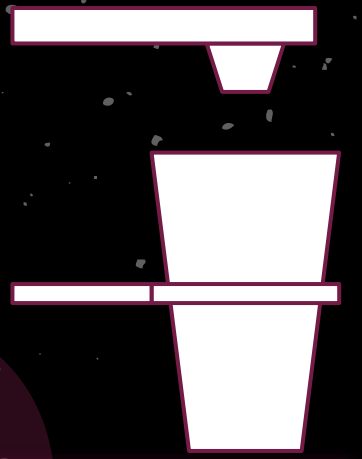


The SmarTender

Spring 2024 Makers Showcase

Meet The Team

Brad Miller
Project Manager

Alanna Nowlen
Mechanical Team

Jason Wiemels
Mechanical Team

Pooja Kowshik
Electrical and Software Team

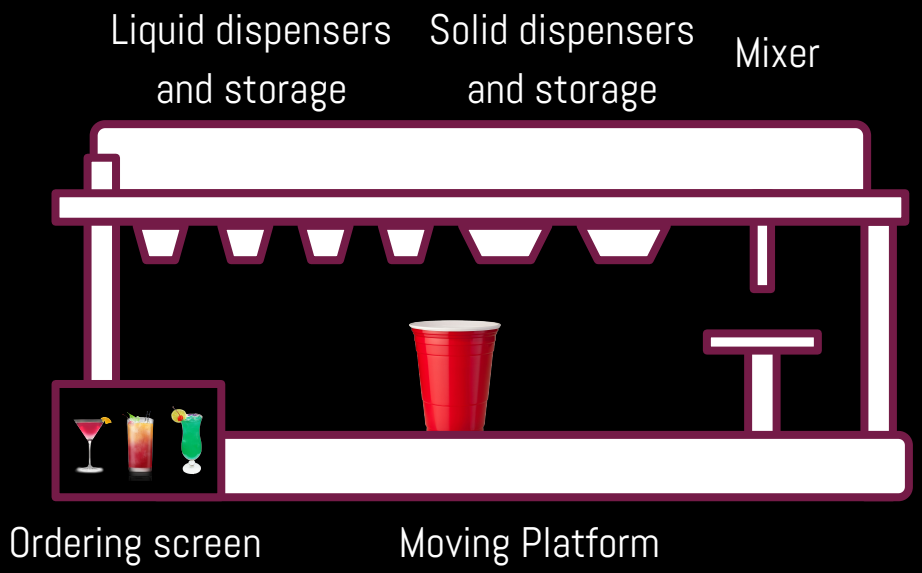
Cedar Rose Leach
Mechanical Team

Anoushka Narayan
Electrical and Software Team

Chur Tam
Mechanical Team

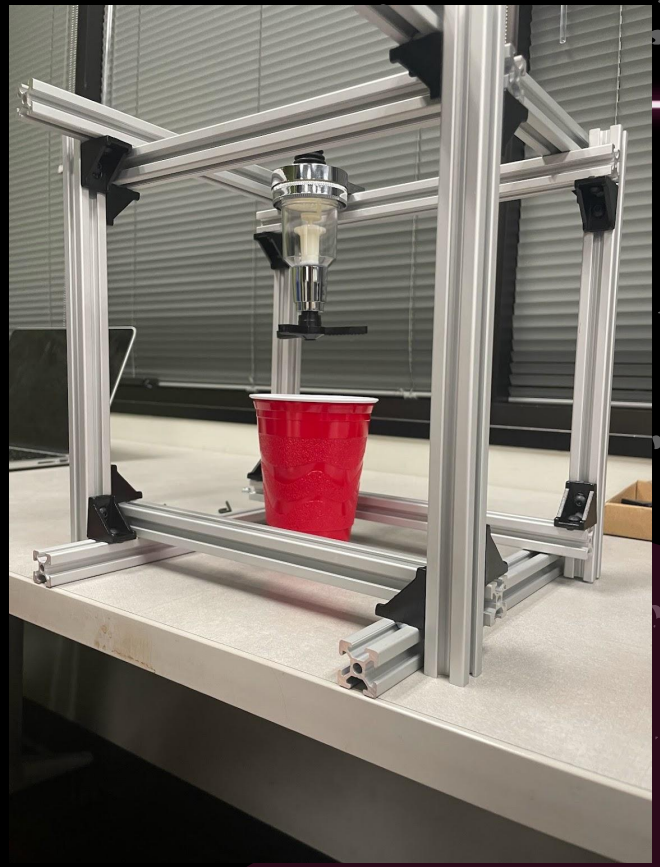
The Idea

A robotic bartender which combines simple, high reliability systems with a versatile, flashy implementation



