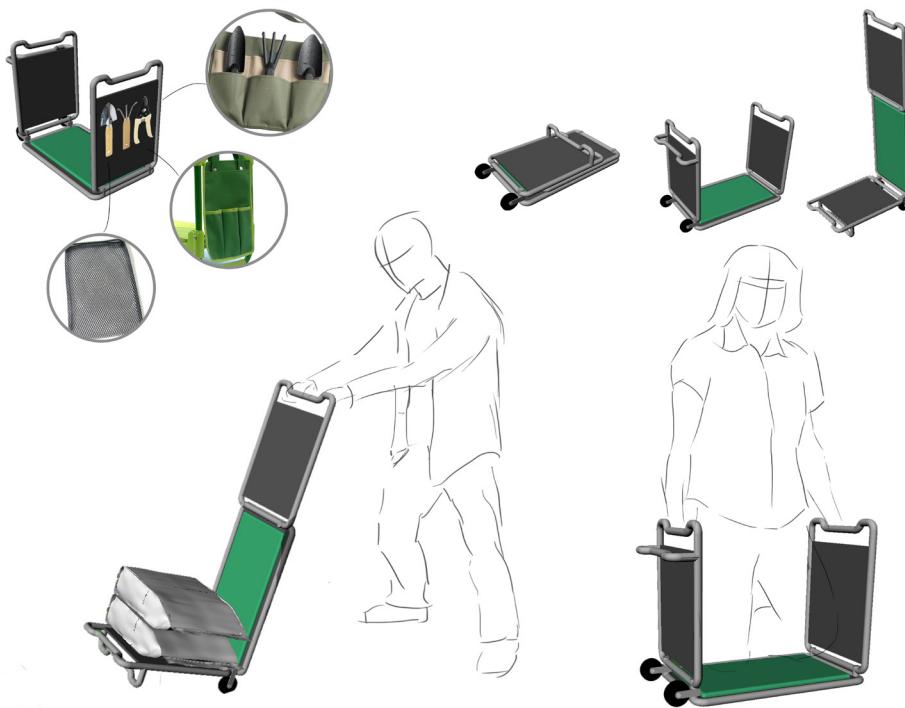
"Design a portable garden tool that facilitates garden work. The product should make every step of the garden experience more convenient so more people can enjoy gardening."



Sketches and Models

I started sketching different ideas and decided to do a garden cart functioning as a kneeler. It would be efficient for storing tools, bringing them out in the garden and also making it easier for elderly to sit down on their knees and getting the necessary help to get up.





I made a new model of the kneeler. Now it was no longer a cart but more like a trolley. It could now fold together and become a lot smaller than the previous model. It also got closer to the ground in the kneeling position.

After trying out the model and re-evaluating it was clear that I should focus on either making a good garden cart for storing and transporting tools or to focus on the garden kneeler.

I decided to continue with the garden kneeler because I thought that was the more interesting problem.



