Skateboard Research_01

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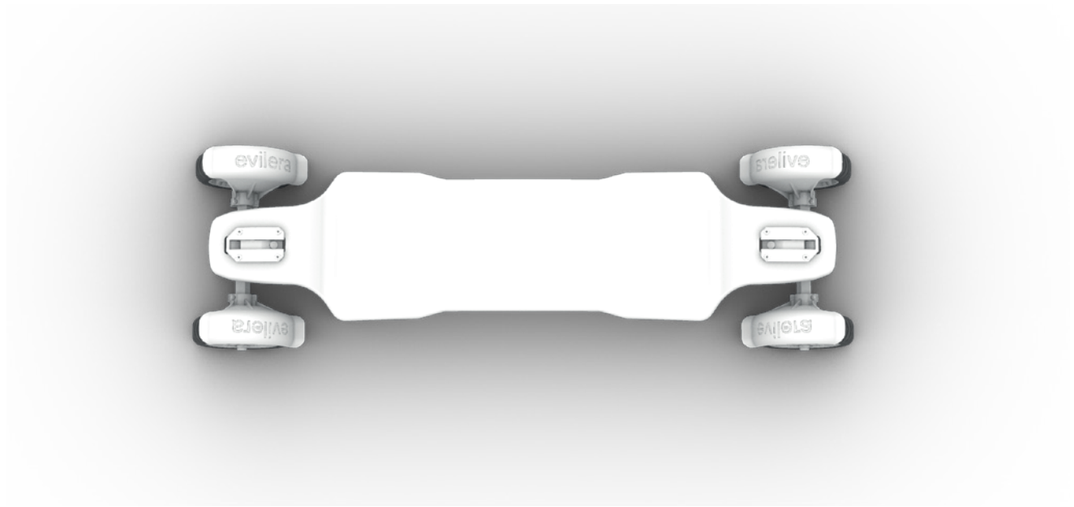
Exploration of a collection of longboards, multiple users and multiple uses.

In order to promote new forms of mobility, especially soft mobility, the aim is to reach a wider audience. The idea is to get people who don't know how to skateboard to start using and enjoying it.

In discussing these issues with people around me who love skateboarding, a story emerged that showed something I find relevant. In Annecy, a small town in France close to Switzerland, there is a large lake, with a cycle path running around it. Tourists like to ride around it in summer and enjoy the view. It takes about 1 hour 30 minutes to cycle around it. But in recent years, a new type of shop has appeared: skateboard shops. These are not just one shop, but several in a small town. They rent skateboards, lots of them, and not electric skateboards, to people who don't know how to skateboard.

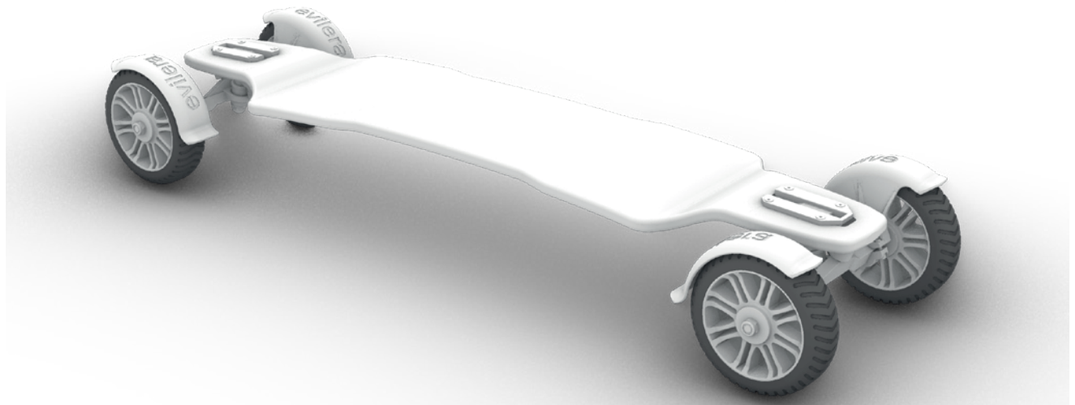






Model inspired by Evolve or Backfire Ranger X1(but not electric)

Existing model



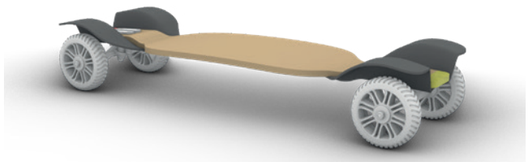
Big wheels

I asked, what kind of skateboard do they rent in Annecy?

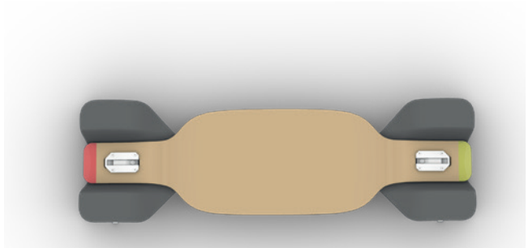
It seems to be a longboard with big wheels. When you think about the ‘why’ of this type of skateboard, it seems logical to me. Having bigger wheels than a normal skateboard means you can get over small obstacles like small kerbs, absorb the unevenness of the road, small pebbles, small potholes or hollows in the pavement, ride on cobbles, ride on grass, and so on. Easier than with small wheels.

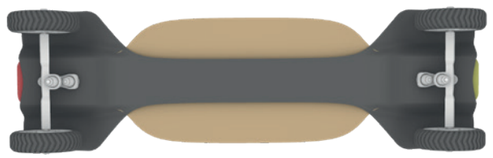
This characteristic, a skateboard with big wheels allowing a better comprehension, or an easier and faster comprehension of this means of mobility, thus potentially allowing to increase the number of users, to increase the community of the skateboarders, would increase appreciably your chances to obtain a grant of research and development. The idea is not to develop a classic skateboard, in a new material, but to develop a new model, in a new material, that will give you a better hearing and therefore a better impact on the issue of mobility and the ecological transition.

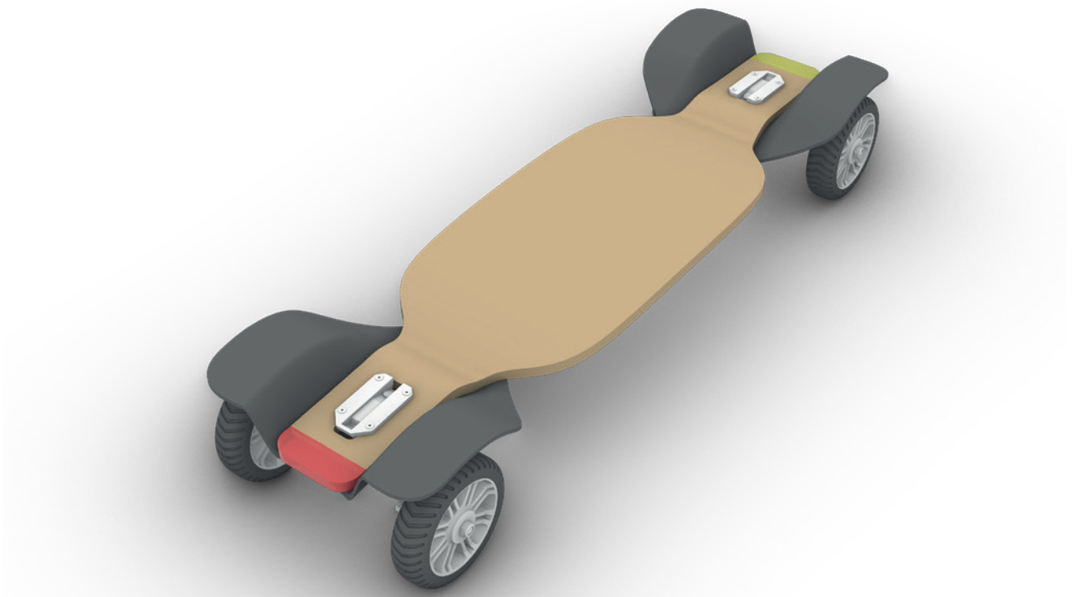
I'm not an expert in this field, but I know that there are several brands in this category. I found a 3D model on an online library, so I started to do some research based on this model.