First Prototype

- Small scale model made of 2020 extrusions
- Single drink dispenser with basic frame
- Informed size and placement decisions for final design

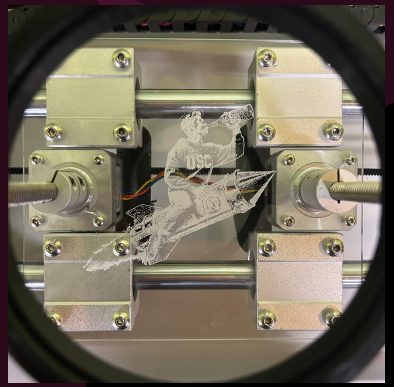


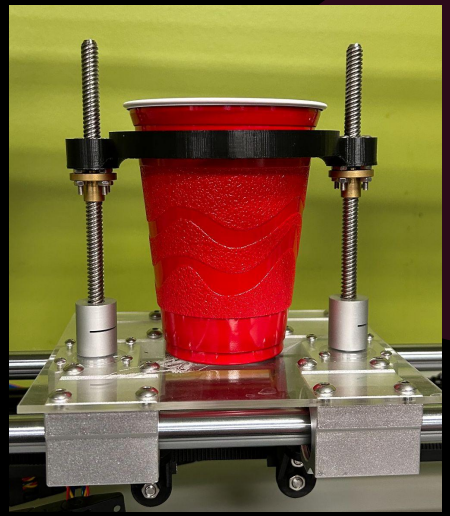
Frame Design

- Made from 2020 aluminum extrusions
- High strength and modularity
- Allows flexibility in position of drink dispensers and linear rails
- Mounts for motor driven belt system

Cart and Cup Lift Design

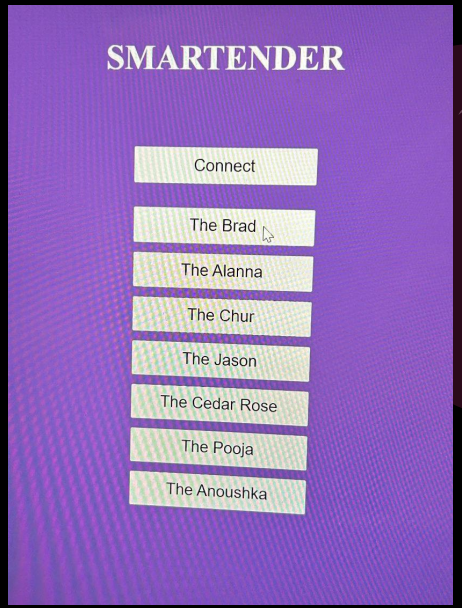
- Cup platform with fitted rim for lifting and stabilization
- Gear train driven lead screws create linear motion
- Attached to linear rail blocks and belt system