Final Product

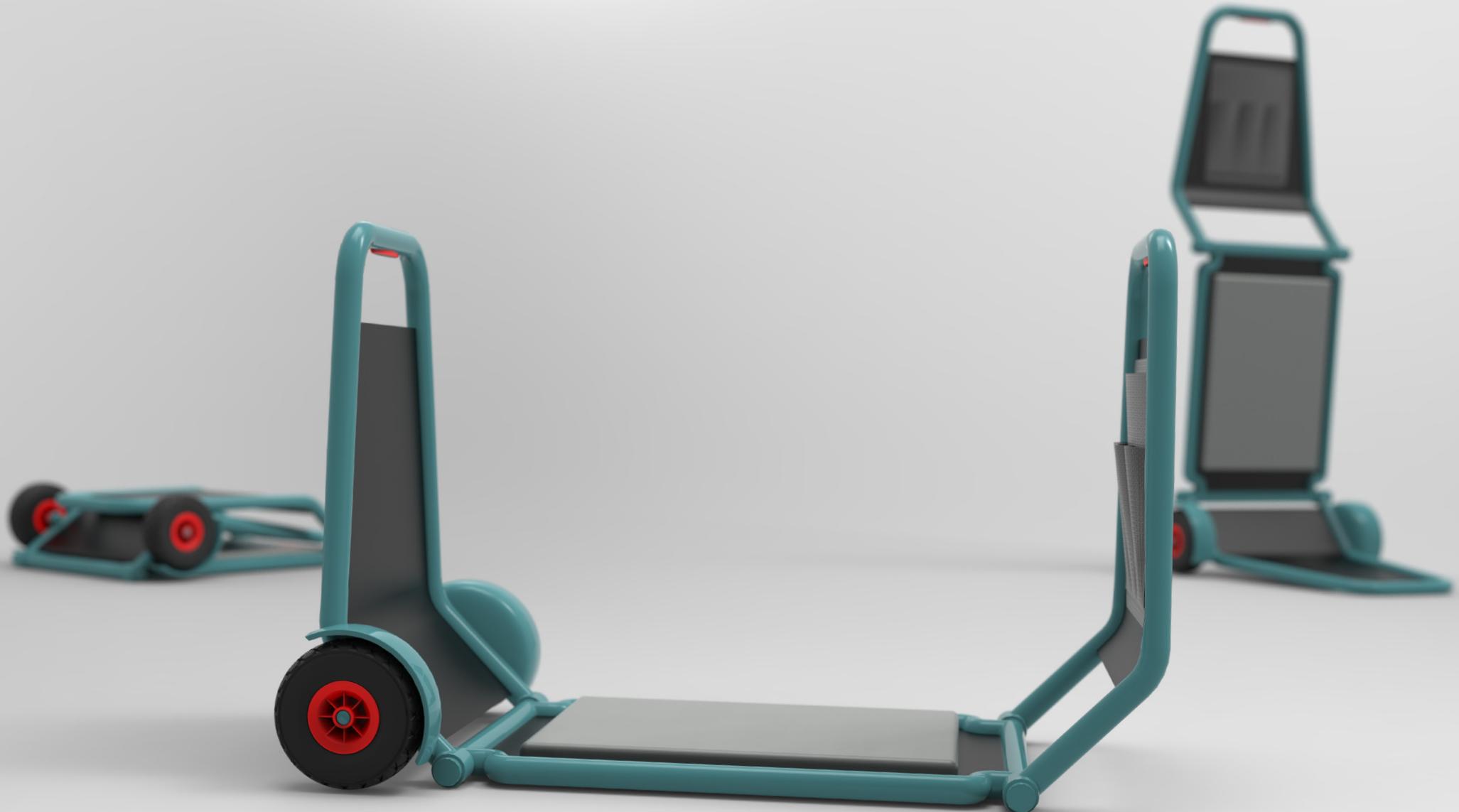
The product has three different positions;

The stroller - making it easier to transport things around in the garden.

The kneeler - helping the user to sit down on the knees by using the strength of their upper body minimizing the load on the back and knees.

Folded together - making the product easy to store.





