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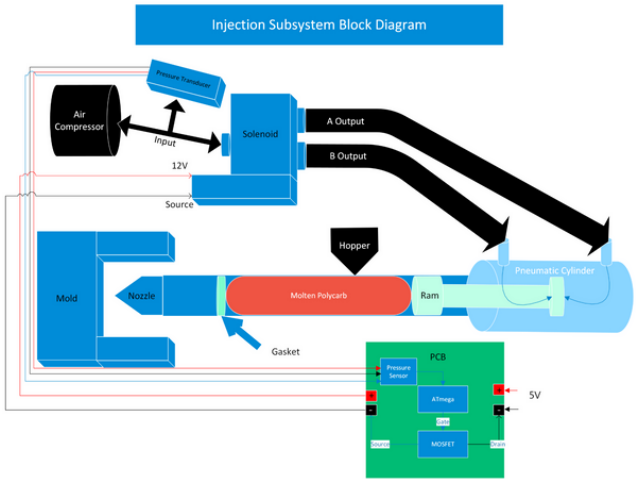
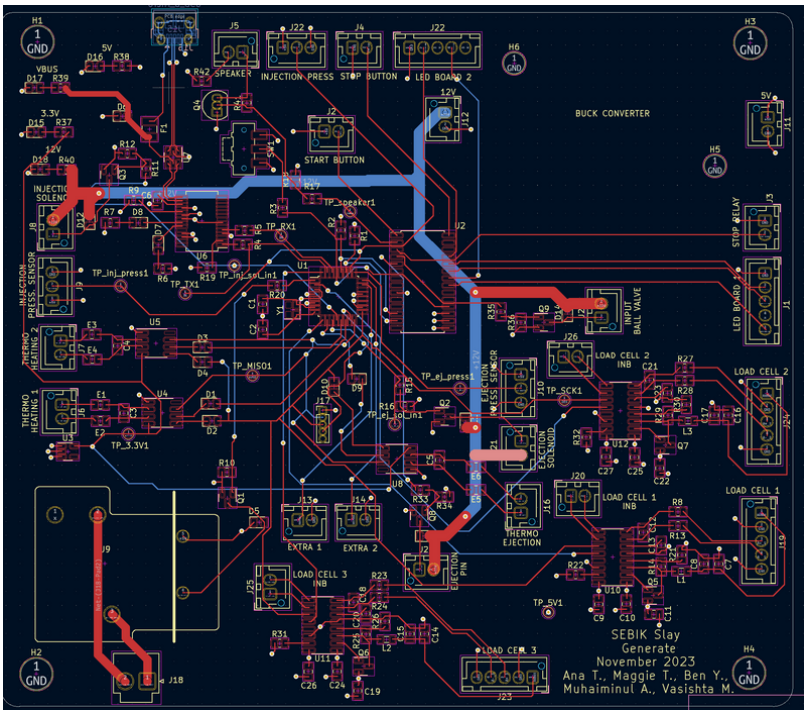
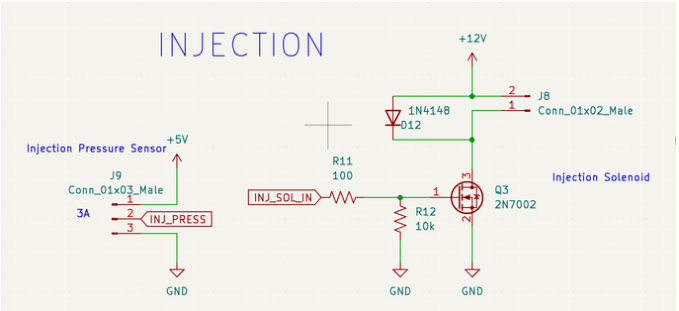
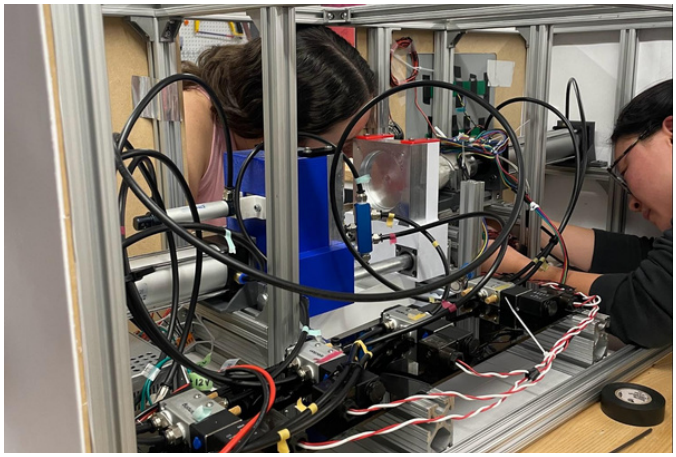
AUTOMATED TABLE TOP INJECTION MOLDER (SEBIK)









What?

- Developed an automated table top injection molder seeking to provide a solution to medical supply shortages by rapidly producing common medical products on demand

How?

- Designed circuitry and **PCBA** for the injection ram subsystem using **KiCAD**
- **Soldered** components and wired peripherals on PCB
- Developed state machines and identified fault points in embedded code design using **C++** and **Git**
- Enabled pressure sensor peripheral to read PSI of air compressor using an a **ATmega328PB microcontroller**
- Conducted **DFMEA** on injection ram subsystem to identify, quantify, and reduce design risks

Results

- The design fulfilled its purpose by allowing 10.45 grams of molten polypropylene to be injected every 4 minutes via pneumatic cylinders