

Team Members: Jeffrey Doman, Daniel Gerdes, Mo Griffith, Tyler Sheets, Aaron Torres-Gonzalez, Zach Wu

Mentor: Dr. Berry

Customer Background

Purdue sought an affordable and simplistic 3D printer that would be more economical than current manufactured printers while maintaining the same quality. Additionally, they wanted a printer that could be manufactured on campus.

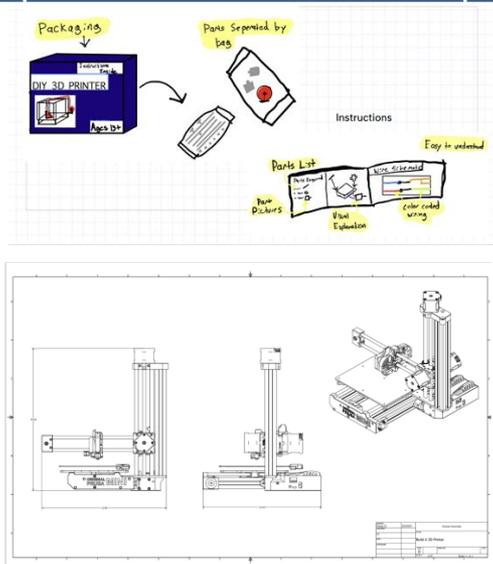
Problem Statement

The printer needs to be affordable, functional, safe, and simple enough that anyone can assemble it. Must also comply with middle school safety guidelines to ensure student safety.

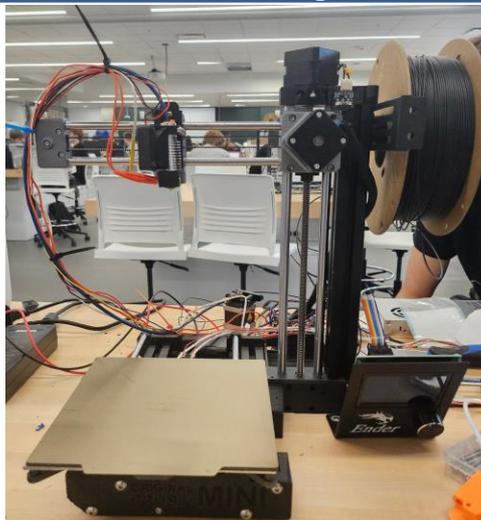
Requirements

- Fully functional 3D printer kit prototype.
- Comprehensive assembly instructions
- Equip a printing software that can be accessed by all users
- Bill of Materials (BOM) with sourcing details.
- Ensure that all users can safely operate the printer
- Make it an educational resources for middle school students.

Experimentation and Concepts



Final Design



Testing



3D printed parts for design



Compared prints from a commercial printer (left) to our printer (right)

Type of Printer	Time	Price
Our Printer	1 hour and 40 minutes	\$180
Anycubic Kobra	1 hour and 10 minutes	\$209