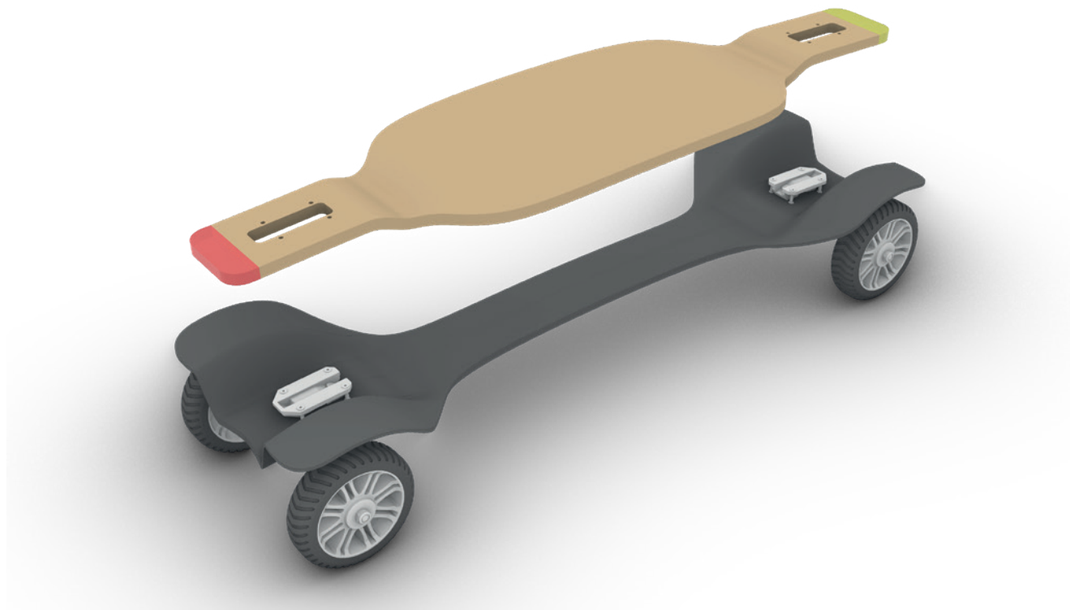












Carbon & wood combo_V01
2024

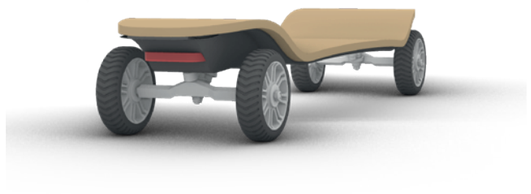
5 mm thick carbon board
15 mm thick wood board

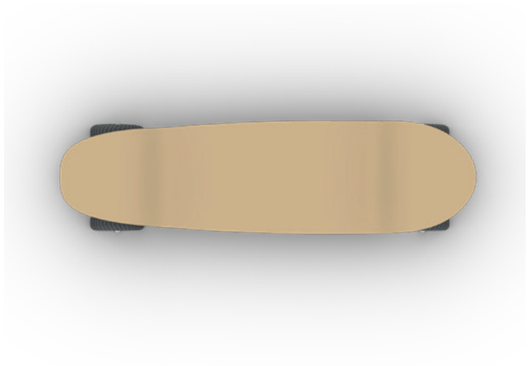
Carbon and wood combo

If we want to promote the use of skateboard, it might be a good idea to add some security features, such as lights and confort features, such as mudguards to protect you from splashes when the road is wet, exactly the kind of equipment you find on a bike.

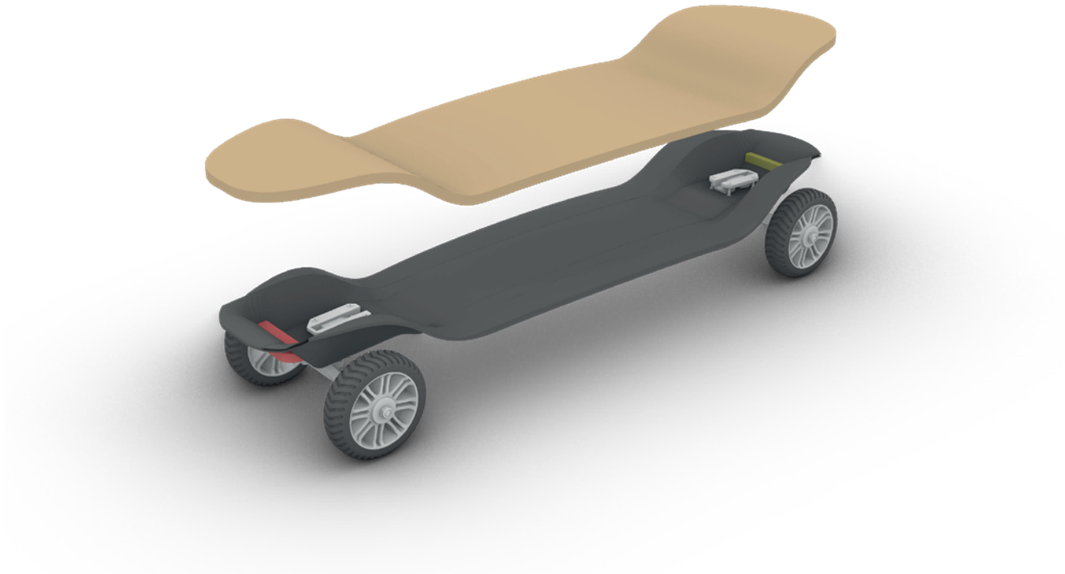
So I started thinking about a combination of wood and carbon, with a slightly retro 1970s buggy aesthetic. Naturally, it's just a first idea, not very sexy at the moment, but one that can be developed and improved.







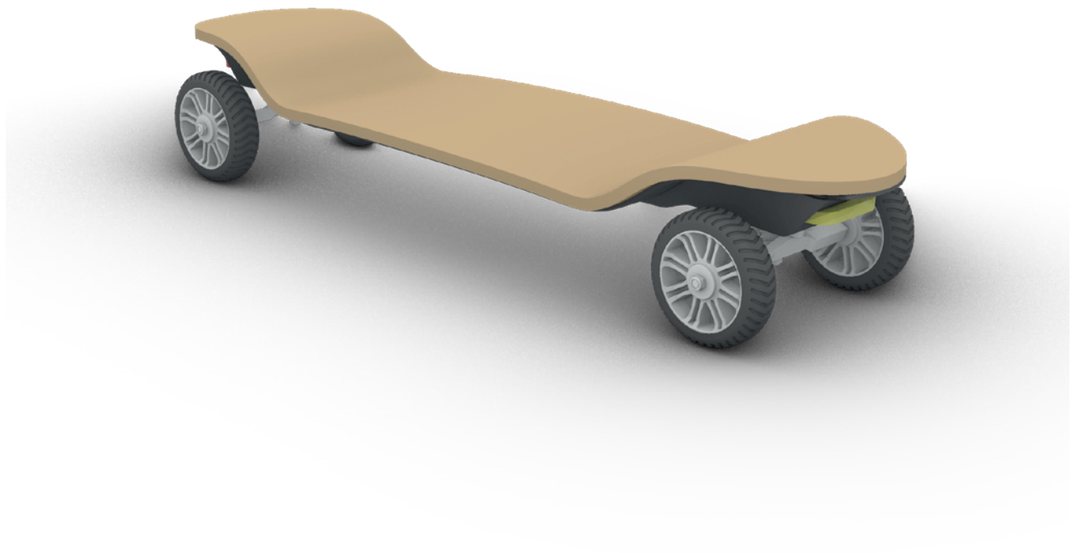




The shape of the board needs to be drawn more precisely.

