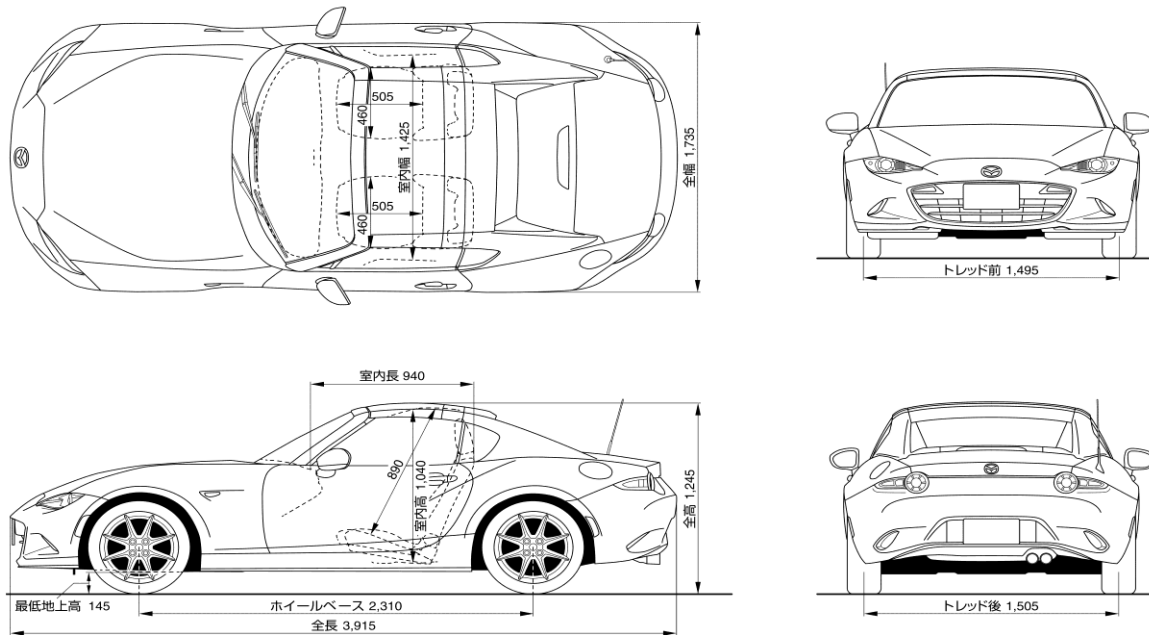


Creating model of Mazda MX-5 Nd Rf

As my semester work, I chose to create Mazda MX-5 Nd Rf.

The first part of my work was to gather reference materials. I found them mainly using Google search:



1 Mazda MX-5 Nd Rf blueprint <https://drawingdatabase.com/mazda-mx-5-roadster-2017/>

Finding real photos of this model with roof on was not as easy as I thought it would be, but I managed to find some:



2 Mazda front view https://www.vhv.rs/dpng/d/552-5527292_2019-mazda-mx-5-miata-rf-snowflake-white.png



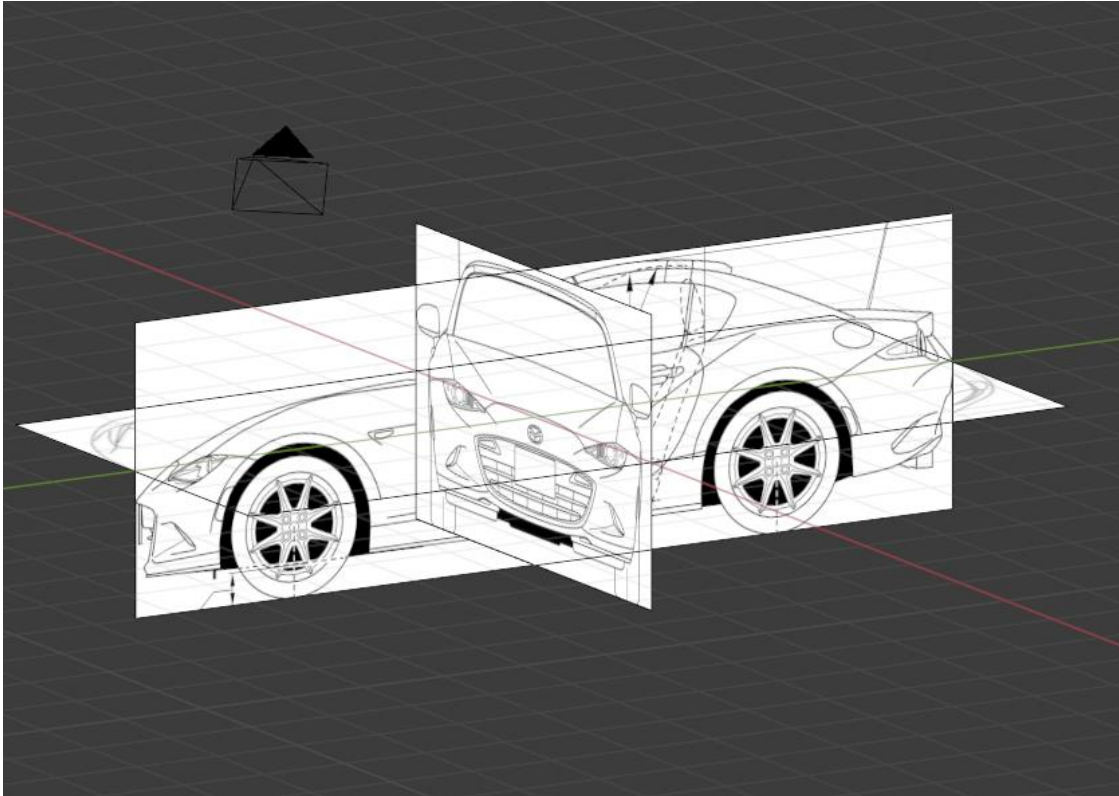
3 Side view <https://www.pinterest.at/pin/644085184181204128/>



4 Back view https://s1.cdn.autoevolution.com/images/news/2017-mazda-mx-5-rf-review-by-carfection-gives-you-reasons-to-stare-115509_1.jpg

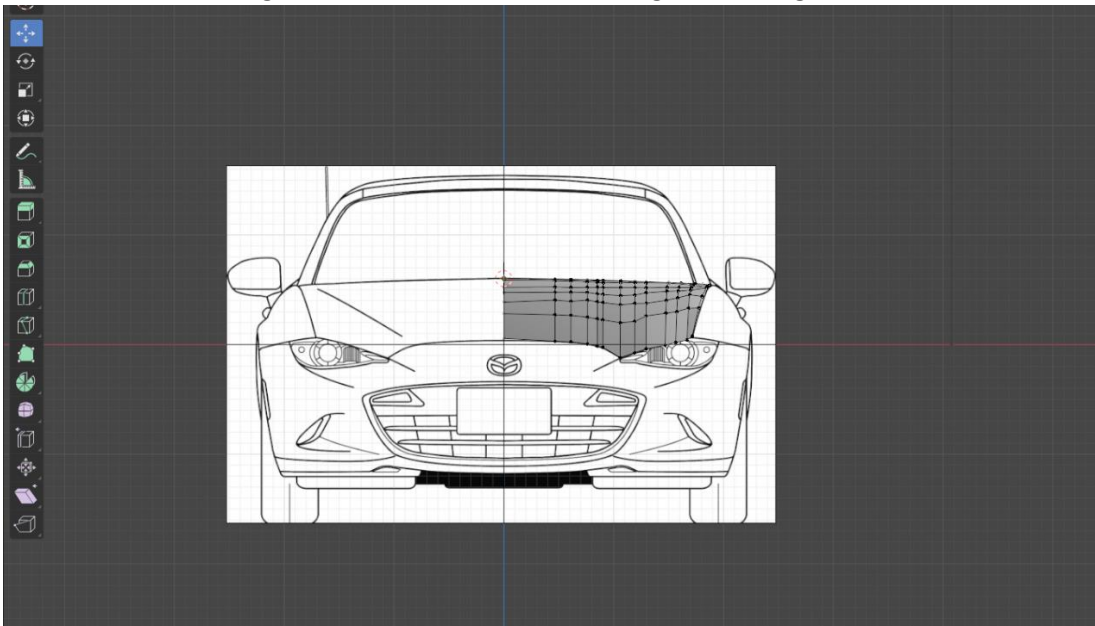
Workflow

The first thing was adding the sketches into the scene, scaling and positioning them.



