

Background

In their mission to empower and bring awareness to the blind community, the Blind Industries and Services of Maryland (BISM) requires a versatile, affordable braille embosser to braille beer labels, posters, and more.






Why is braille still important?

Braille is directly connected to employability and independence and an important symbol for the blind community.

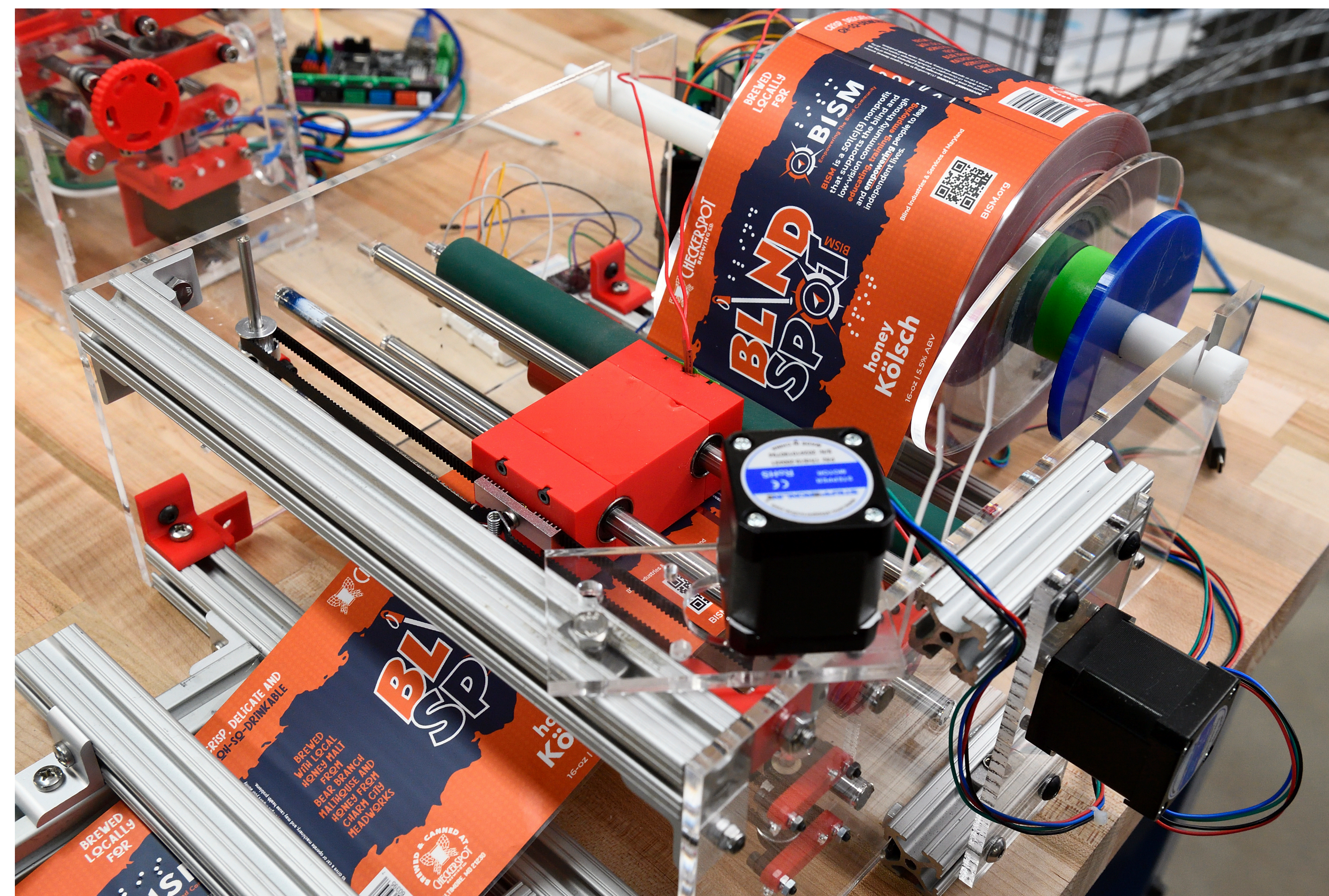
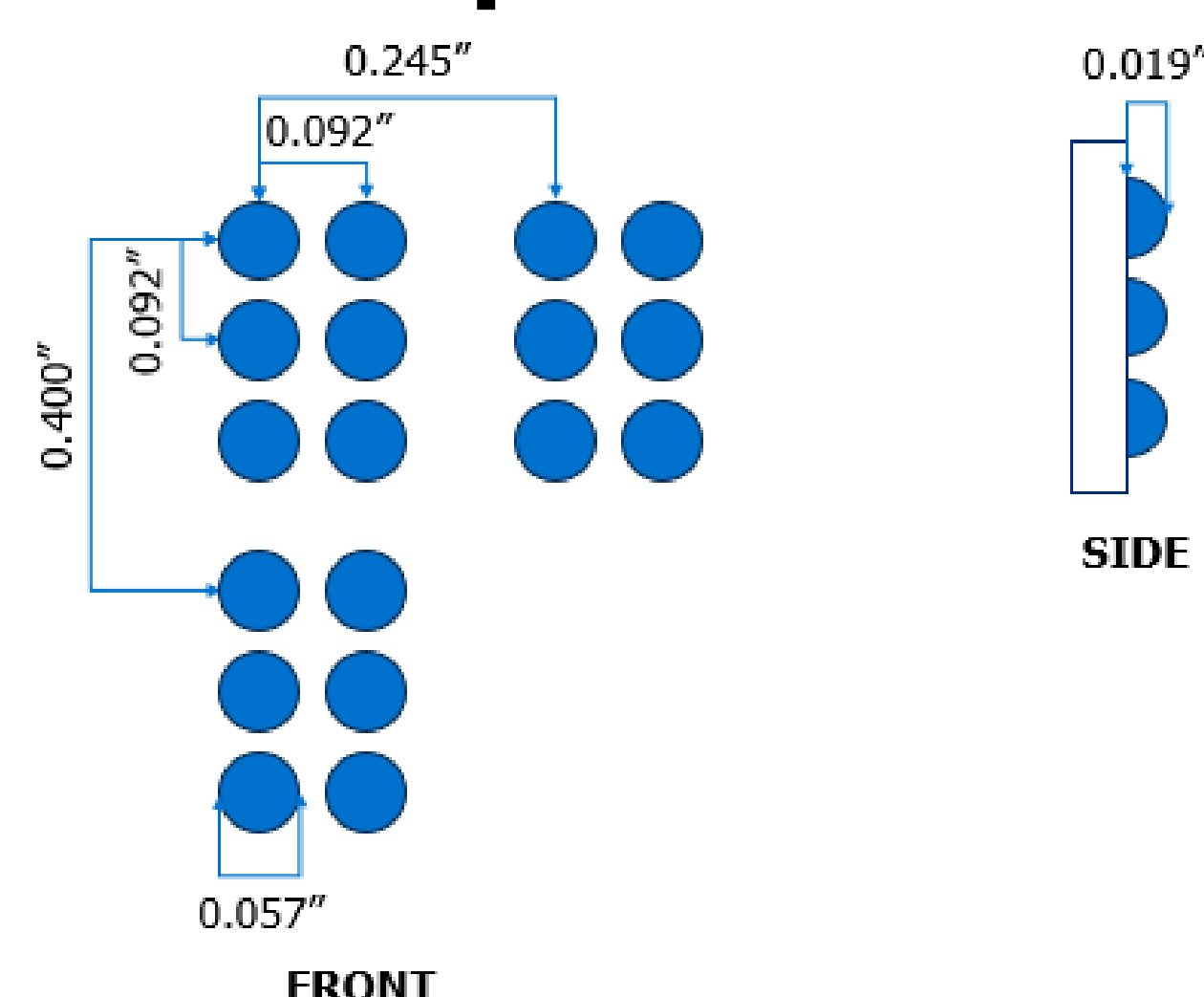
Do braille embossers already exist?

