

Problems

- Large footprint proportional or greater than work area provided for traditional laser engravers.
- High cost and lack of consumer friendly devices.

Introduction

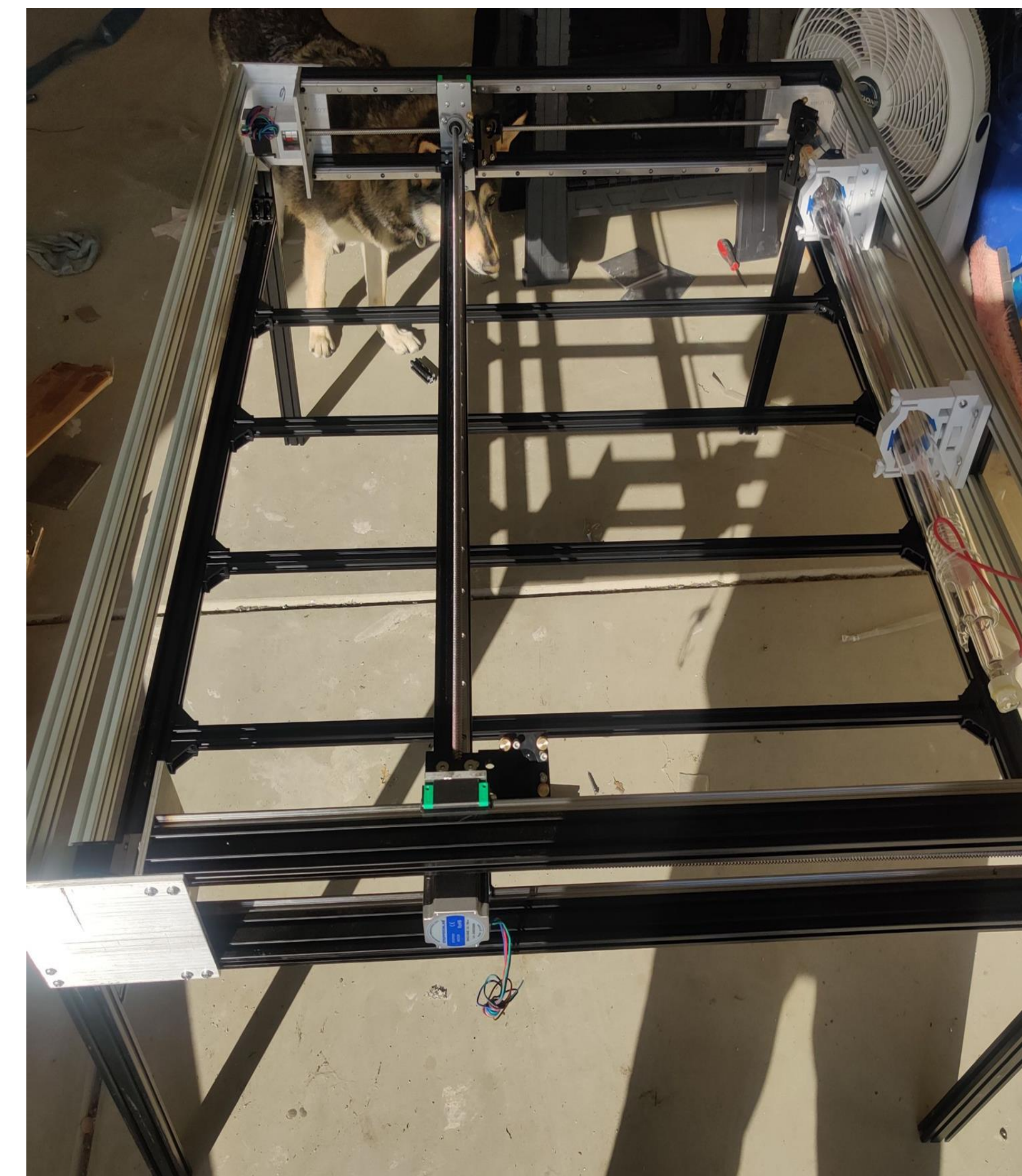
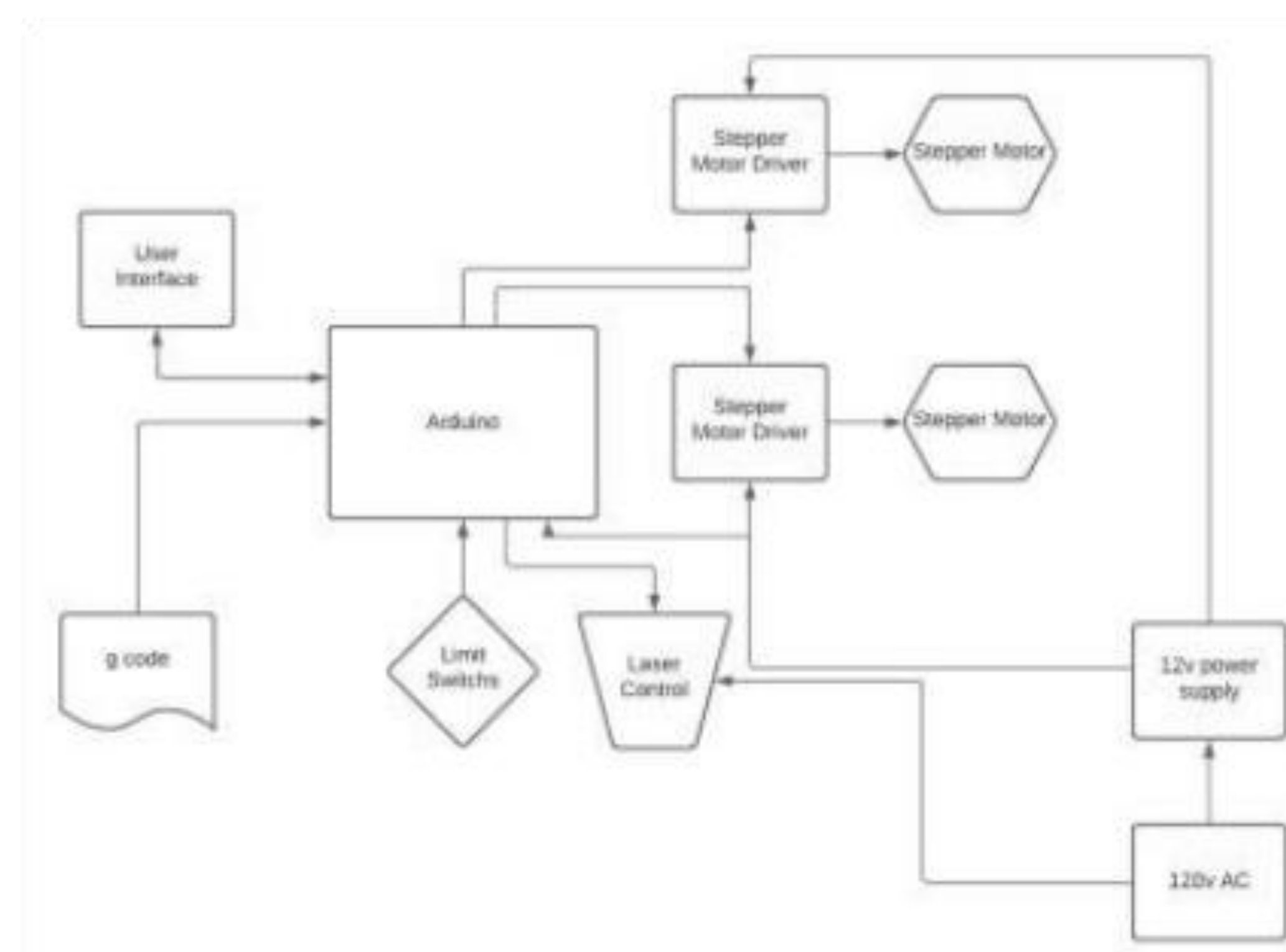
Modern CNC engravers have a considerable number of limiting factors that can inhibit the entry of consumer level CNC laser engravers. The conventional construction of a laser engraver does not optimize ease of use, price per square foot of workspace, or value per square foot. Our goal is to address these problems and present a design that is more cost effective and user friendly for lower level fabrication shops and hobbyist.