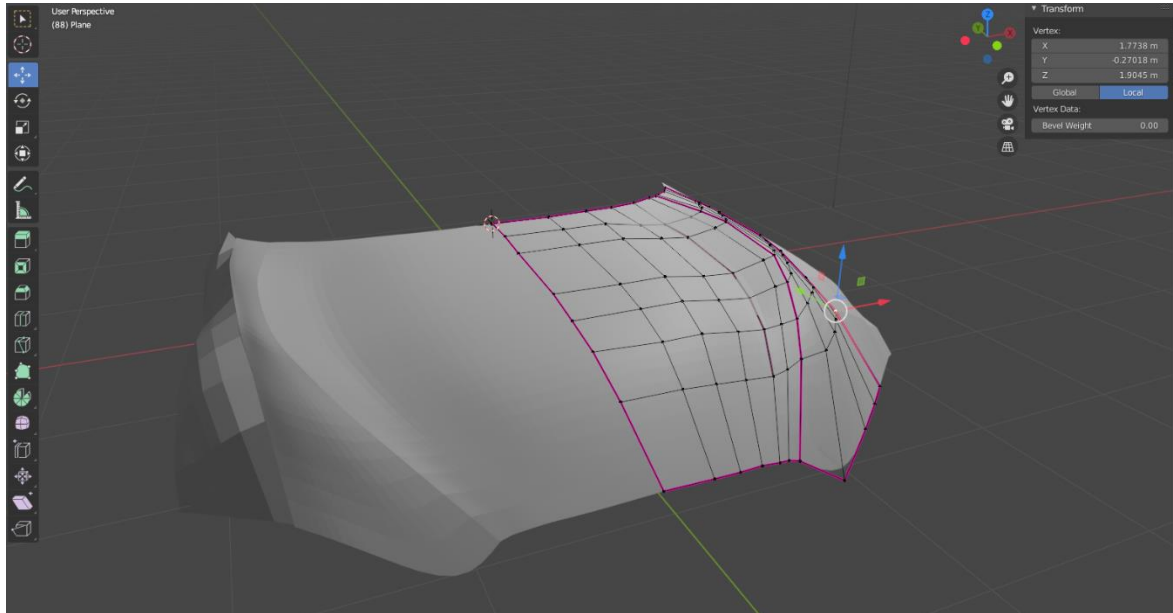
5

I started by doing the hood. At first, I added a plane into the scene and deleted all but one vertex which I positioned into the center at top of the hood. By extruding vertices, I created top line of the hood which I then extruded again. By using loop cut I added more vertices. Using transformation of faces, vertices and edges I modeled the hood according to the images.



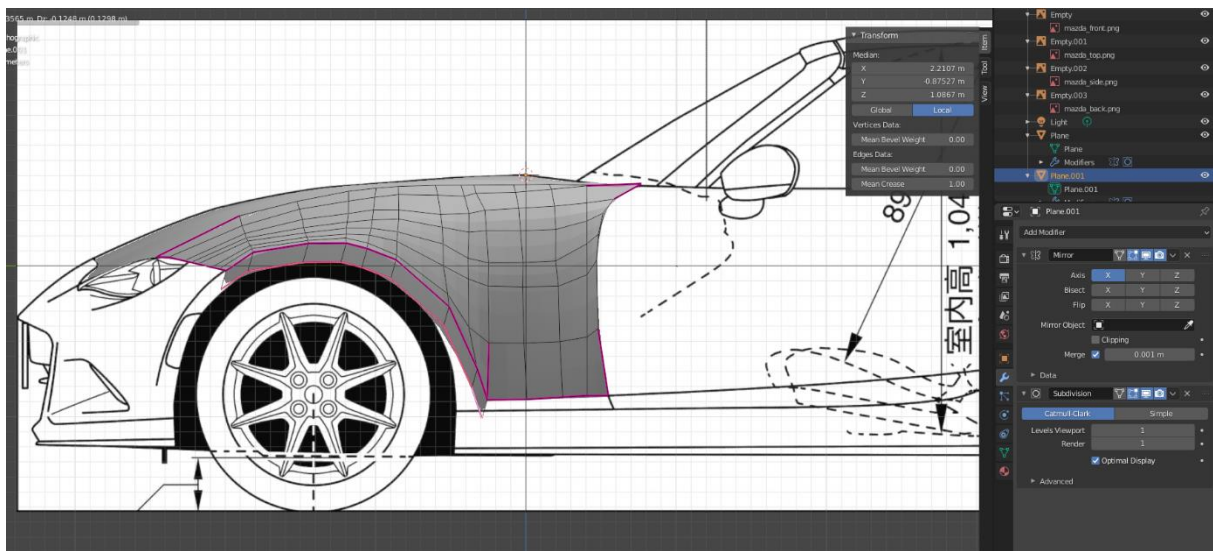
6

A little bit later I had to redo the shape of the hood and changed mean crease of some of the edges to 1.



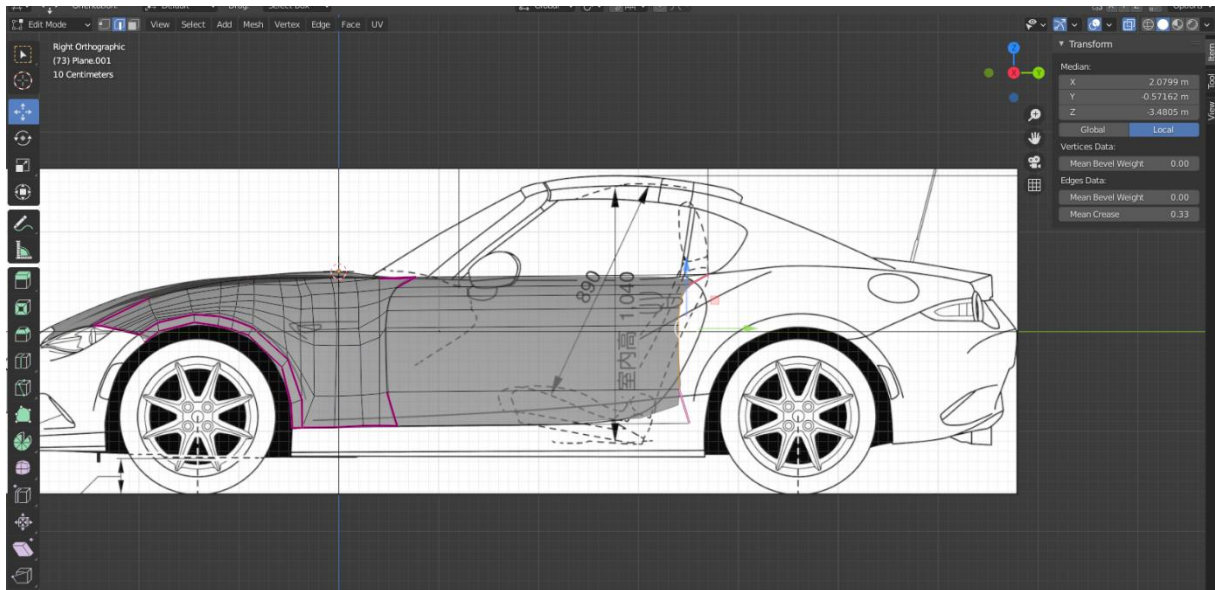
7

I continued by modelling the fenders and side of the car which was much easier than the hood because of the simpler shape.

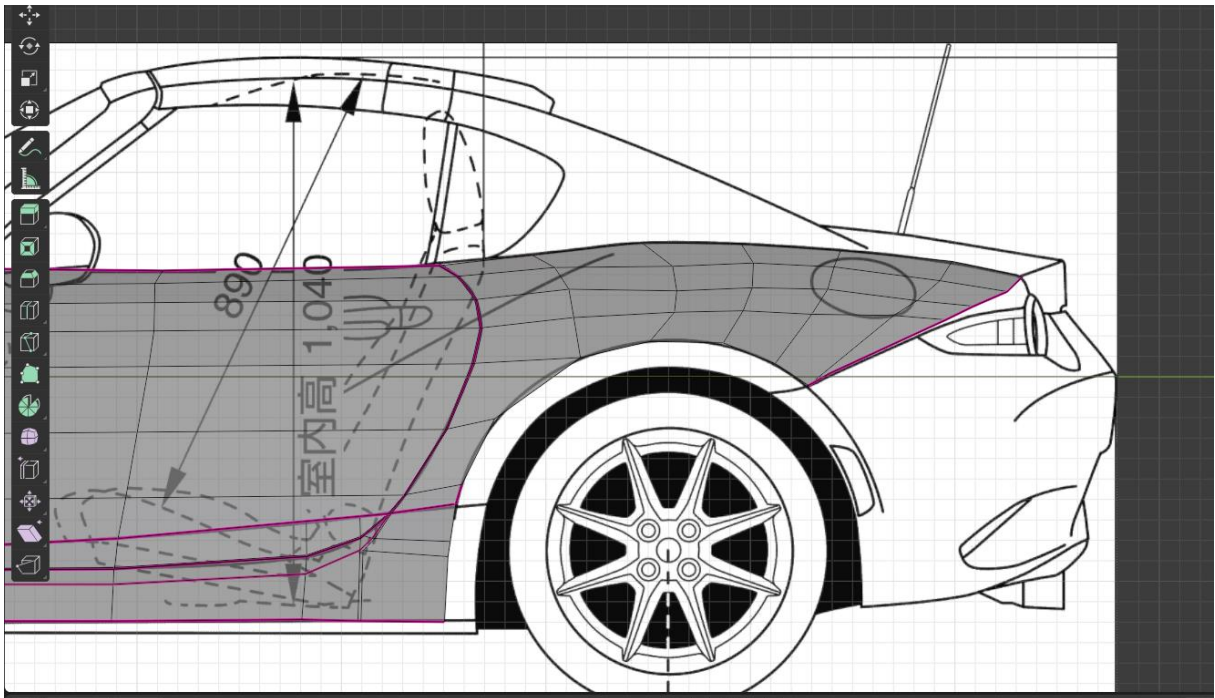


8

In the picture 9 you can see creating doors using extruding of edges. Then I had to transform the vertices one by one to match the shape of the doors on the sketch.