Existing braille embossing machines run from \$5,000 to \$25,000 and are limited in their range of paper types

Design Requirements

-  Wide range of paper options
-  100% readable braille
-  Operable by a blind user
-  Automate paper feeding
-  Custom layouts and raised graphics

Braille Specifications



Above: Label Printer punches braille onto Blind Spot beer labels.

Solutions

Two-system solution: a “Label Printer” for label rolls and a “Poster Printer” for discrete pieces of paper.

Punch

A single solenoid connected to a 0.055” diameter pin punches paper upward into a concave receiver.

Feed

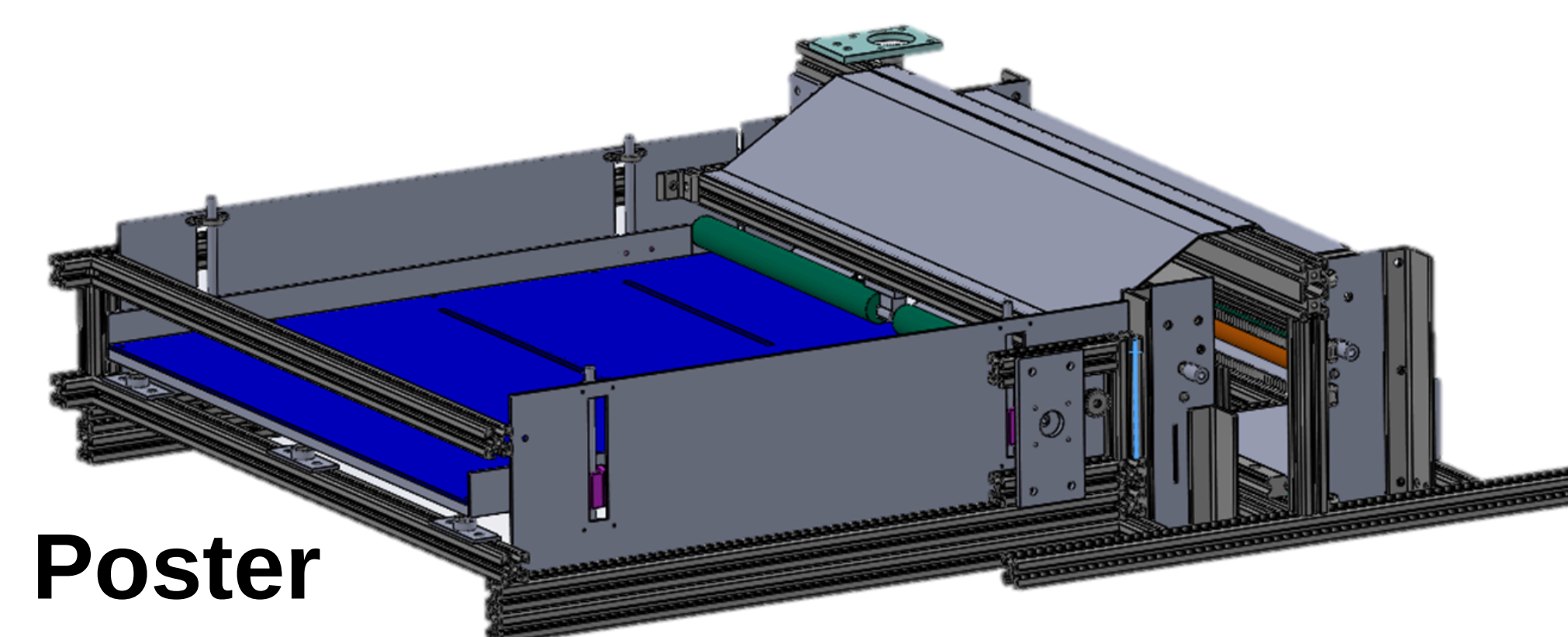
Inlet and outlet rollers control paper movement into and out of the punch