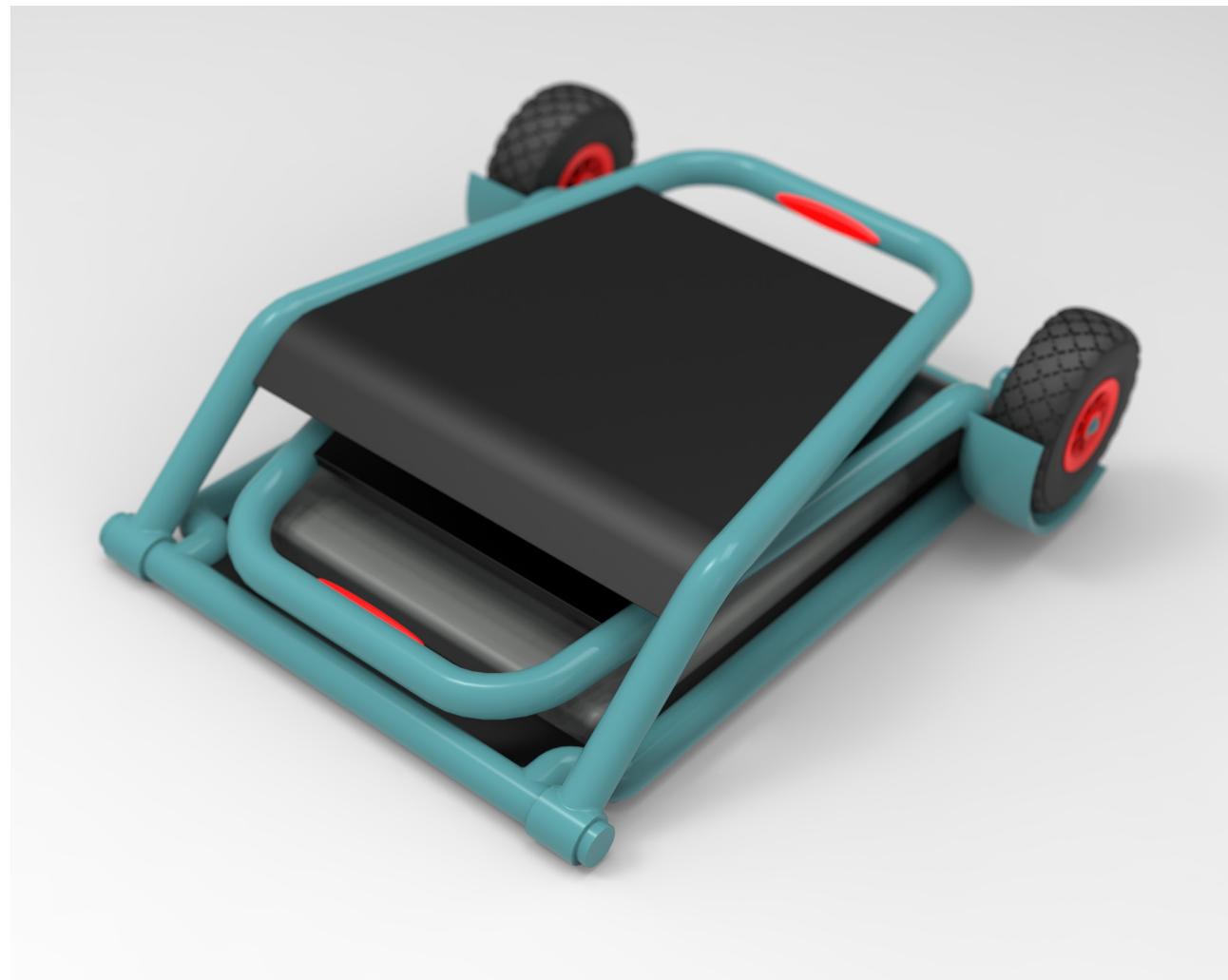
Materials

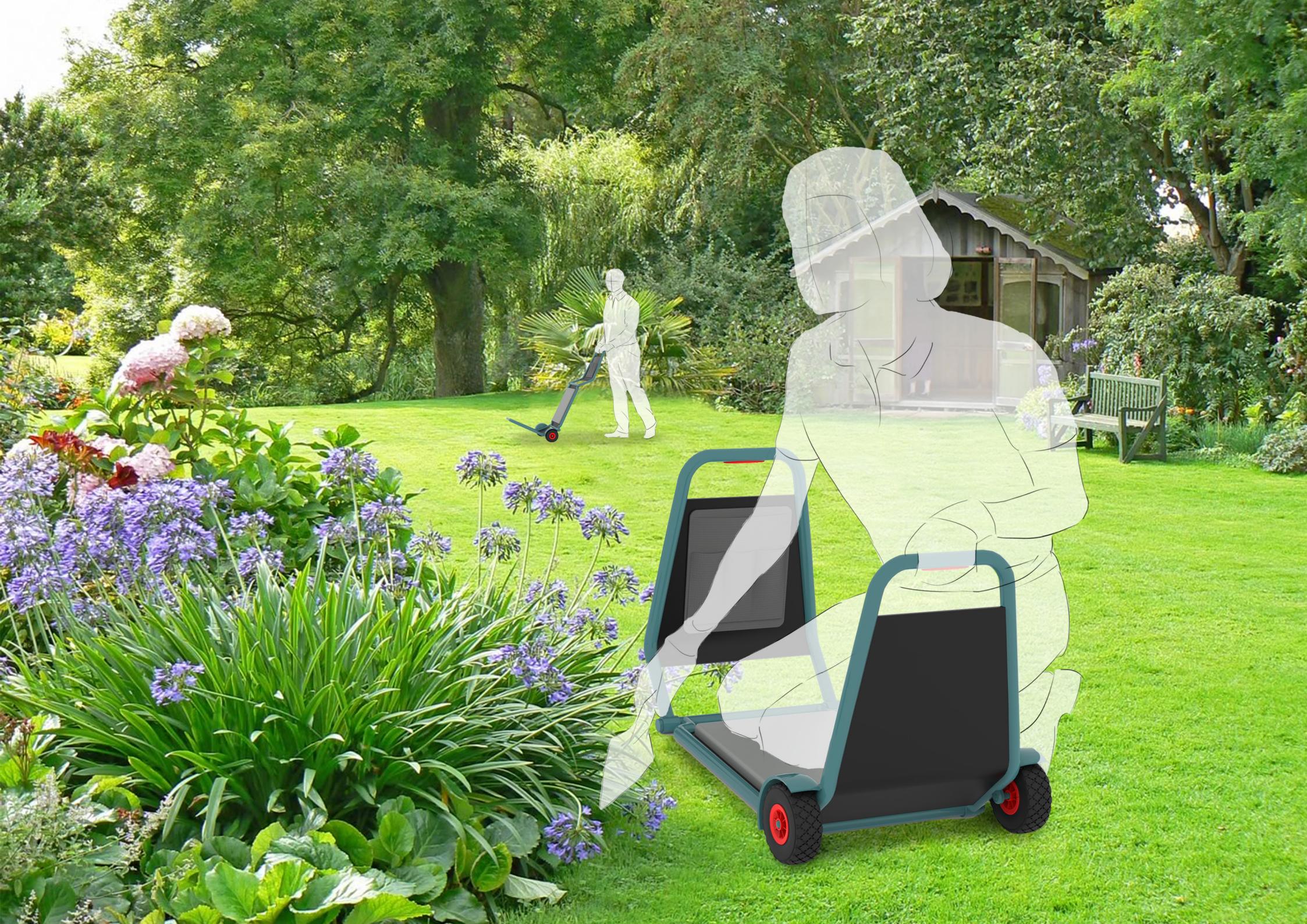
- Painted Aluminum
- Hard Plastic
- TPE (Eco Friendly Waterproof Yoga Mat material)