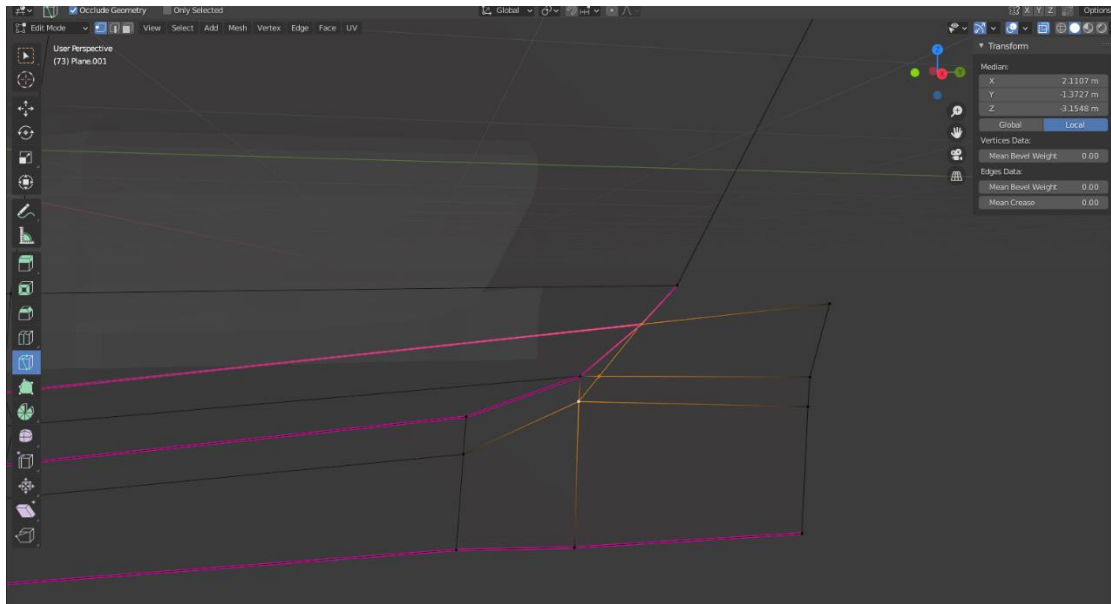


9



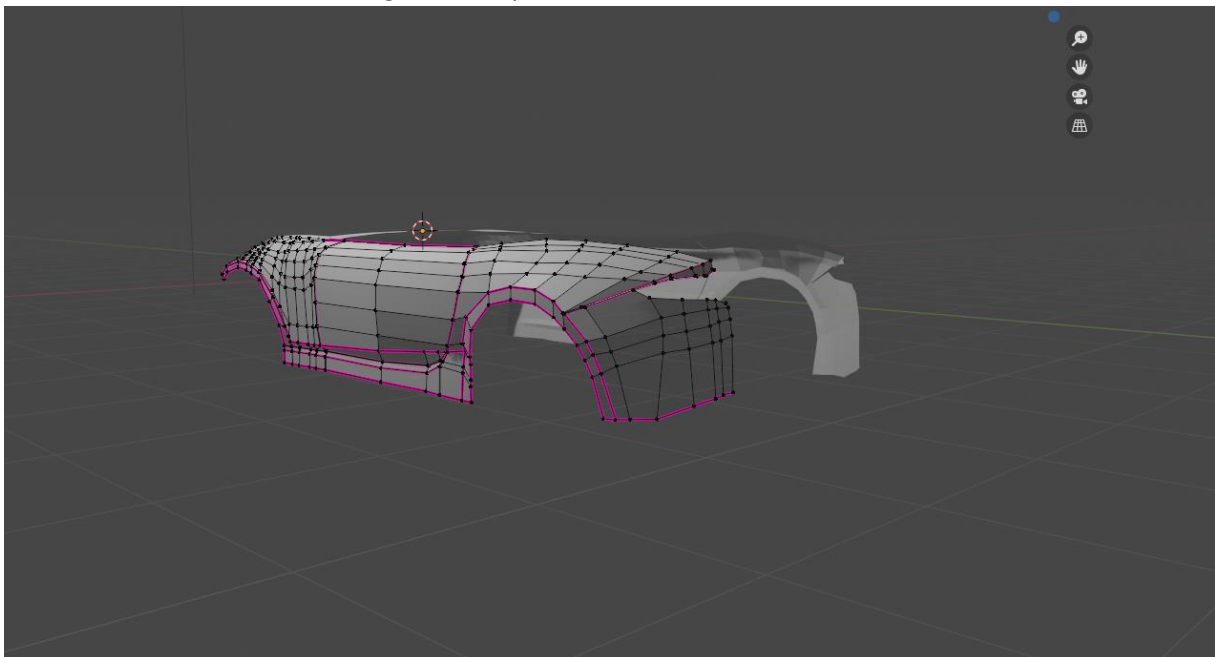
10

As you can see in the picture number 11, I used knife tool quite often to help me to shape the model as reference.

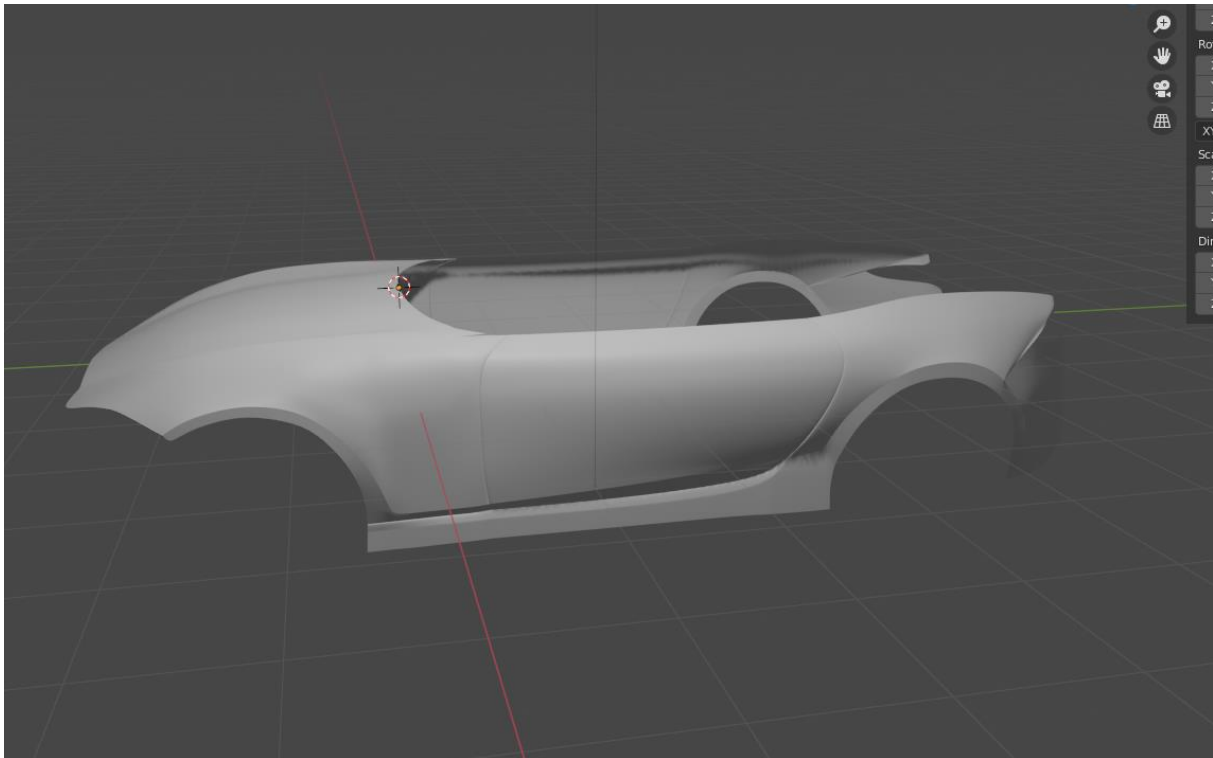


11

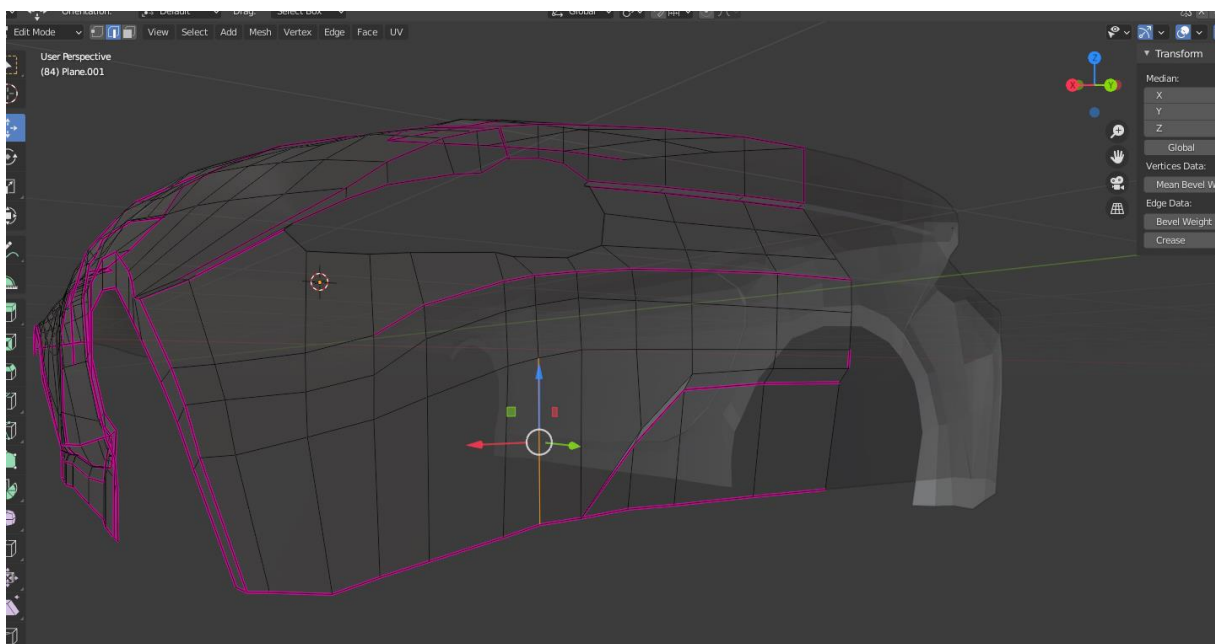
Furthermore, I started modelling the back part of the car.