The wheel arch must be calculated

Model_A



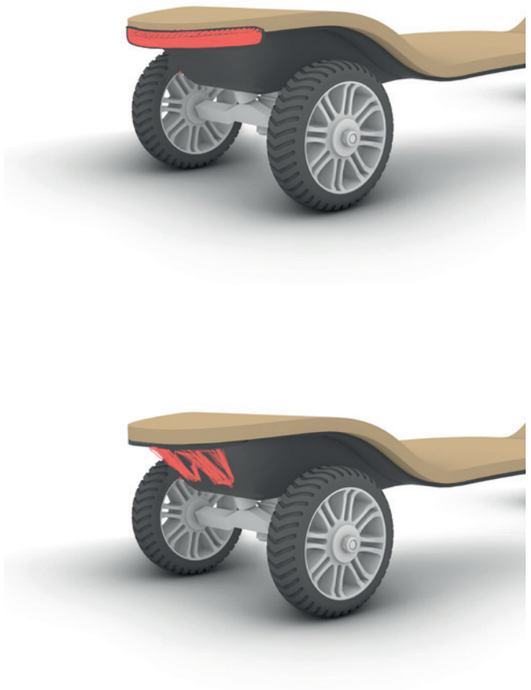
Wood & Carbon combo_A

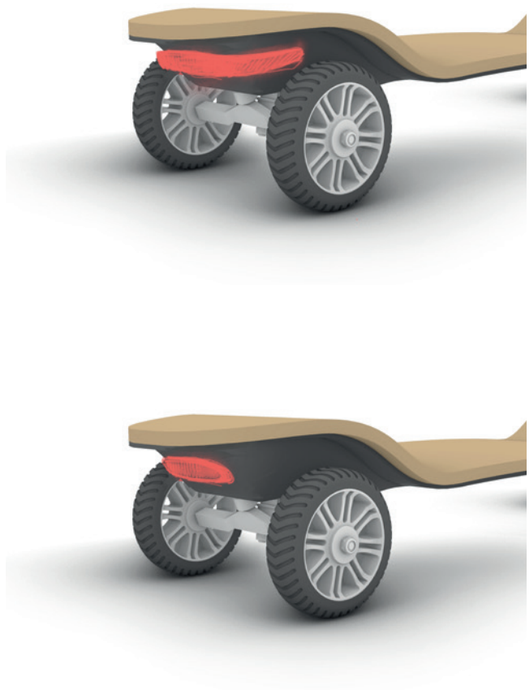
I've been exploring the wood and carbon combo a bit more, which looks promising. As the board will be longer than a normal board, the combination of the two materials could allow us to use smaller sheets of wood, like a 15mm thick wooden board, while adding a bit of reinforcement where needed with the carbon board underneath.

I've also kept the carbon not visible from the outside, as I think if the skatboard is damaged you could see the fibres coming out and injure your hands, legs etc.

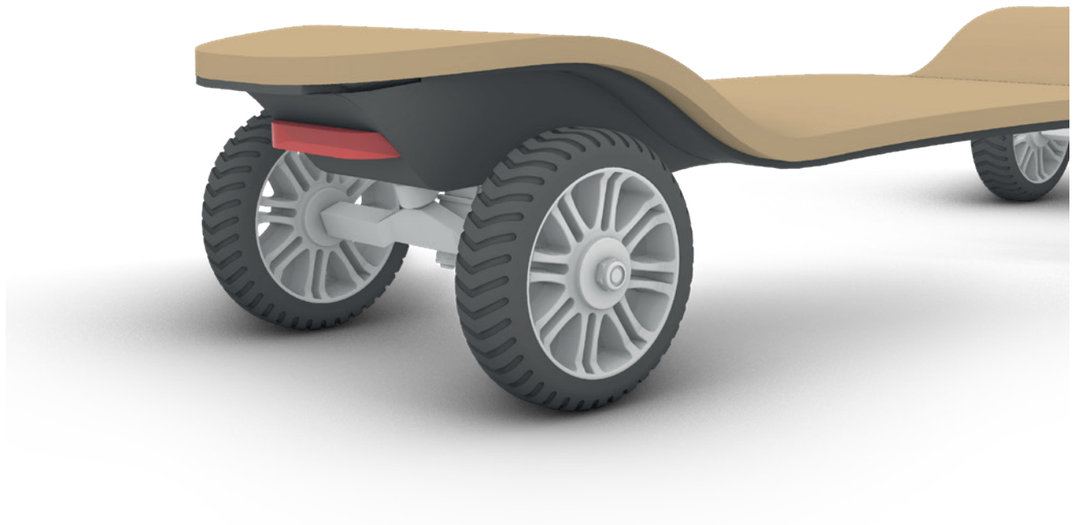
I've also kept a buggy style, but made it simple and elegant in a way. So, the carbon board will be entirely 3D, which will give an incredible look, like racing cars for example, while the wooden surface will be simpler and cleaner, for better use. Will it be comfortable to drive, and to put your feet on, I have no idea.

I integrated the lights inside the 3D carbon board and to make the board cleaner, I removed the screw from the top. All that's left is to assemble the wood and carbon parts, but I don't know how yet.