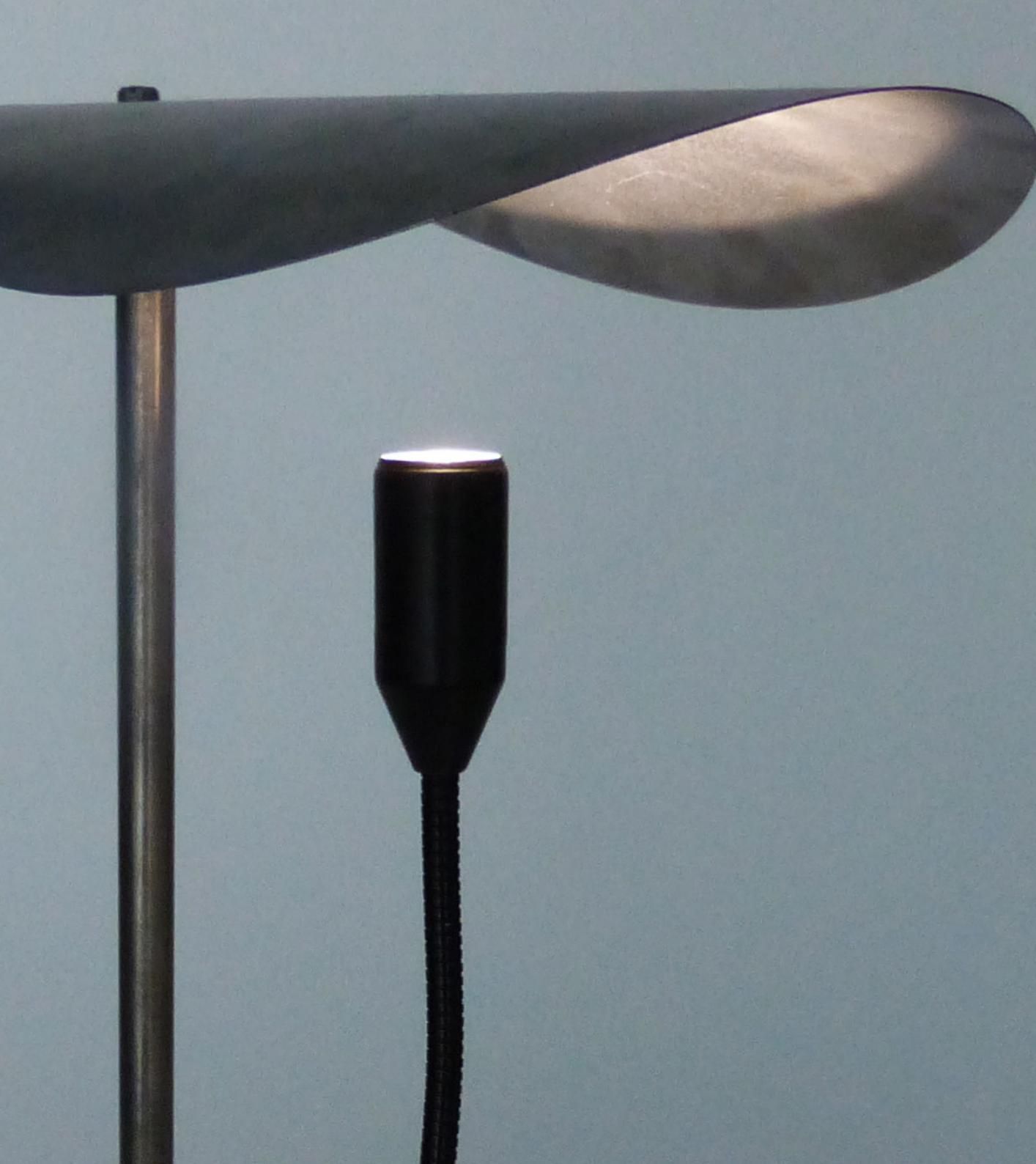
Final Product

Many people love gardening, but because of the physical strain from lifting heavy equipment and having to sit in uncomfortable positions, people have trouble doing the necessary work. After analyzing the problem, the user, and the market I designed a portable garden tool that facilitates garden work. The product makes every step of the experience more convenient so more people can enjoy gardening.

The product would serve as tool, helping elderly to carry out their garden work. For younger people it could help prevent long term injuries or just make gardening a more convenient experience.