12

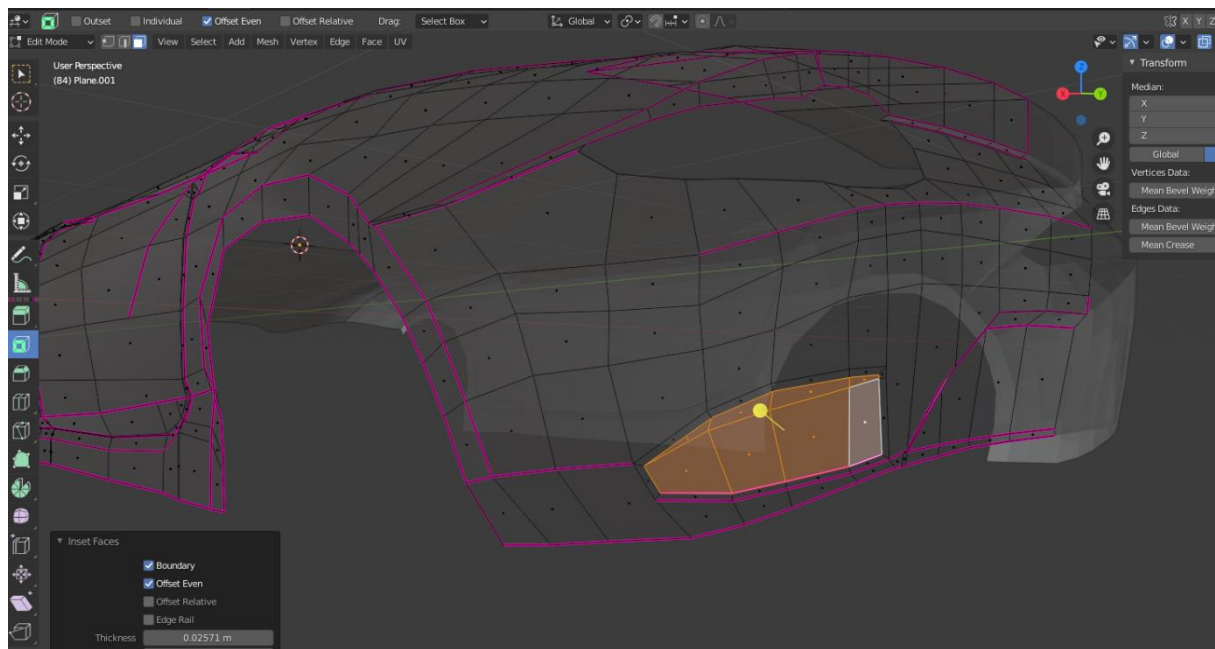


13

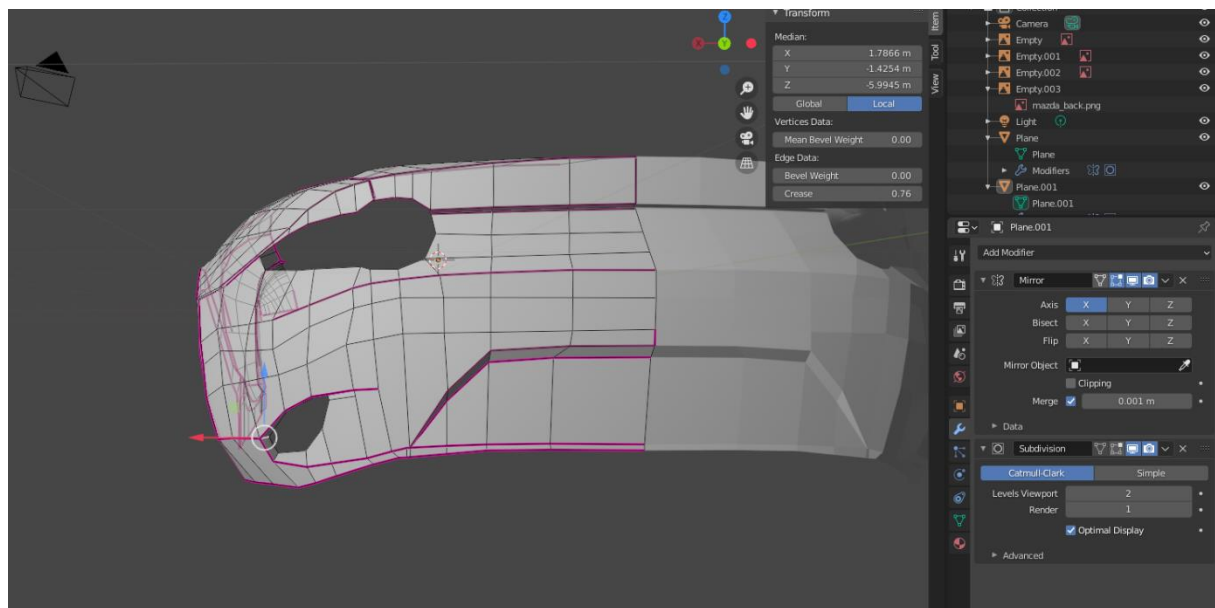


14

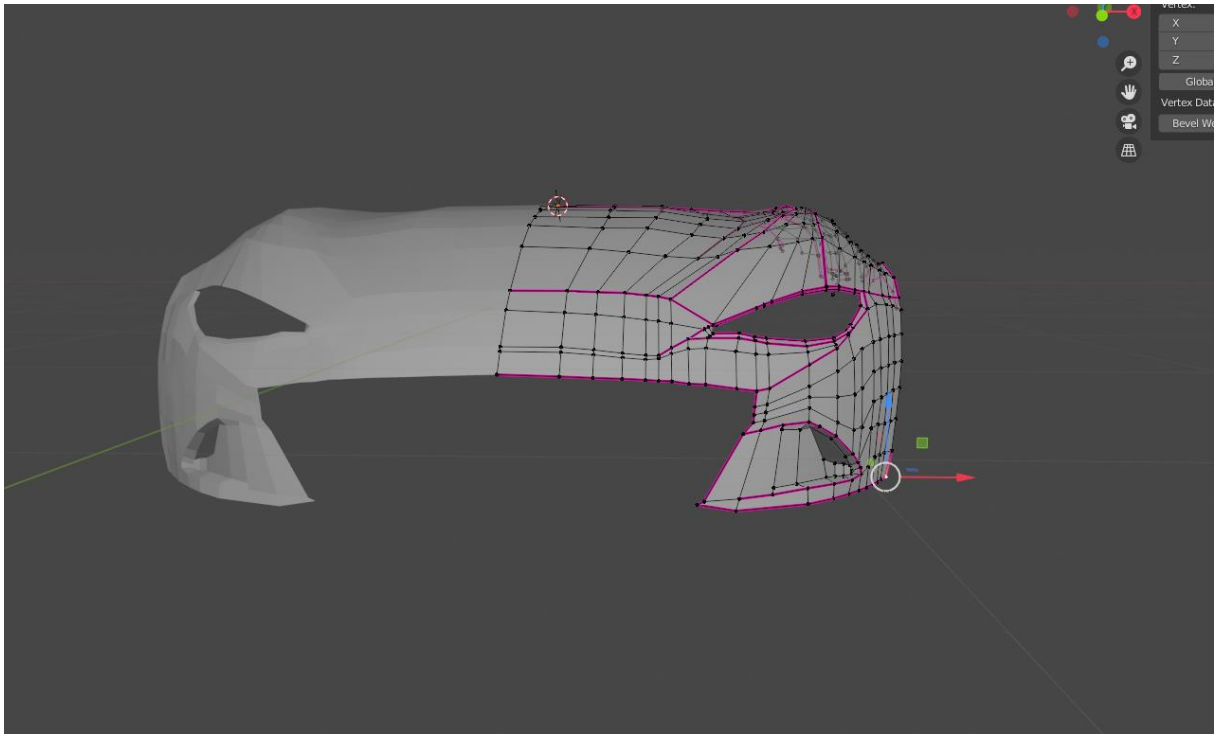
I modeled the shape of the back and the front duct by using knife, changing transformation of vertices and edges, loop cutting, inseting of faces (visible in image 15) and setting mean crease of some edges to 1. These were the hardest parts to model, because I did not count them in when modelling the basic shape, so I had to interfere a lot with the shape of the car.