Model_A

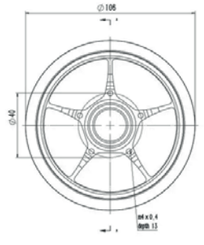


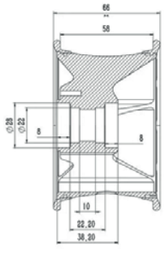
Details : research about lights

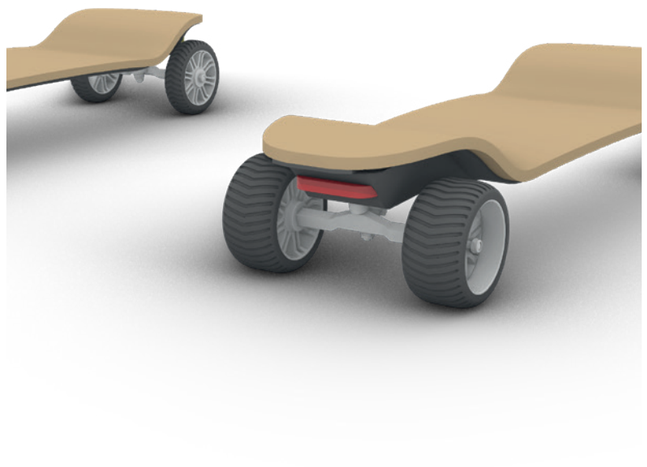


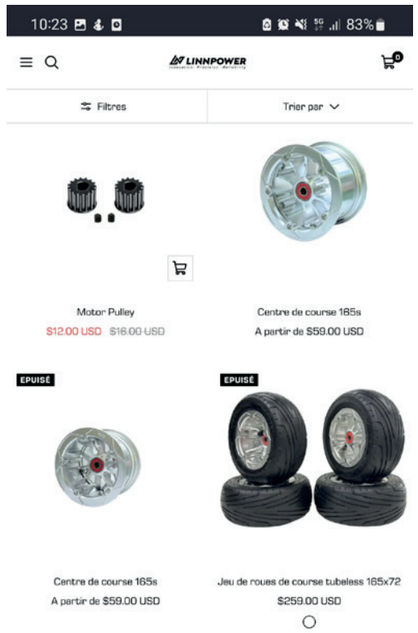






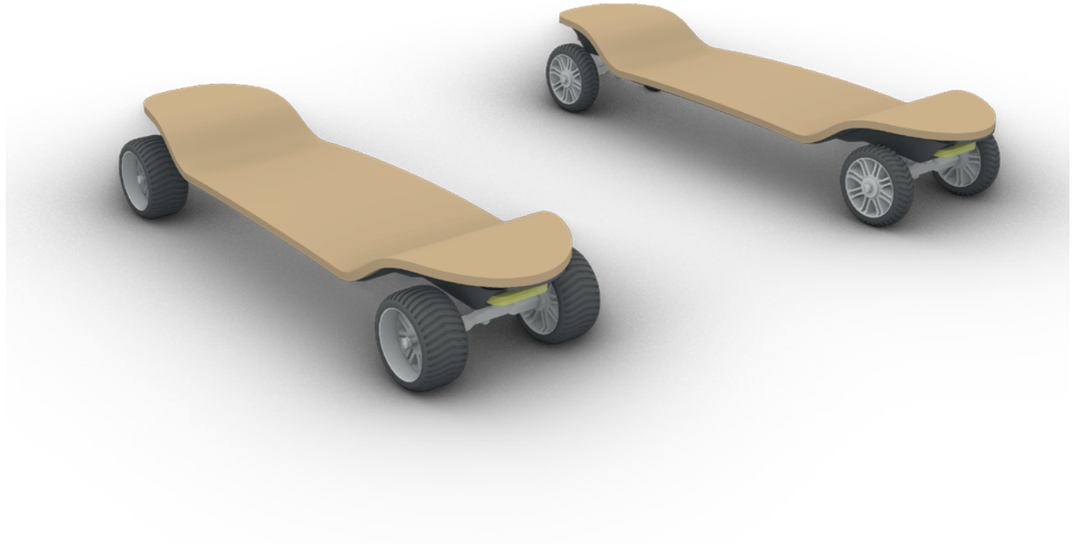






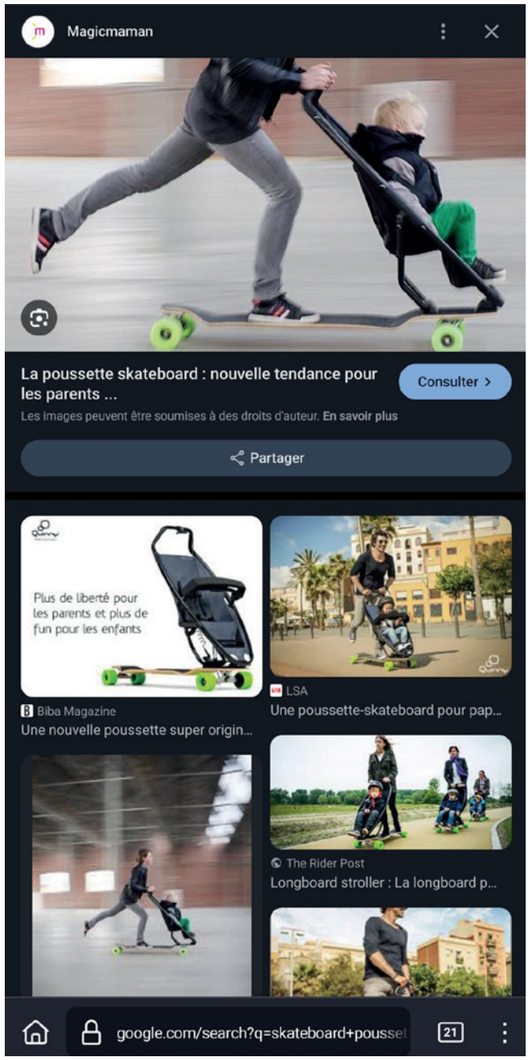
Fat wheels like dragster or formula one car

Model_A_ large wheels



Hotwheel skateboard

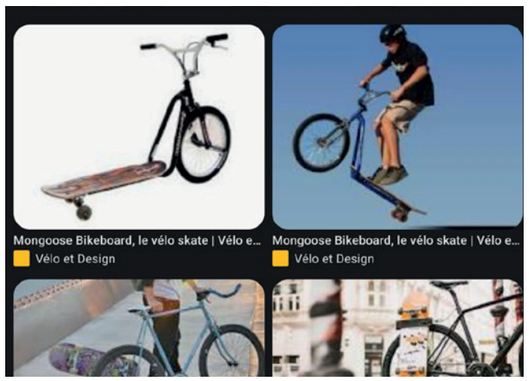
I've increased the size of the wheels. Of course, this will have an impact on the wheel arch, but it gives a really cool look. A skateboard that sticks to the road, haha.

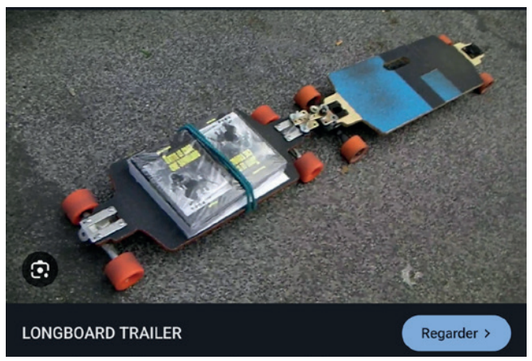












Model_A_ collection



Multi-users / multi-uses

I quickly searched the internet and new types of skateboard are beginning to emerge, allowing new uses. Longboard-stroller, longboard-cargo, longboard-wagon, etc.

Starting from this premise, I explored a longer form of skateboard that could carry several people. The board could be 1.50 or more, in other words close to a snowboard. I don't know how manoeuvrable this type of board would be in town. So we need to be able to test and experiment to define the maximum size of a board and then develop the uses that go with it. In this case, I've developed a board for one person, and a longer board for all the other uses. A modular board based on the age of the children? A board that evolves according to needs?

The design is still at the research stage. Nothing is defined or set in stone. I don't know how to skateboard either, so there may be details or technical limitations that I can't see.













Wooden stroller longboard
2024

Stroller

This first iteration is still based on a wood and carbon combo. I've kept the same streamlined aesthetic as before, but I've extended the length of the board. The child's chair could be made from plywood, folded aluminium tubes and textile. Of course, we could use carbon tubes or any other material. This is an initial investigation.

As the skateboard will be heavier, with 2 people on it, it might be interesting to fit brakes like those on a bicycle, just in case we need to stop the vehicle quickly.
Is it possible to fit brakes on the wheels? Disc brakes or drum brakes?