Project Features

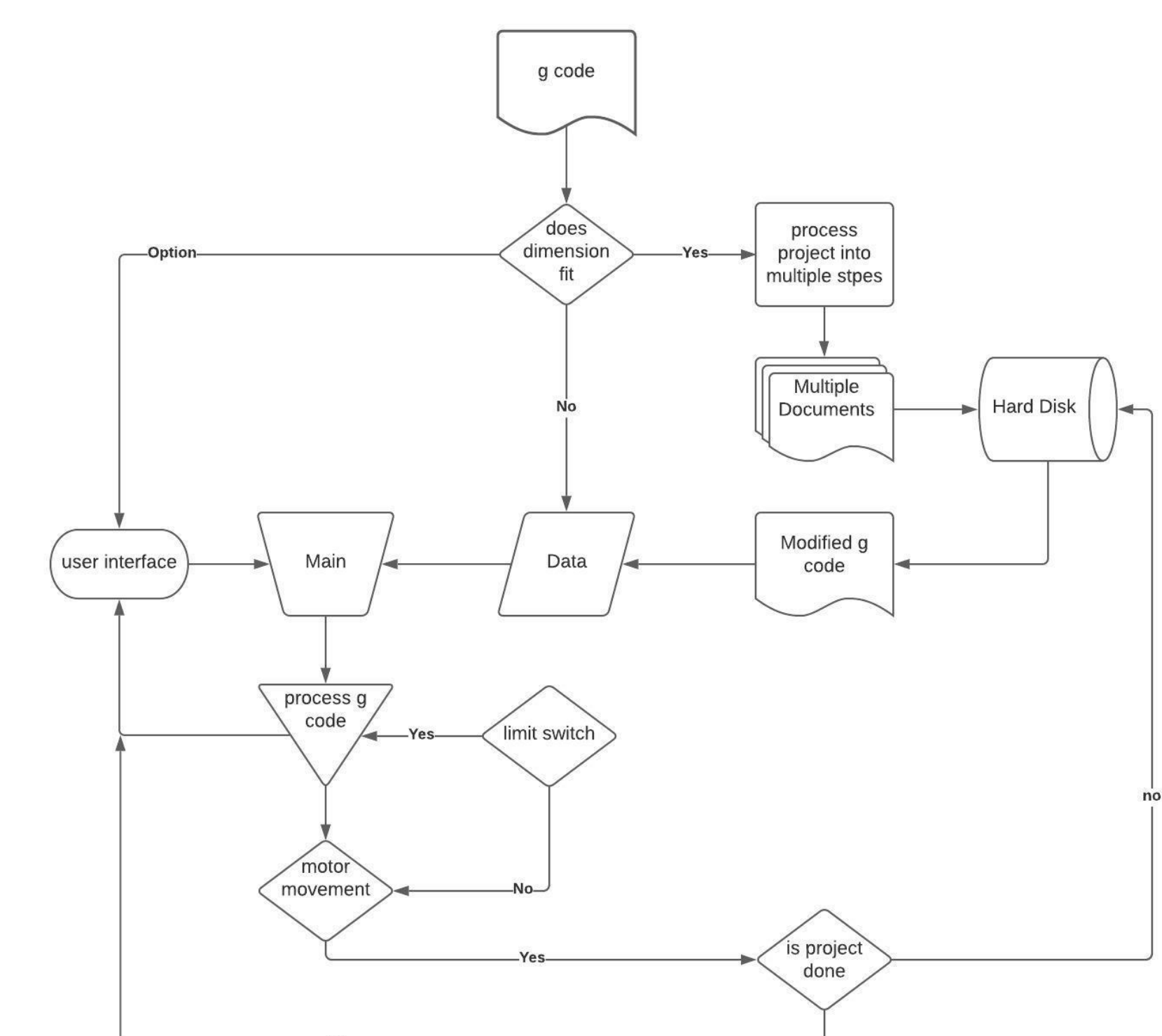
- Partitioned into separate pieces so stock can be continuously fed from the feeder side
- Optimize value per square foot
- Simplified process for less experienced individuals
- Cut material through a multitude of untraditional cutting areas.

Implementation

Hardware Diagram



Software Design



Conclusion

The construction and fabrication of the project had a lot of compromises due to the fluctuating prices due to covid. The price of aluminum and other key components in this project saw an increase in price as much as five times the normal market price. Overall, the project served as a great learning experience for our team. Our team was able to produce a laser engraver that is proprietary to our group. This technology can be applied to many applications through various fields. We hope to implement the knowledge and experience we gained from this project to future projects in our careers.