15

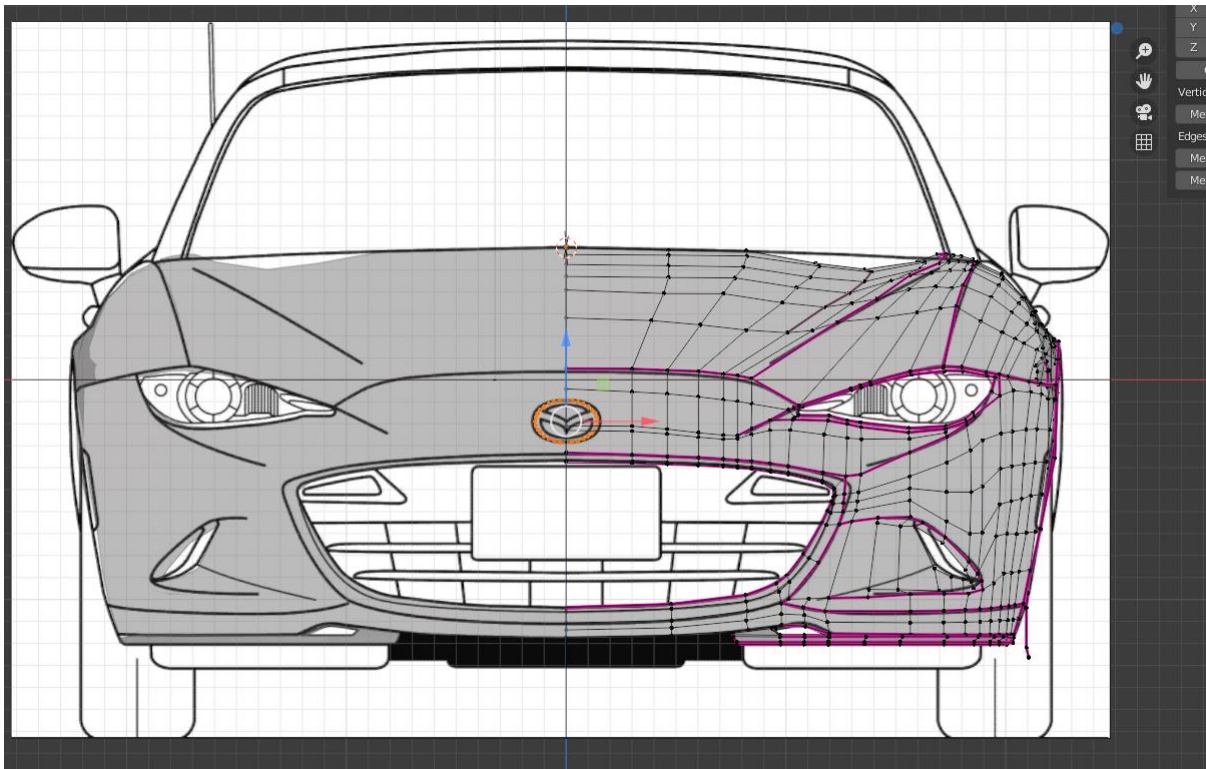


16



17

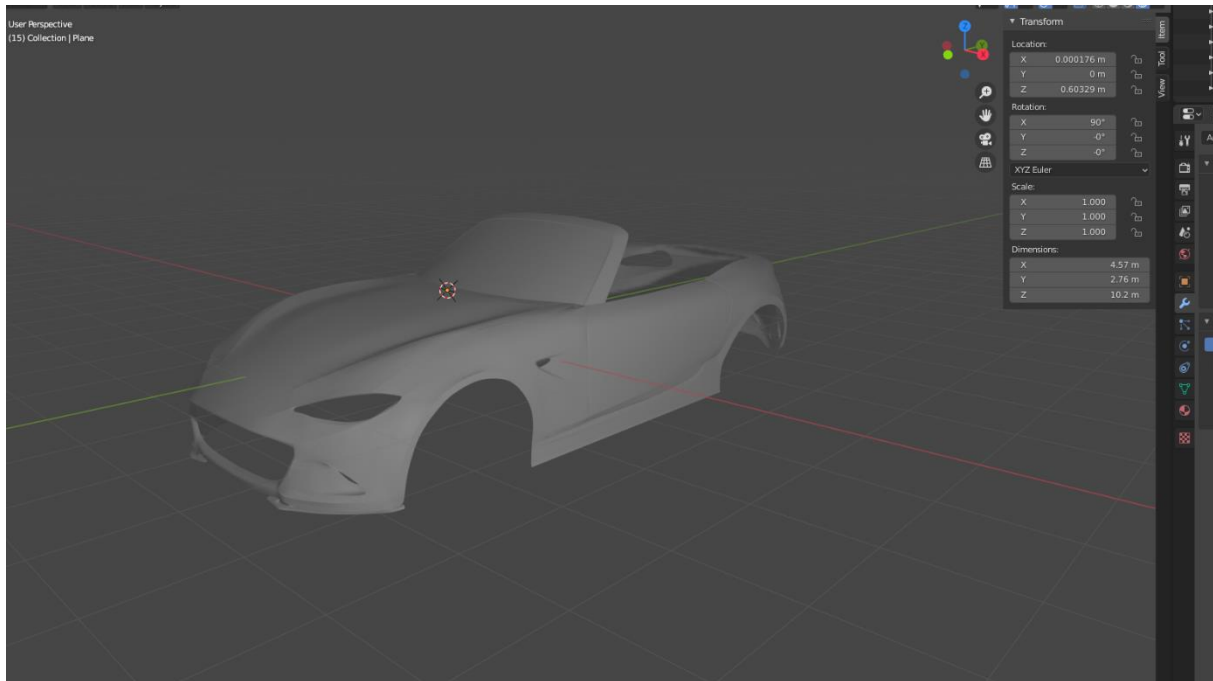
To help me to model the front part of the car I had to hide some of the vertices in the back, because it was hard to orient in the Edit mode (picture 17).



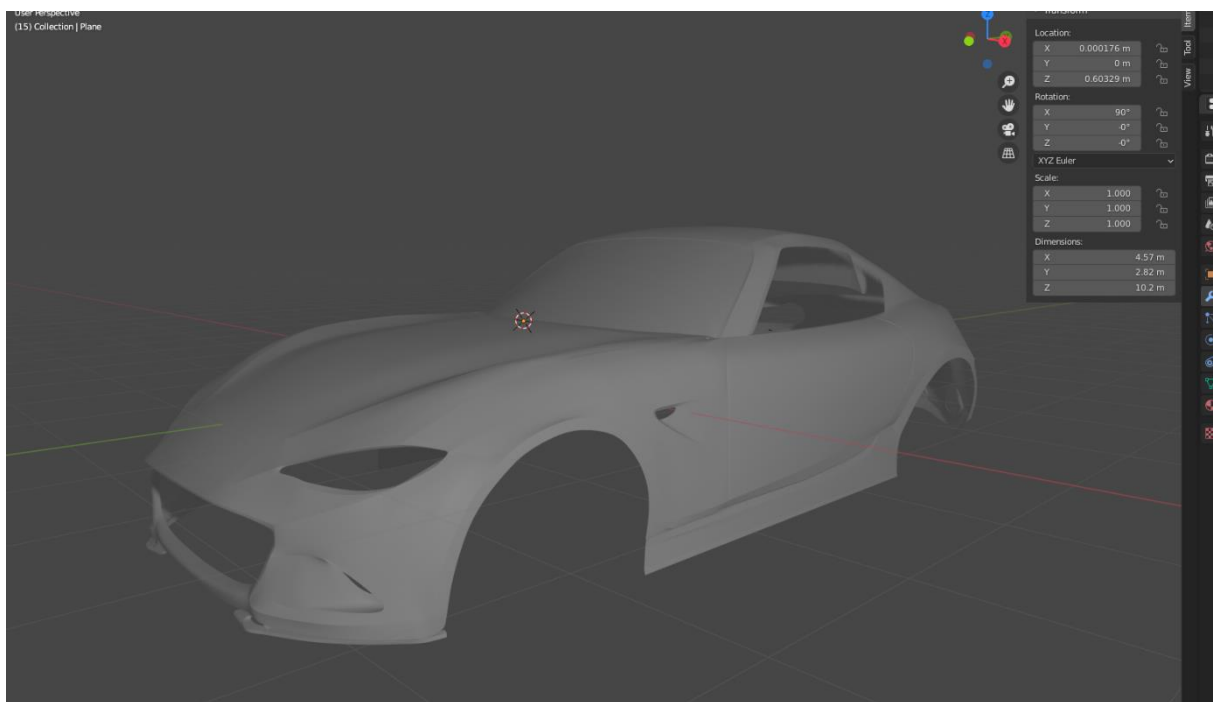
18

I tried to model the Mazda logo (picture 18), but it was too difficult to get the proper shape and rotation because the logo on the sketches was not upright, so I gave up.

I continued by creating the front window and the whole hardtop. It was again an easier part.