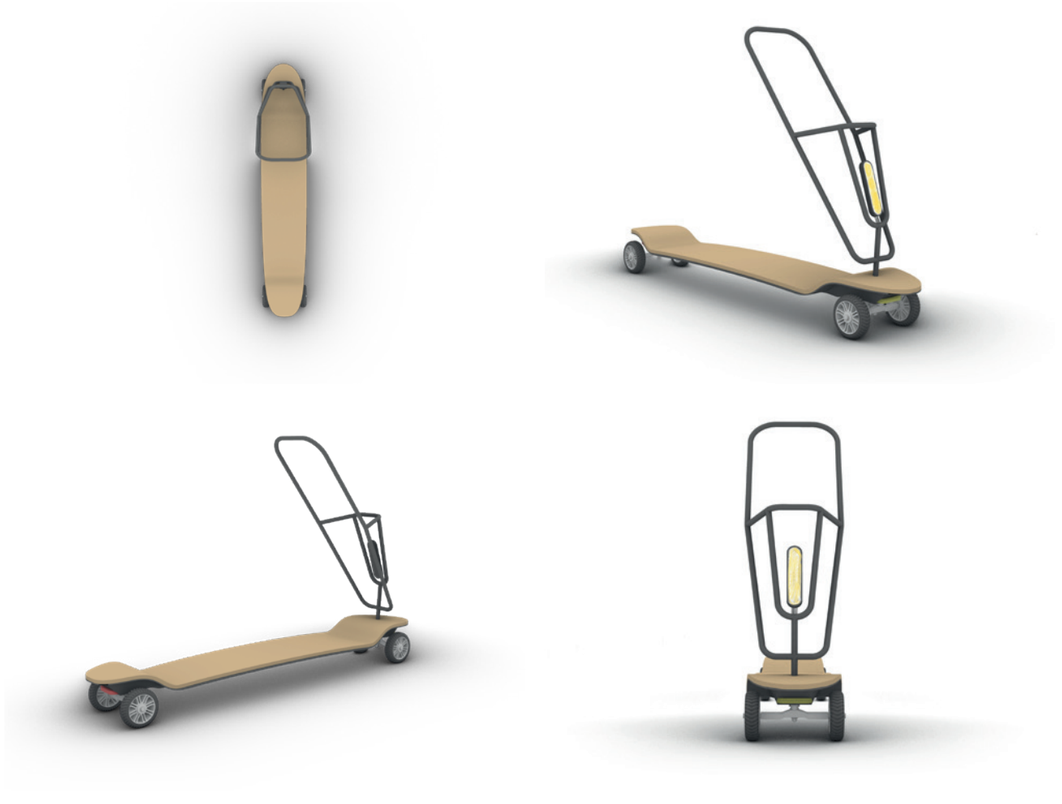
A mix between a skatboard and a surfboard
2024



Duo board

I've removed the baby chair and taken my inspiration from the surfboard and its wishbone.
We could design a sort of skateboard wishbone that would allow two users to ride on the same board. This wishbone could be articulated close to the board so that you could fold the board up to store it or move around with it easily.

Does the boom act like handlebars on the wheels or does it remain fixed to the board? The question of being able to turn with a longer board to park it, for example, arises here. Should we take our inspiration from the development of the trotinette or stick to the skateboard system for turning the board?



Addition of lighting in front of the board to make it more visible at night.



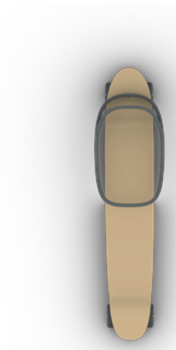
Duo board

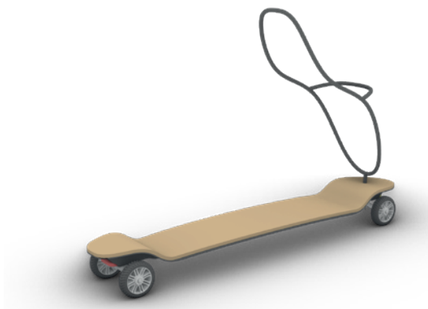
Research into a reinforced boom to better protect skateboarders. Like a hockey or American football helmet, or an all-terrain buggy. With a bigger headlight for night riding.

Reinforced boom







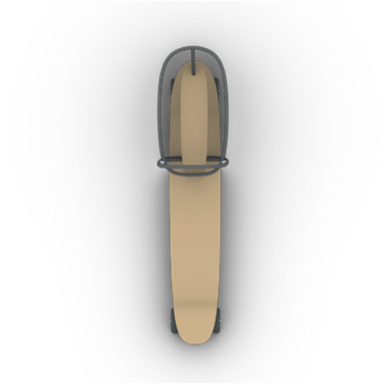


Curved wishbone, less practical to fold up and store.

Model_A_ collection_Duo_c



Duo board













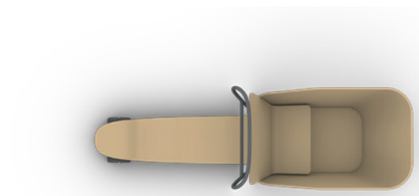
U-cargot or longtail ref: Yuba brand

U-cargo

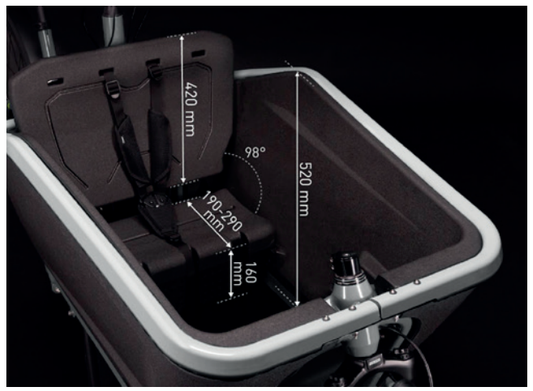
I've removed the wishbone and taken my inspiration from the U-cargo or longtail bike, so that more than 2 people can ride the skateboard. To do this, I think you need to be seated. I thought the seat bench could be made from an ordinary skateboard.

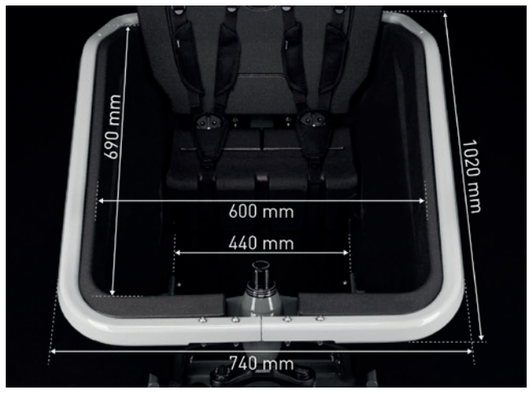
I didn't design anything here, I just put a bench and some handles around it. I don't know if this concept will work, but it's a fun way to get around and I like the idea.













Cargo

Another possibility would be to take inspiration from cargo bikes, with a container at the front. This configuration would make it possible to put 2 children side by side or boxes, which means that with the same vehicle, we could have different uses. However, the cargo bike is currently losing ground to the U-Cargo.

Could this container be made from plywood? The size of the mould seems to me to be a problem, but the idea of a vehicle made almost entirely of wood seems very ecological and cool.