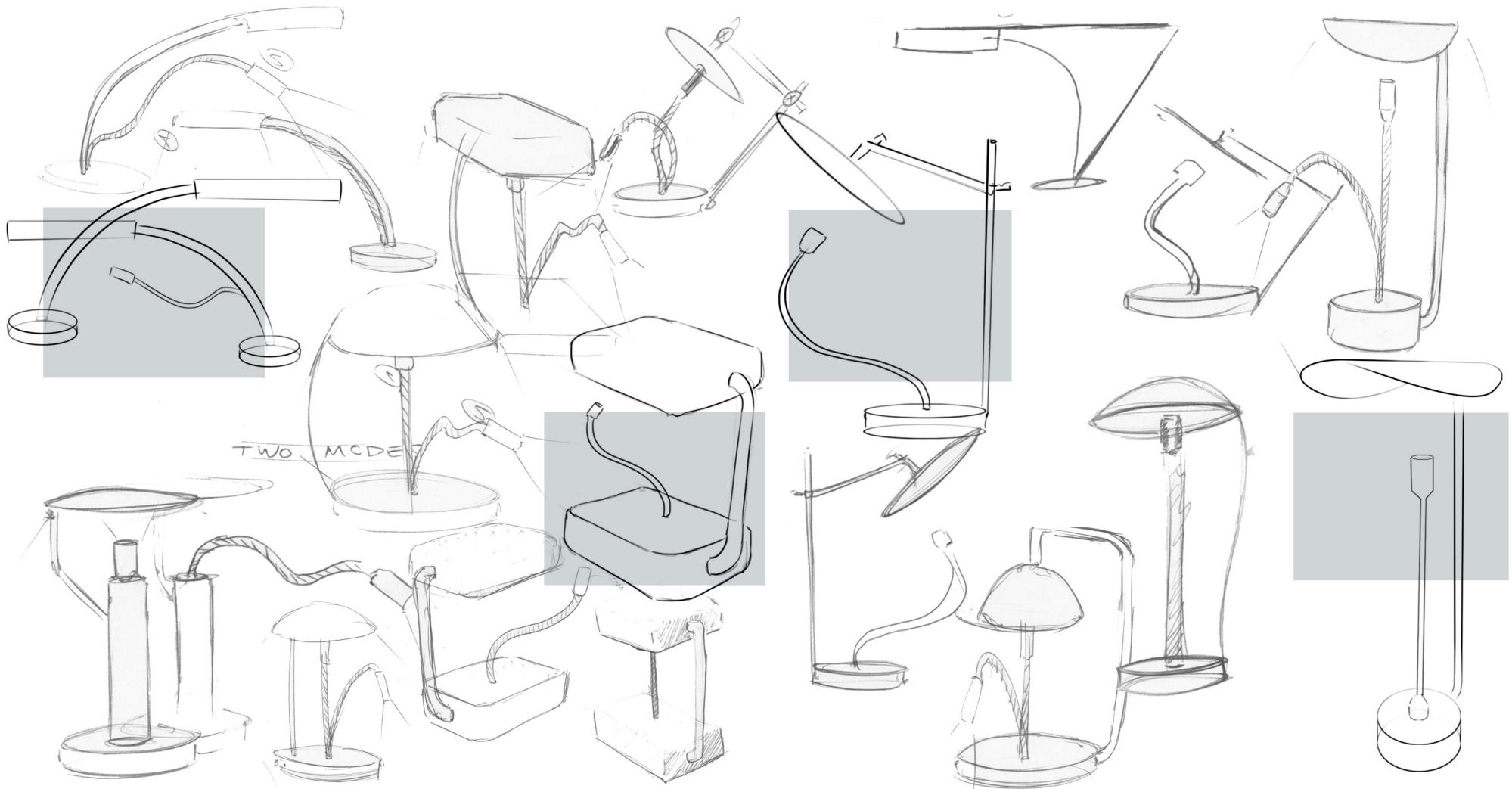
THE LUMNAIRE

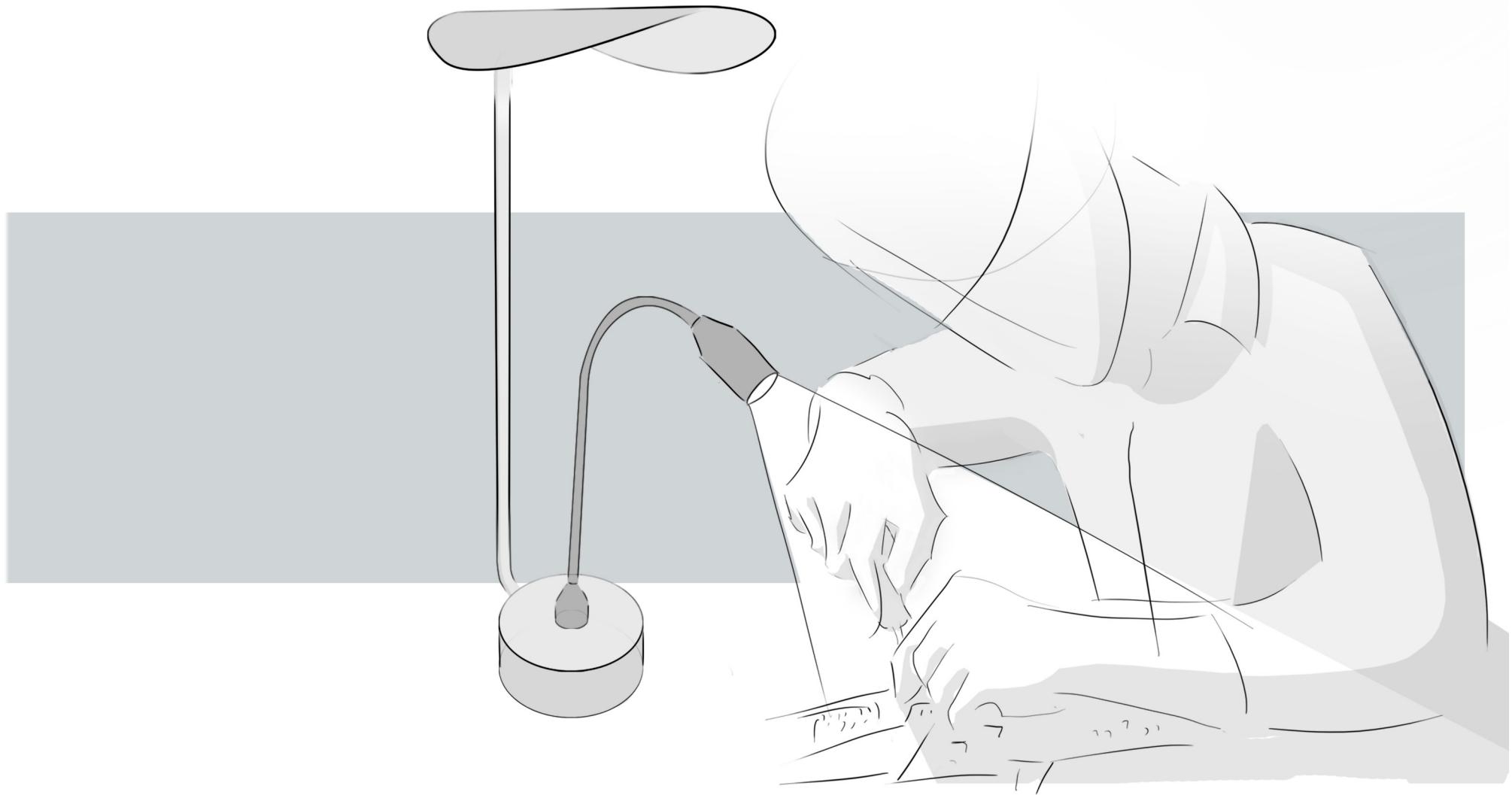
Brief

"Make a workbench luminaire for doing precise work like working with electronics. The luminaire should work as a general light source that lights up the work area and also as a direct light source that makes it easy to focus on a specific detail!"



Sketches



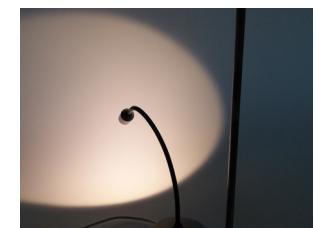


Final Product

The luminaire has two modes: first, the general lighting that lights up your working space and your desk. The second mode is for more direct lighting, that is used if you want to get close and focus on a specific detail.

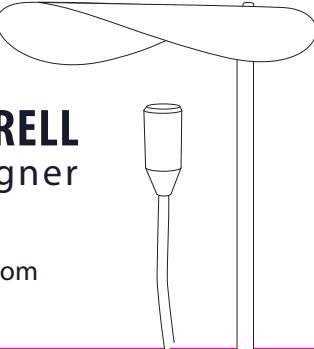
The part holding the LED is 3D printed. The rest is made of steel because it's better suited for a workshop environment. It also makes an effective counter weight so you can move the adjustable arm around without moving the luminaire itself. You can also lift it up by the steel neck and place it wherever you want.

The shade of the luminaire is a steel plate, bent in a way that prevents glare but still allows the light to spread on to the working area.









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