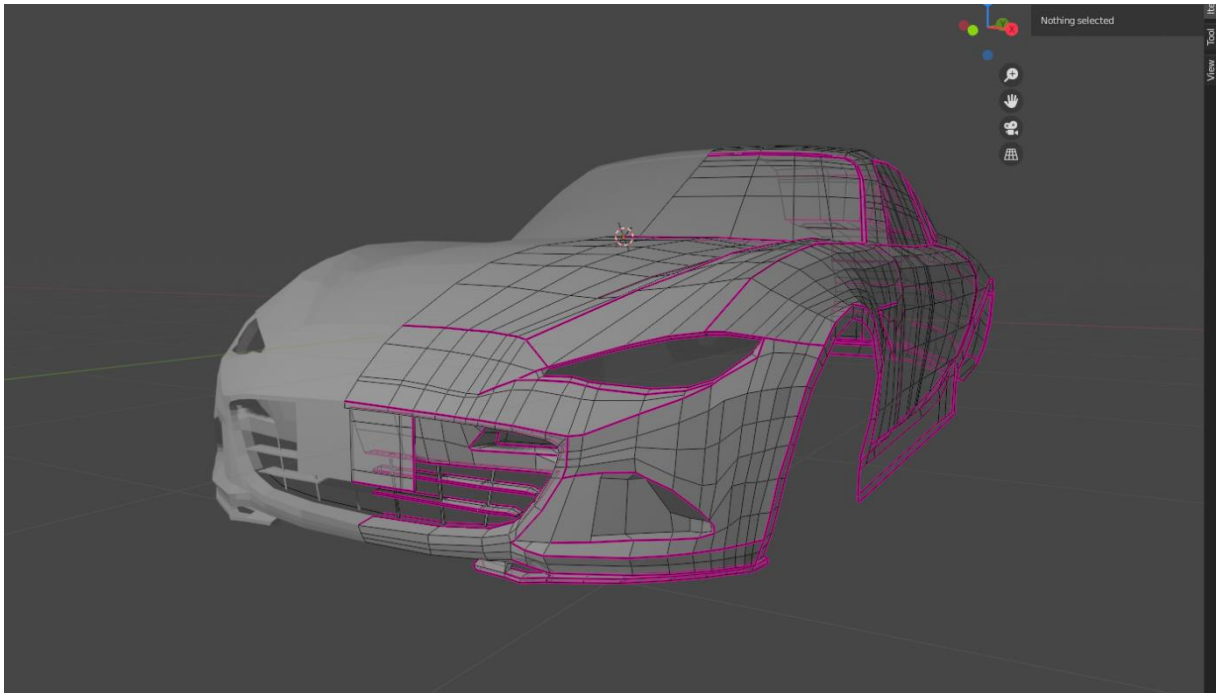


19



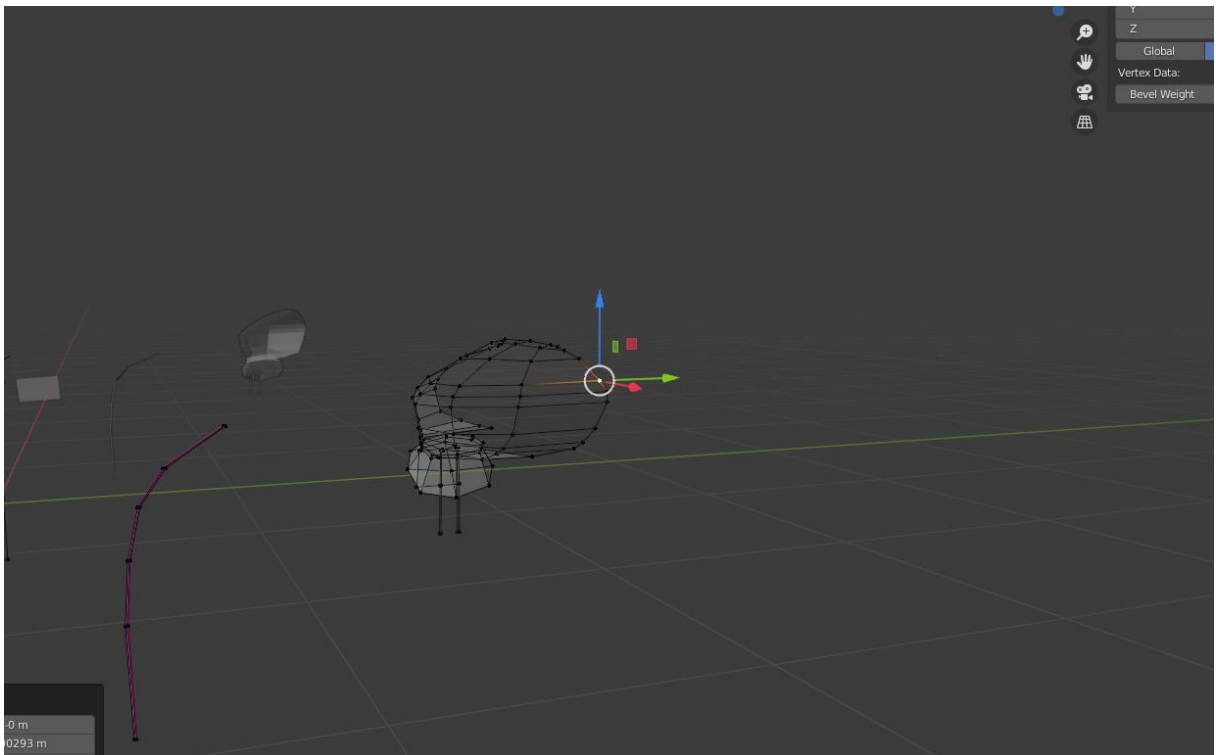
20

After the hardtop I modelled the front grille of the car. I used grid fill and adding new objects to the geometry like cubes that I transformed to fit the shape of the reference (also for the license plate).

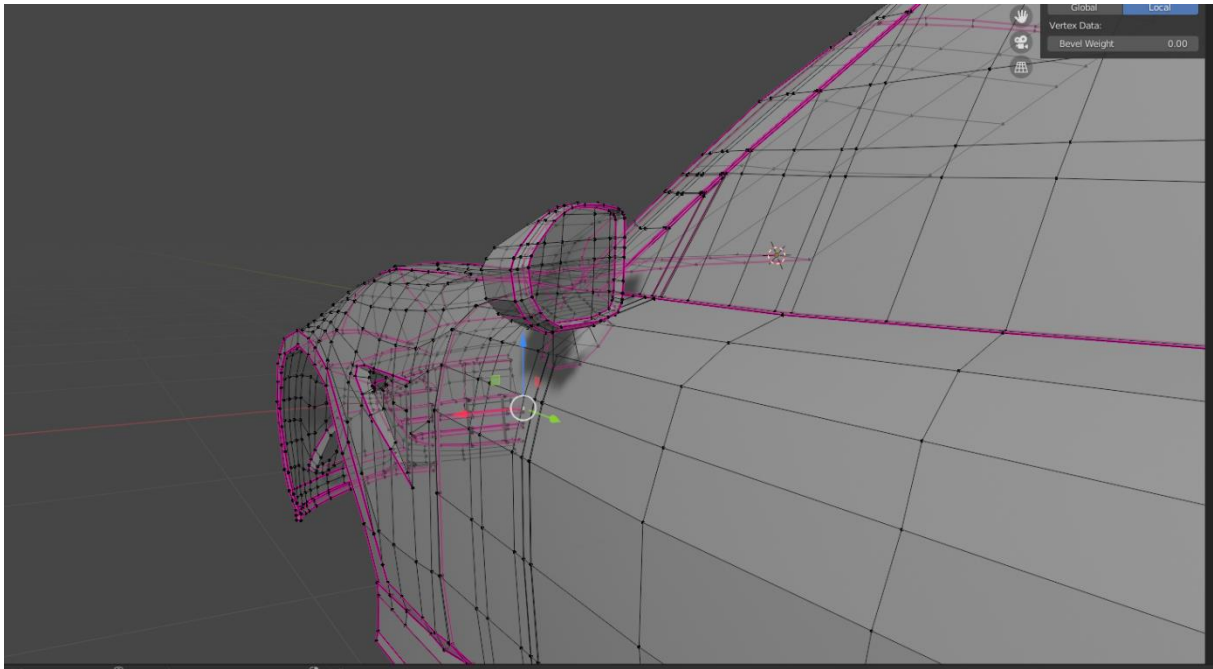


21

One of the hardest parts was modelling the mirrors. I could not find a proper way how to do it, so I had to delete it many times and start again, but I am happy with the final result.