Ref : Cargo Cube brand bicycle

Cointainer with wooden seats





FLEXIBEL

Geeignet für eine Vielzahl
von Transportstücken









Ref : Flexibel _ Klarfit companion
Ref : Pelican train



Cargo only

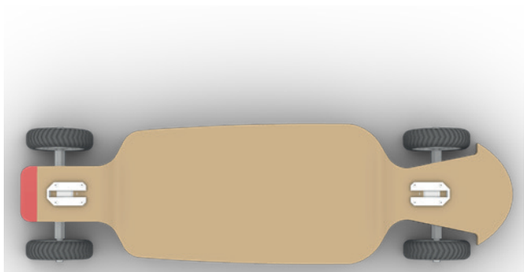
A skateboard that allows the user to carry boxes could also be an alternative to bicycles. This type of vehicle is being developed in towns and cities. For example, near my home, there is a warehouse where supermarkets bring food in the morning, and then every day, bikes-trains move around the city to deliver the food. This is also part of the last mile concept, but not just for people who have to make the connection between train and bus, but also for goods between the barge port and the city centre or between the warehouse and the customer's home.

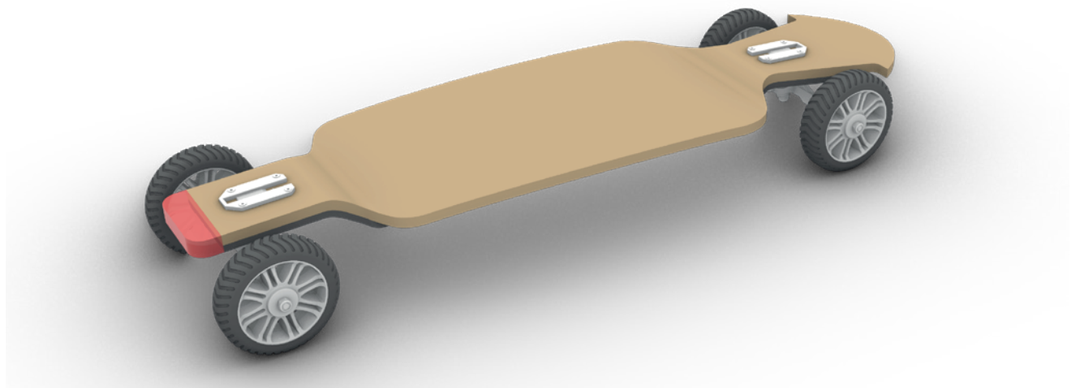
Deliveroo, amazon could use this type of vehicle because they are lighter than bicycles, cool and durable. For certain specific configurations, it should possible to add motors to help the skateboarder. Not for private use, but if a large company orders a few from you and you know that they will use them and not leave them in a cupboard after a few uses, it could be worth it, for the planet, I mean.









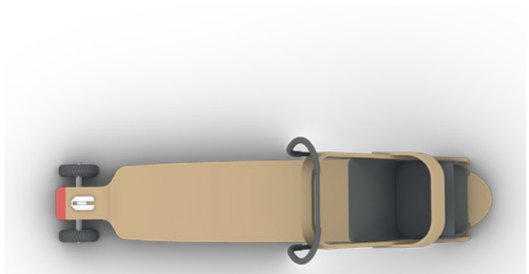


Flat

An iteration that is still a wood and carbon combo but is relatively flat. I've removed the wheel arch and in doing so, it really looks like any other skateboard.







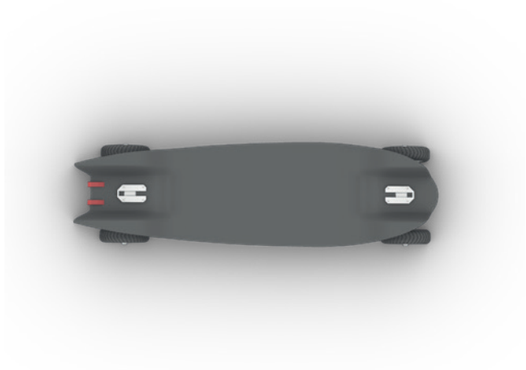


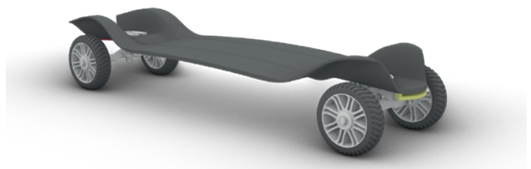




Pram

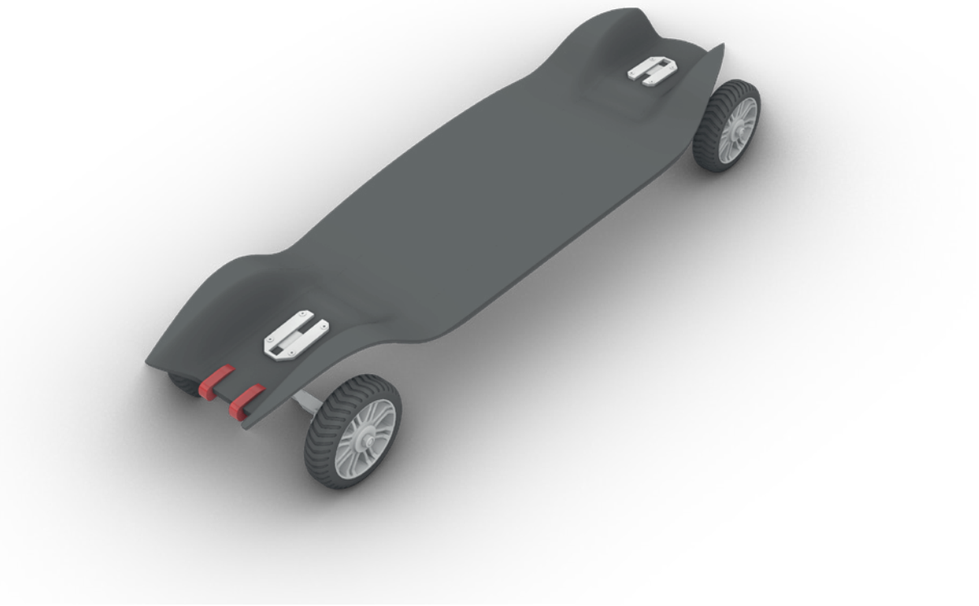
I then did a variation with the pram function. I cut the shape of the wheels out of the wood, which looks nice, but in the event of rain or a dirt track, the lack of protection seems problematic. It would still be possible to design a protection that would be placed on each wheel, like the 3D one I found online.

