

Design Process:

I began the design of the ironing board cum chair with the intention of creating a dual-purpose piece of furniture that functions both as a comfortable chair and a functional ironing board. I used SolidWorks to model the individual parts, incorporating tabs and slots for ease of assembly and structural stability.

I included dog bone fillets on all internal corners to compensate for the round profile of the milling tool. These were added manually to allow for proper fitting of interlocking parts using CNC routing.

Material and Machining:

I used 20 mm plywood for this project. The tool used was a 4 mm flat end milling tool to cut the parts on a CNC wood router.

Finishing and Assembly:

After cutting the parts, I cleaned and sanded the surfaces using a buffer. I did not apply varnish or any other coating to the wood.

The final assembly was done by fitting the tabs and slots together. Despite not using adhesives or fasteners, the design held well due to the accurate fit of the interlocking joints.

Conclusion:

This project taught me how to adapt to machine limitations and material constraints while still achieving a working prototype. I also gained hands-on experience in parametric design, fabrication, and functional prototyping using basic digital fabrication tools.