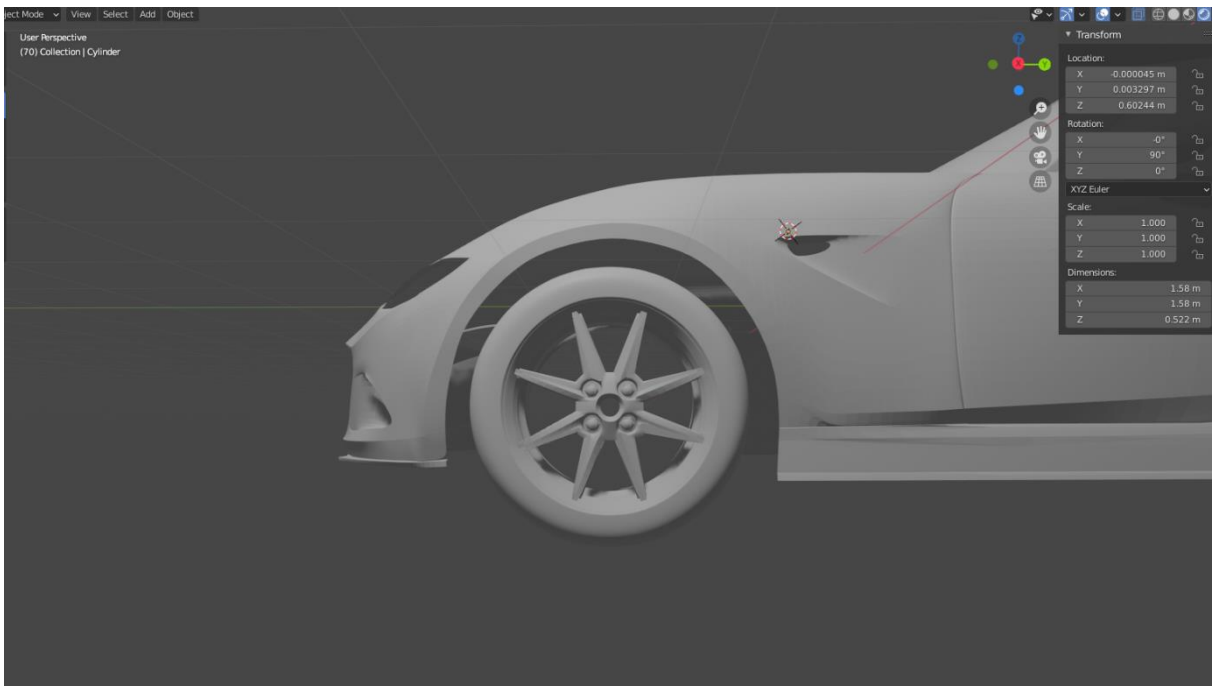


22

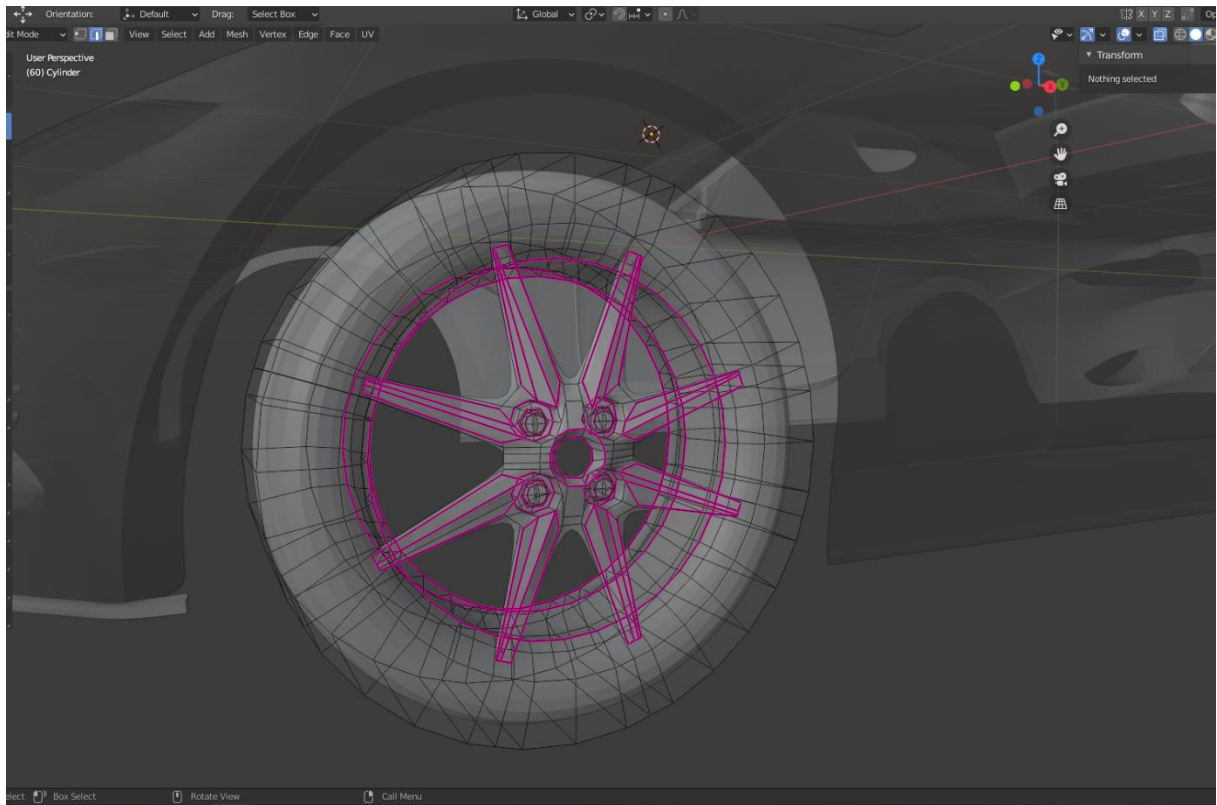


23

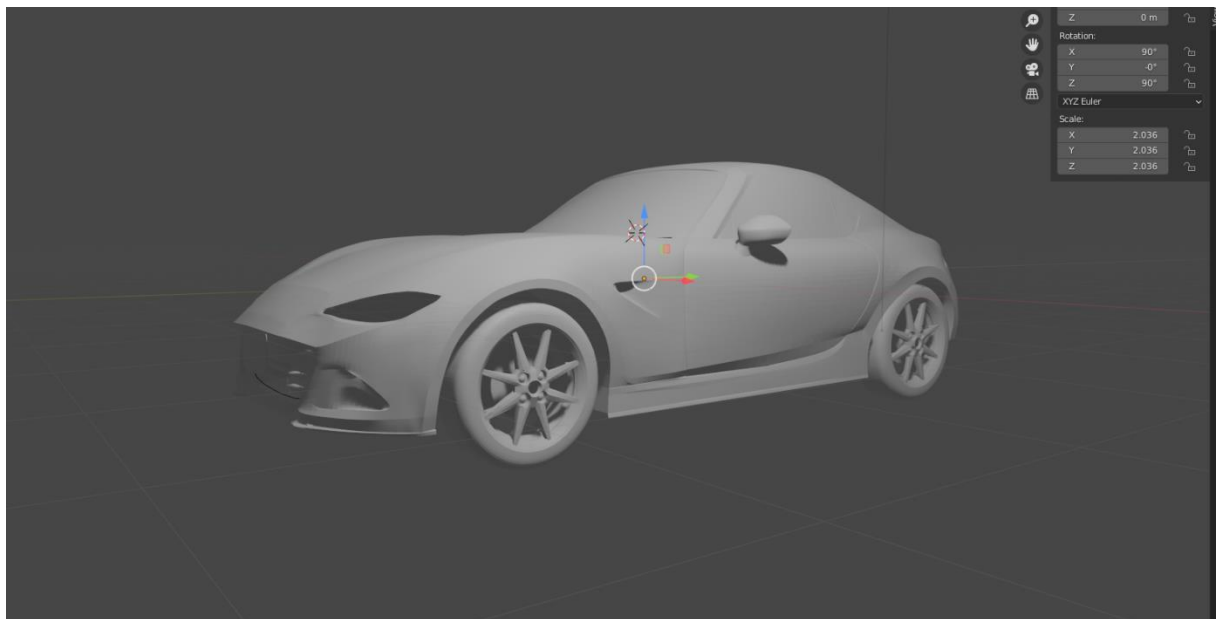
With mirrors and handles, wheels were also very difficult to model. I added circle to the scene which I then extruded to create the basic shape of the tire. But the details on the wheel center like wheel nut holes were hard to model with not many vertices.



24



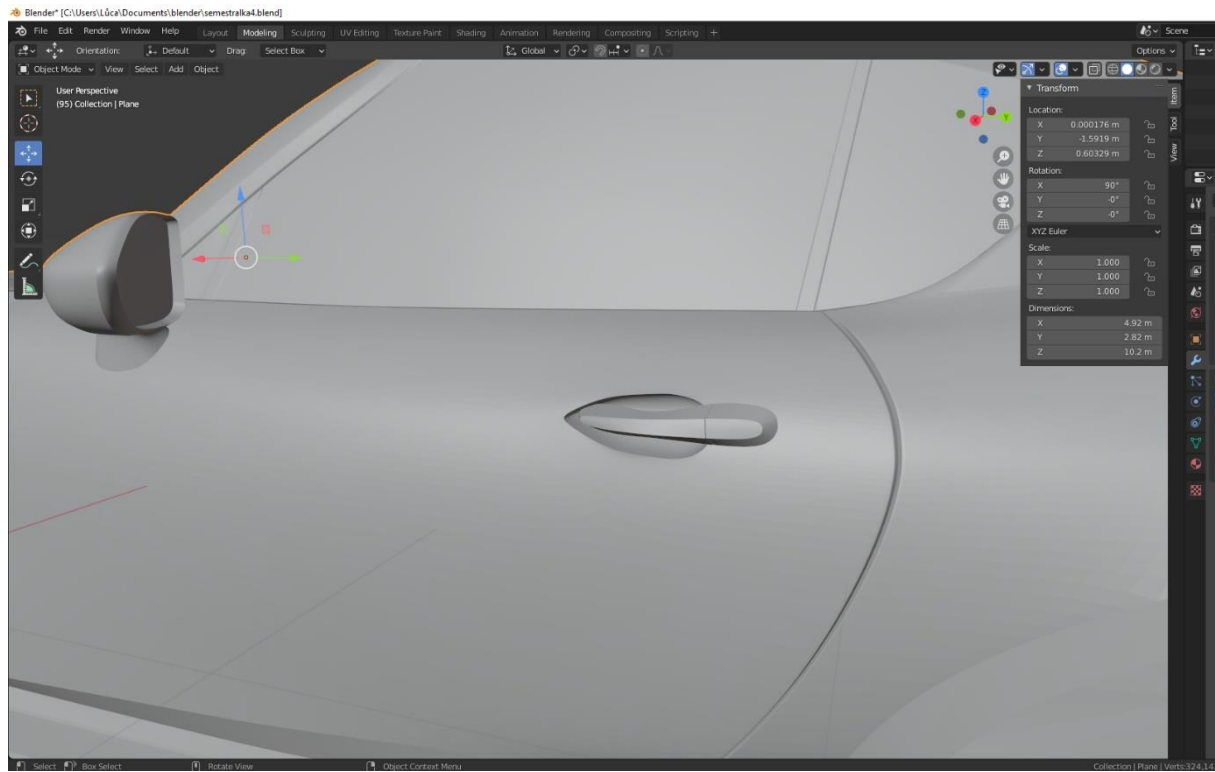
25



26

After the wheels I was almost finished. I had to add the lights and the handles. I modelled the front and the back light by using tools such as fill, grid fill and inset faces.