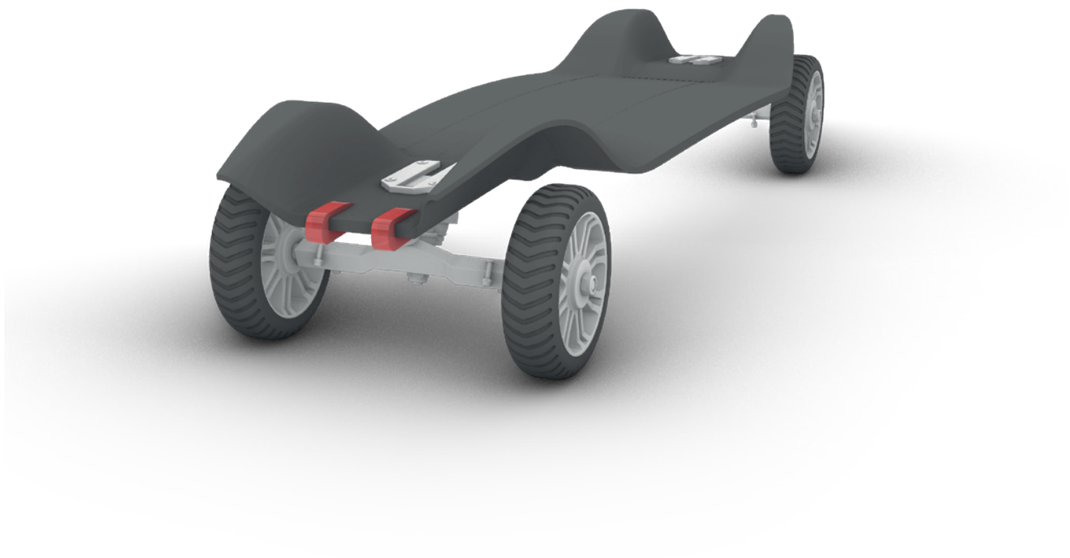










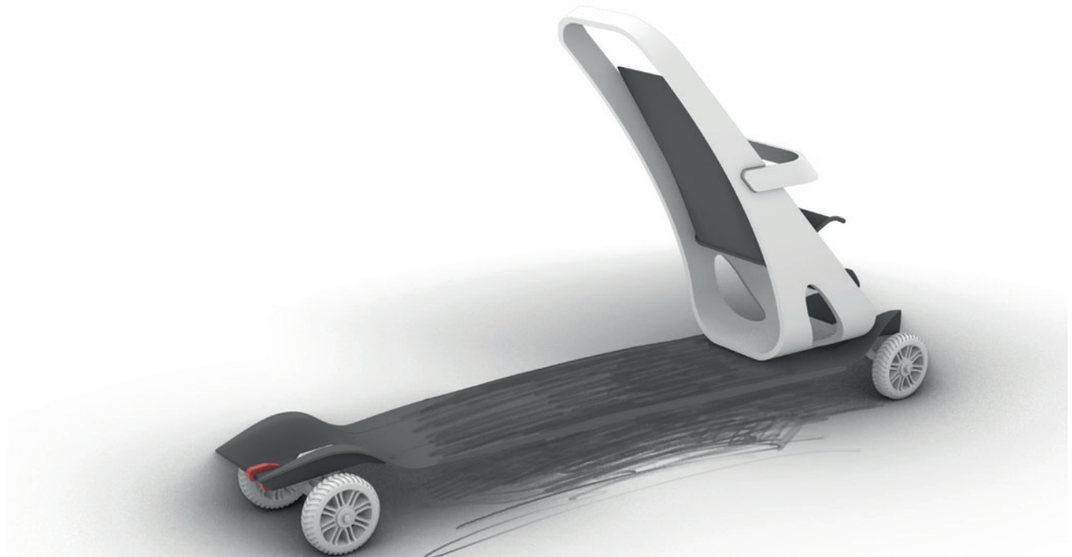


Batmobile

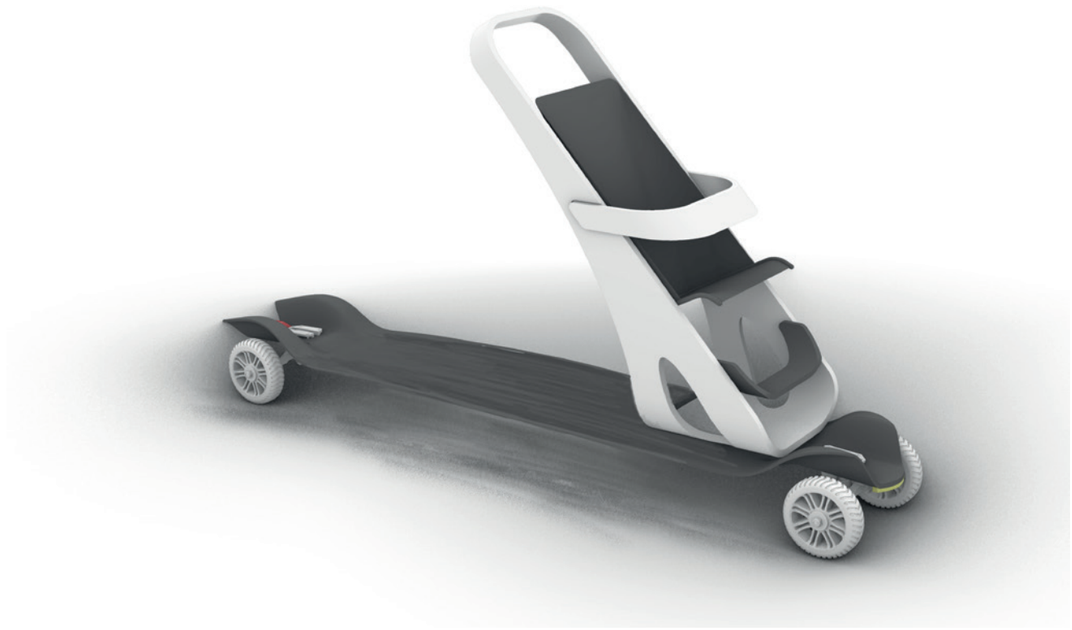
An iteration in carbon fibre only. I tried a neo-retro design. I quickly modelled a surface that allows the wheels to turn and then, in top view, I intersected this surface with the shape of a rocket or something dynamic. The end result is a board that looks like an old buggy, or an old Batmobile, or a 1970 Corvette car, with big wheel arches and flowing shapes.

I also did the pram version, to see what it looks like. In doing so, I'm thinking that the baby chair shouldn't be made of plywood, but of some other material that I don't yet know.

