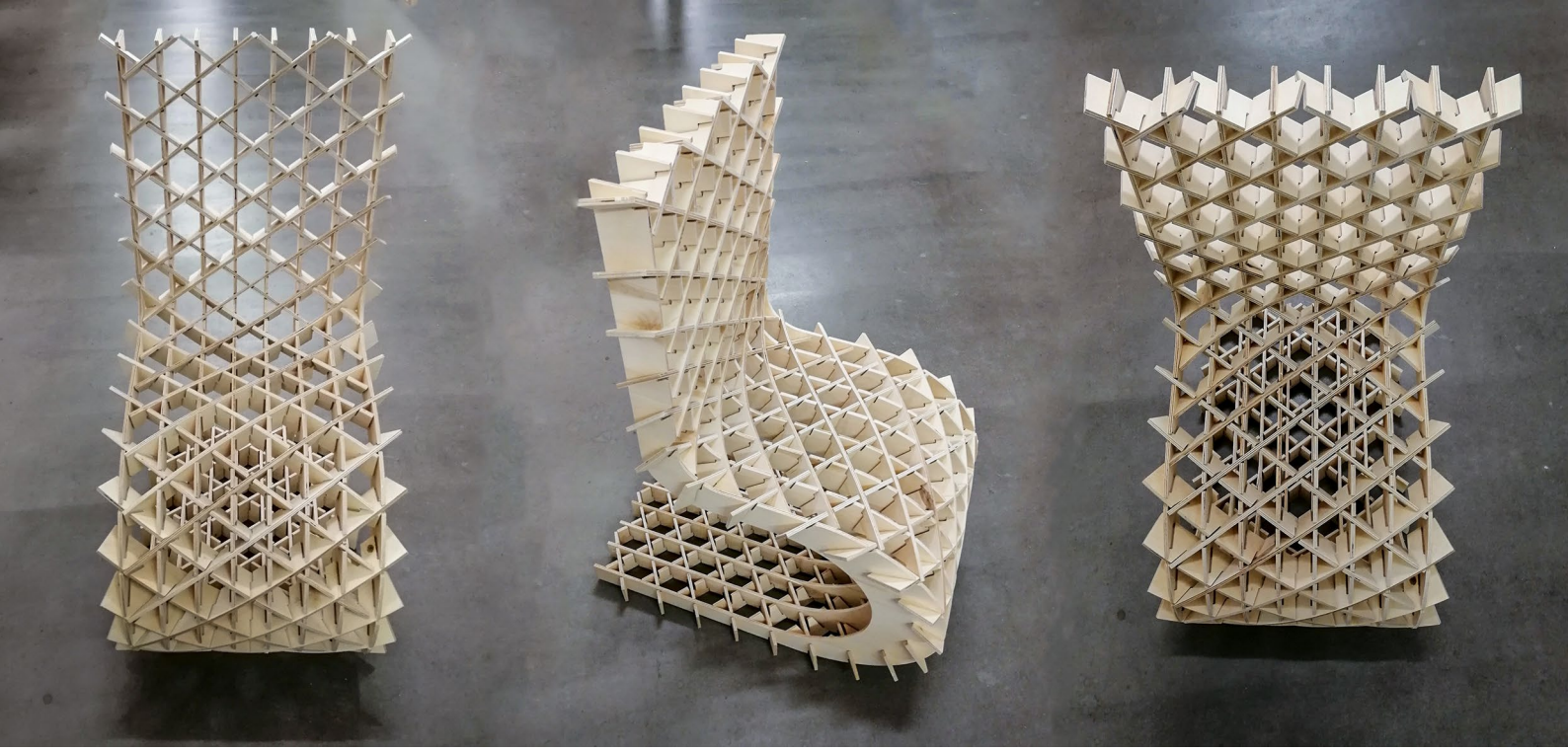

03 Talata Chair // Open desk proposal

A 3 layers waffle structured chair

Year: 2019 1st master semester. **Function:** Furniture. **Client:** Open Desk. **Status:** Prototype. **Digital tools:** Rhino and Grasshopper.