I had to model the handle many times because my vertices always formed different shape from the real one. I used knife, loop cut, inset face, transformation of vertices and edges and added another object that I transformed to the shape of the handle.



27

Modifiers

I used mirror and subdivision modifiers.

The wheels on one side share geometry, on the other side they are projected using mirror modifier.

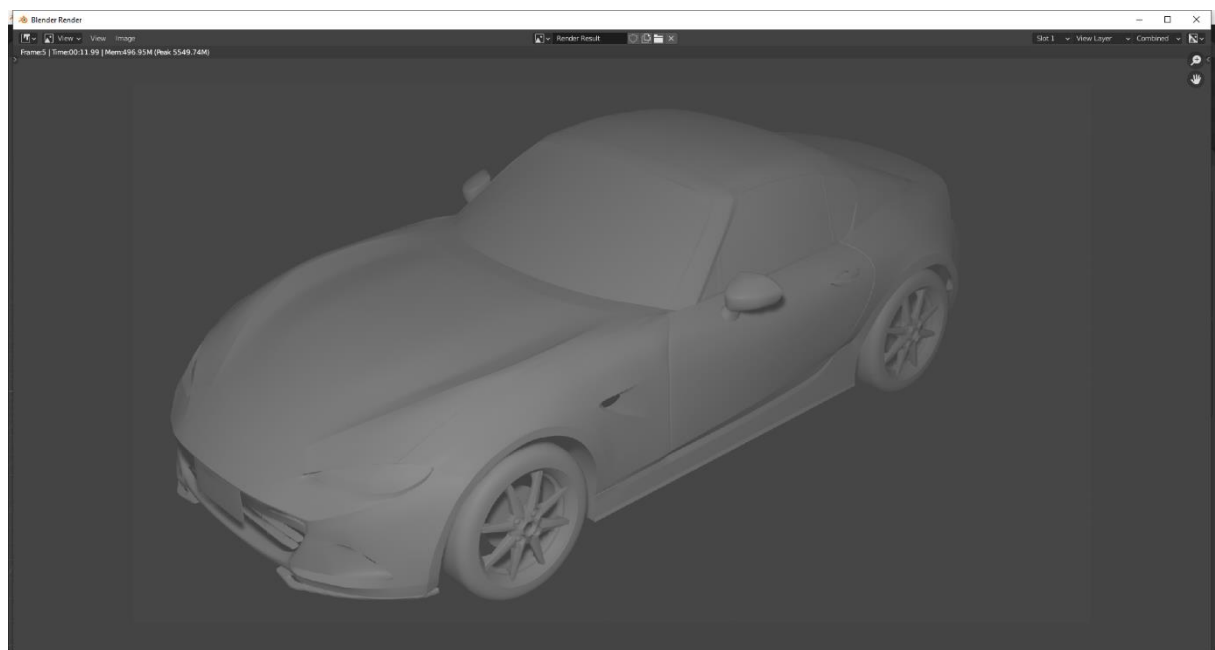
Spent time

I did not count the time but approximately I spent about 60 hours on modelling.

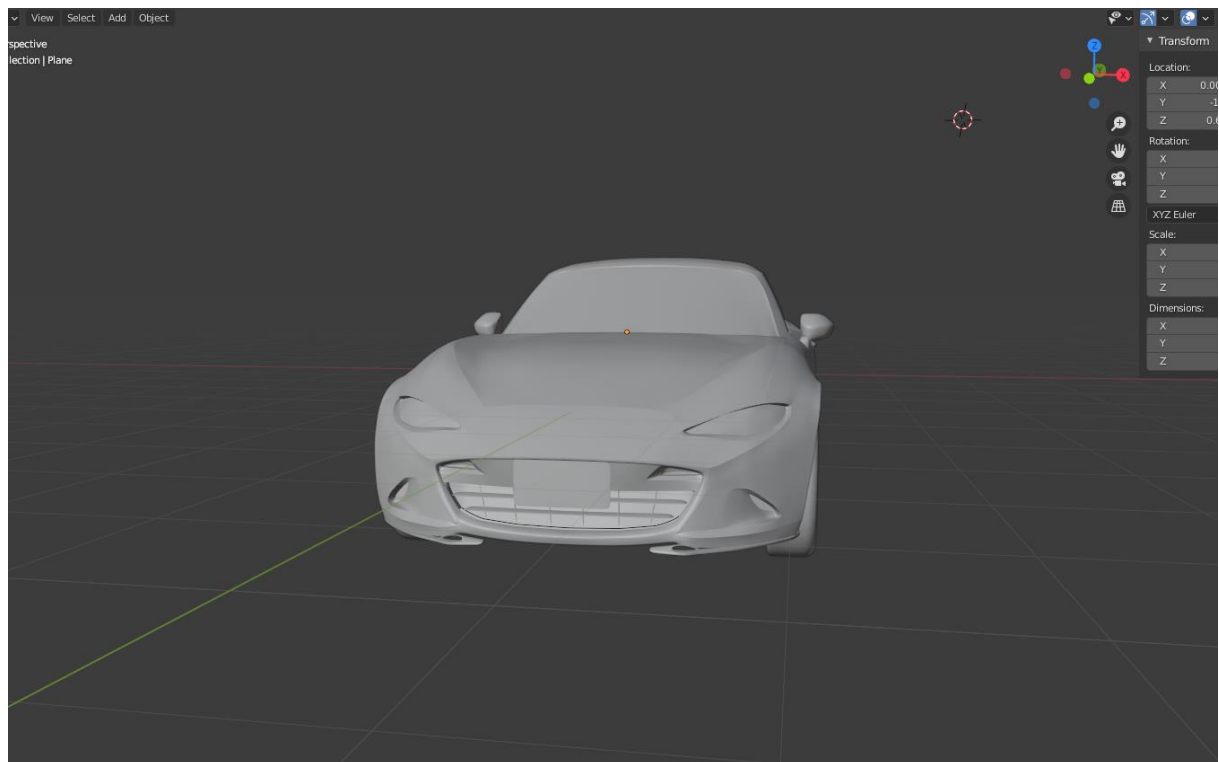
Result



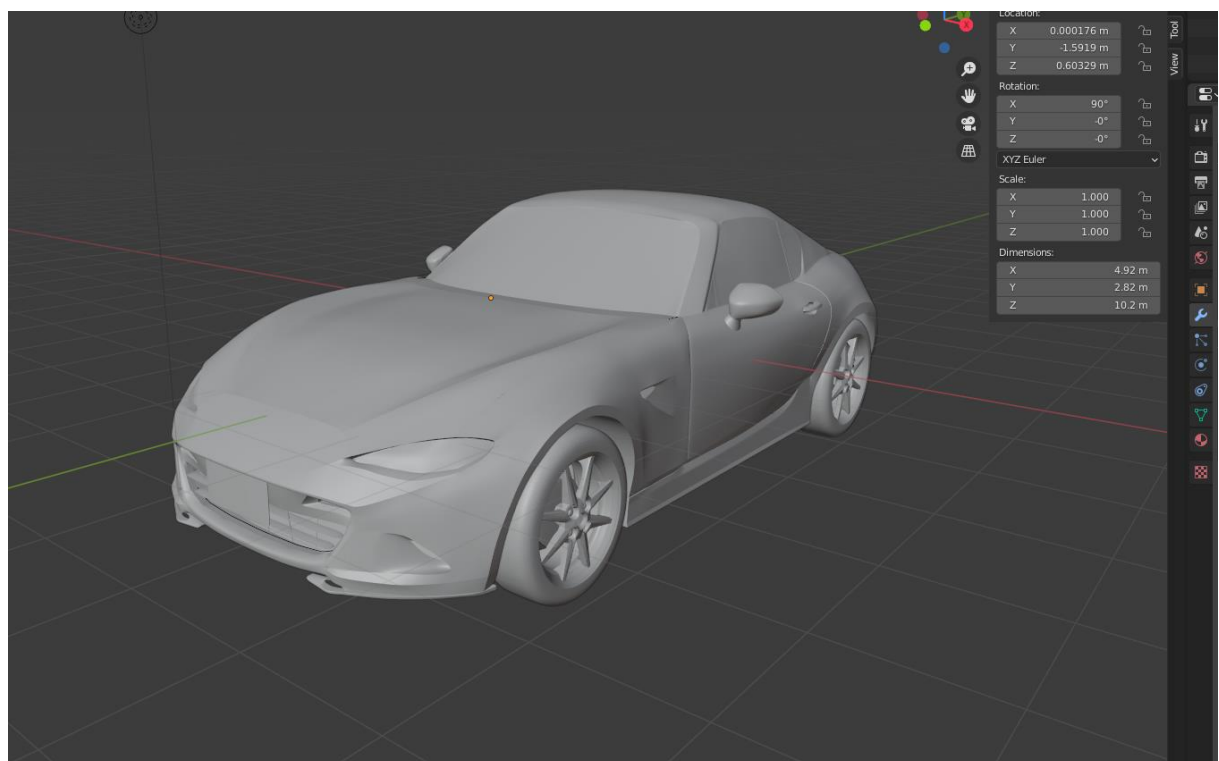
28



29



30



31