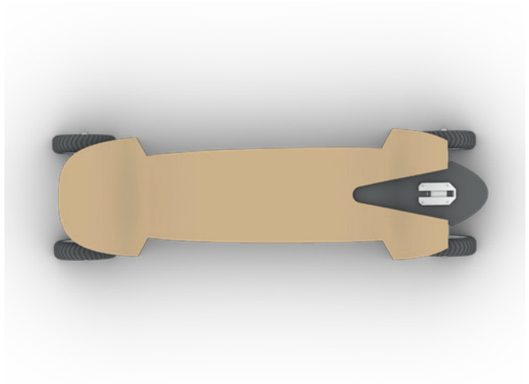
Model_C_Troller





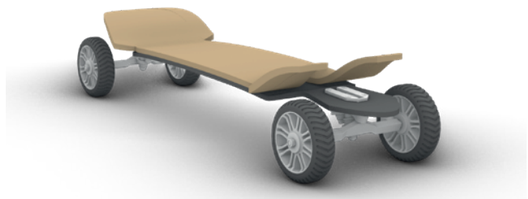




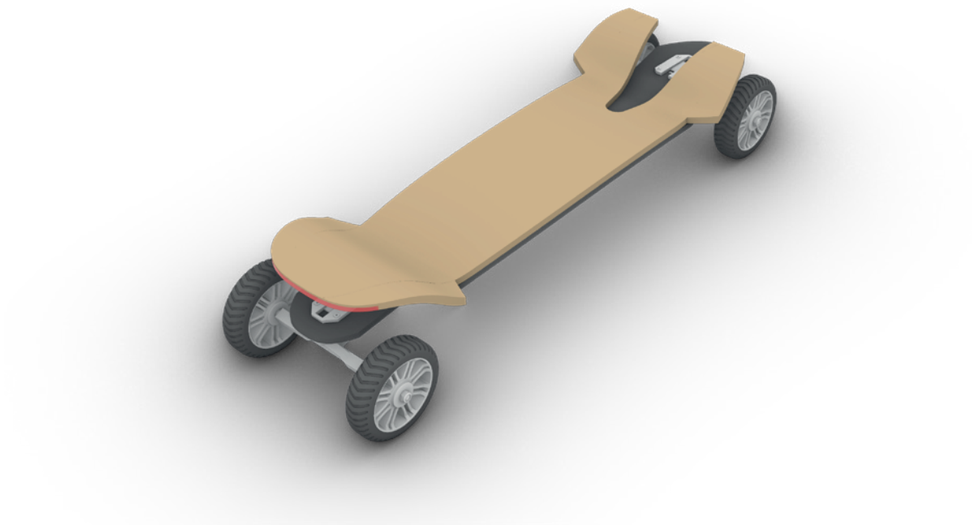








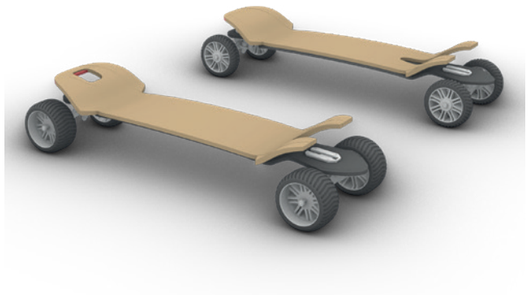




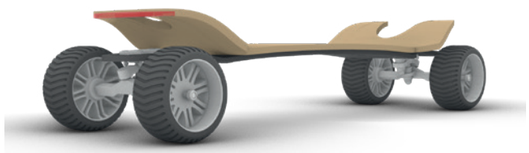
Spring

One last iteration for now, keeping the wood and carbon combo concept. But this time, the carbon board is structural. The trucks are fixed to the carbon board. Then, on top of that, I've added a curved plywood board, which covers the wheels to protect the user from mud and water, but not only that.

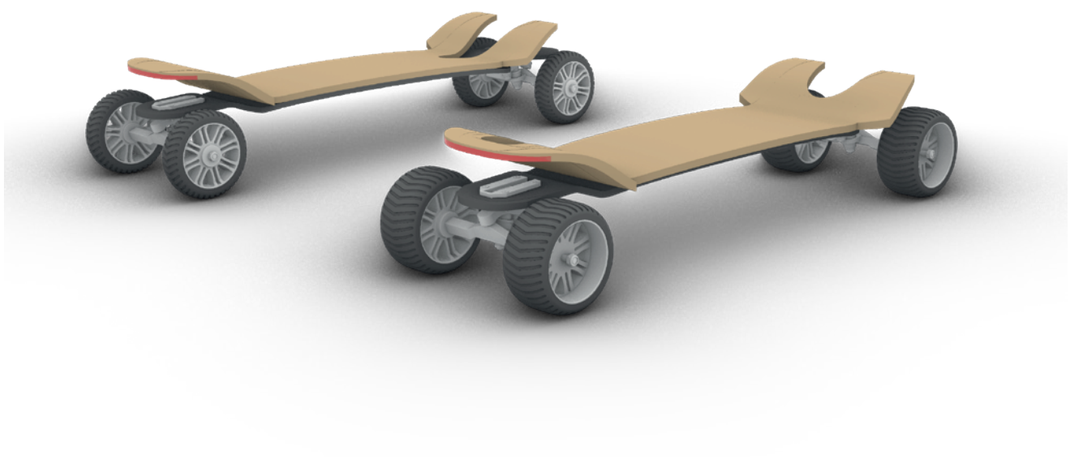
The relationship between the flat board and the curved board gives something new.



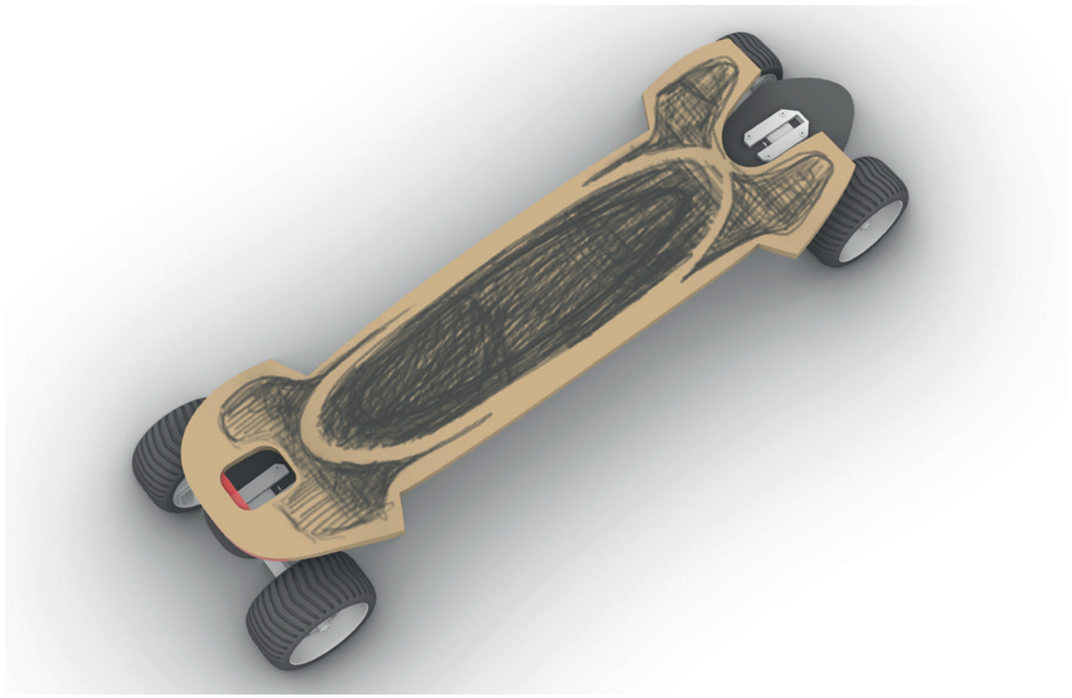








Model_D_Fat weehls

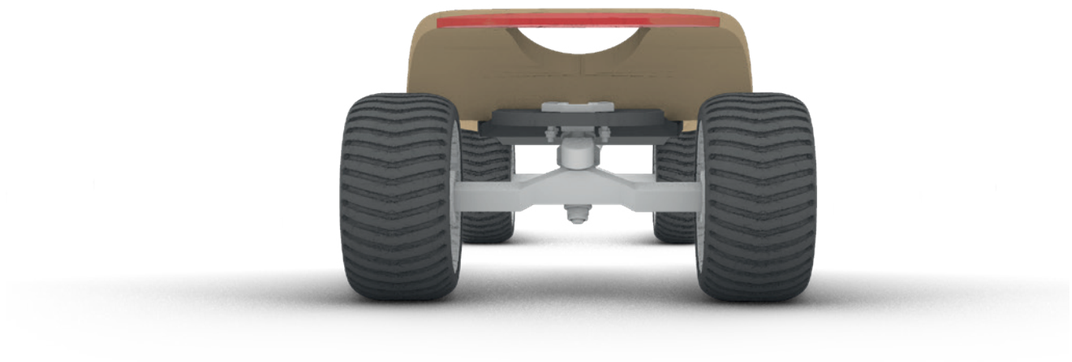


Fat wheels

This model with big wheels looks cool

I've cut out the wooden board so that we can access the truck's screw, if necessary. This also creates a handle for carrying the board.

Model_D_large weehls



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