Software

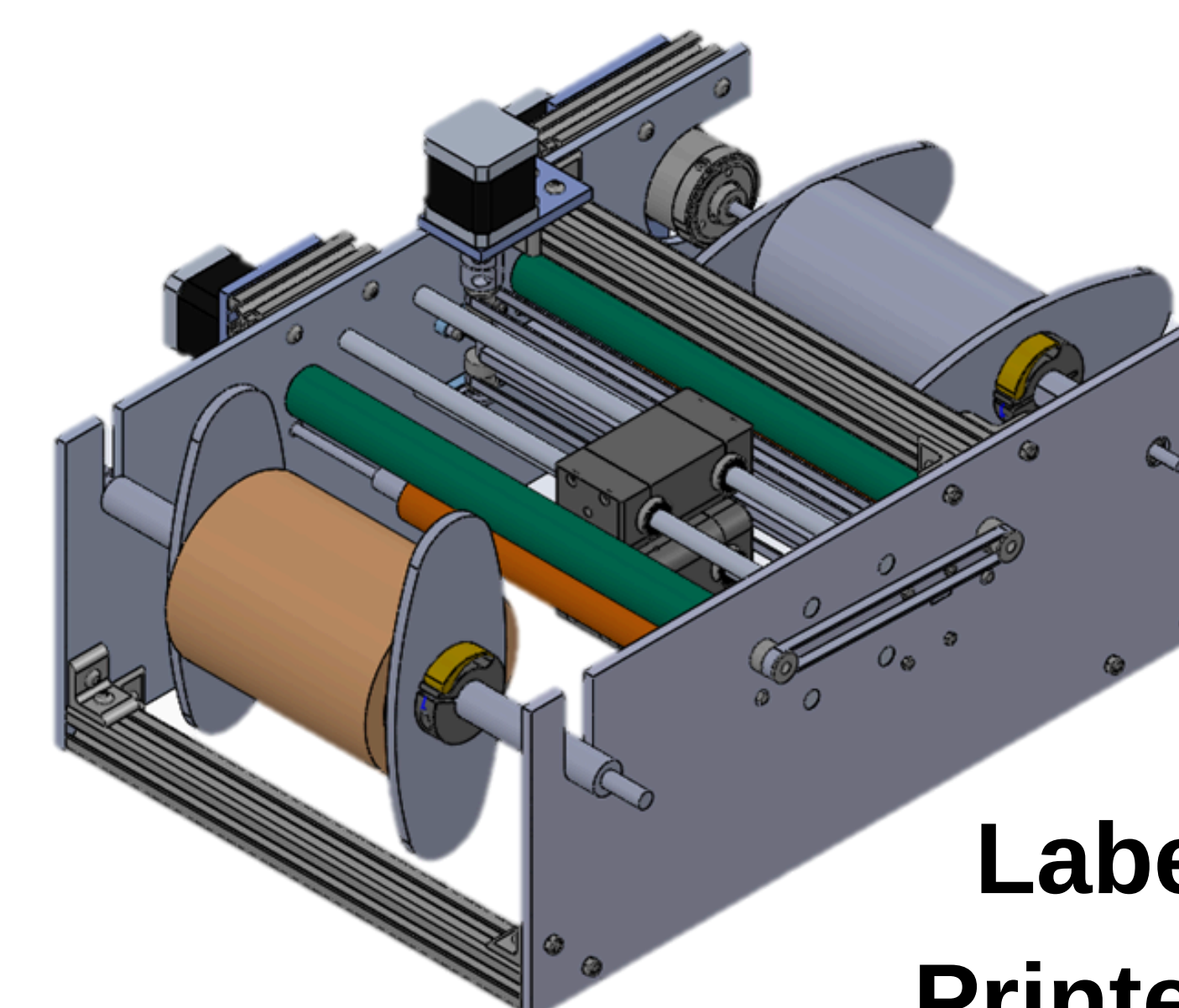
The computer application allows users to set all settings for the specifications of the print job.

Accessibility

Nonvisual indicators, such as end stops, shaped buttons, and auditory elements.



Poster
Printer



Label
Printer



Above: BISM associates test out prototypes of the Poster Printer (left) and the Label Printer (right)

Futurework

- ➔ Integrate a function into the software to automatically feed paper
- ➔ Redesign to be more modular for assembly and ease of serviceability
- ➔ Modify software to accept and print PDF