The initial design goal was to realize wooden double curved furniture with low tech fabrication techniques (Figure 1), while maintaining the requirements of Open Desk furniture.

At the beginning I started prototyping with cardboard material, which was able to handle the torsion of the non-planer parts in the system. However, 2 layers waffle structure was not stable enough for a chair. Next, I simplified the initial double curved surface to an extrude reverse curve, added a third layer of waffle structure to the system and planarized all parts to be able to use plywood in prototyping. However, the modified system showed outstanding performance in an empirical load test on a cardboard mock-up (Figure 2).

Finally, I used a 6mm plywood for the final prototype. All parts were CNC milled by a 2.5 milling machine (Figure 4). At the end I was able to assemble the chair with zero tolerance and without any adhesive materials or screws (Figure 3).

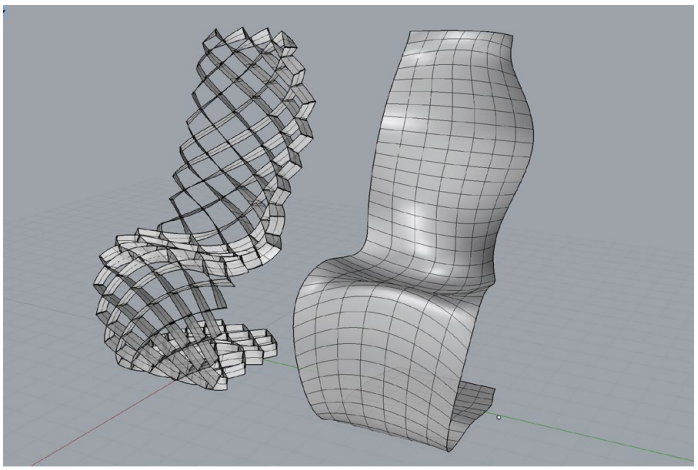

Figure 1: Initial design with doubled curved surface

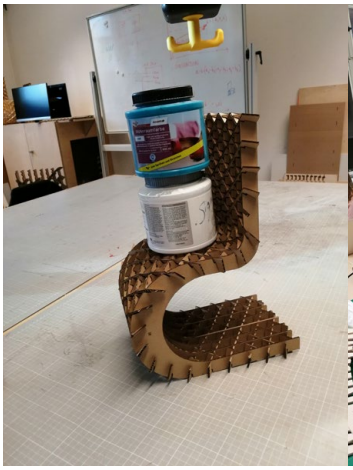

Figure 2: mock-up load test

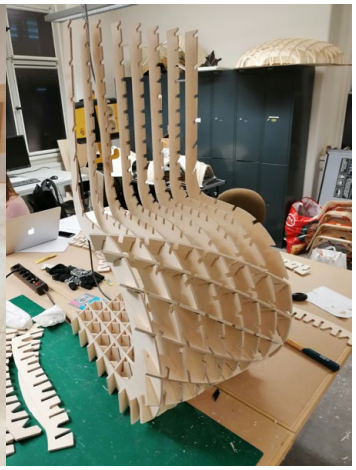

Figure 3: zero tolerance installation

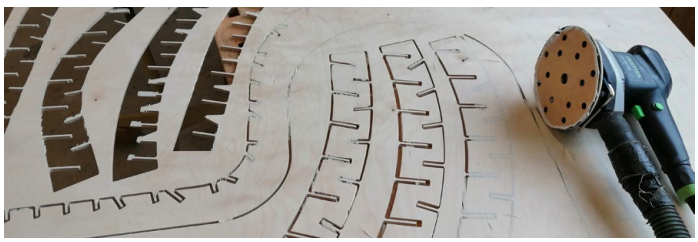

Figure 4: CNC milling without bridges