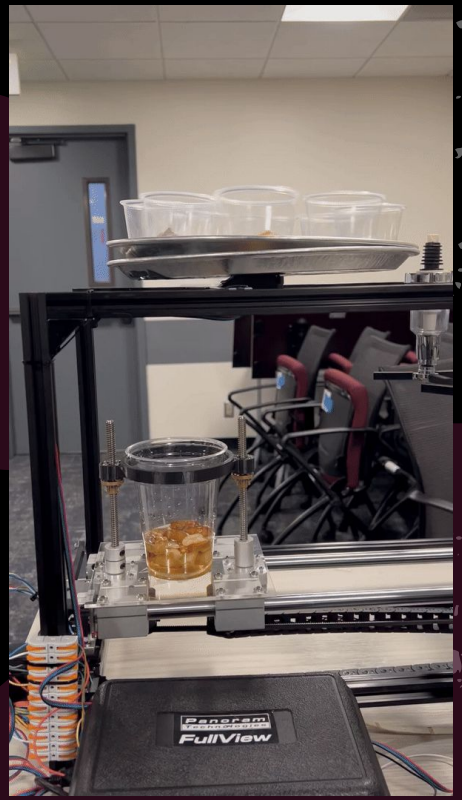




Software

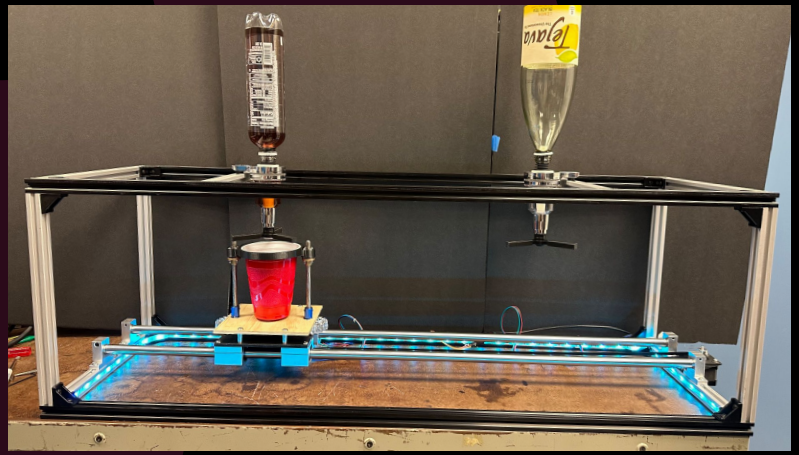
- Using an Arduino Uno with 2 Adafruit motor shields
- Supporting six stepper motors, for 2D motion, lifting, and solid dispersal
- Seven routines for customized drinks
- Linked to website via Bluetooth

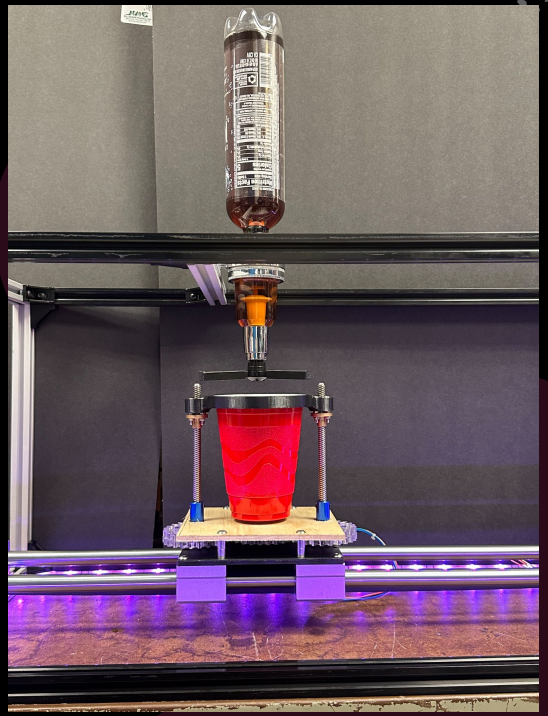


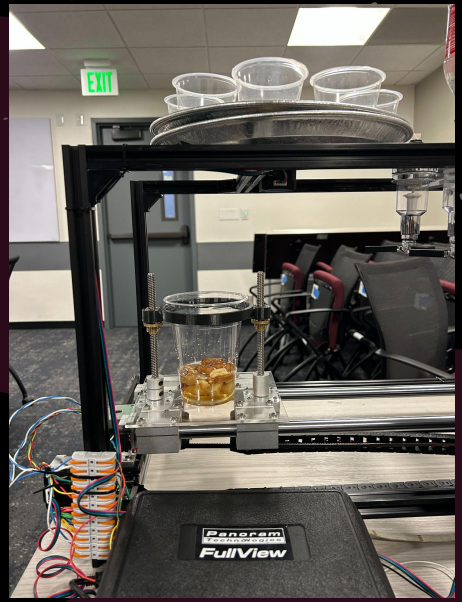


Fall Semester Product

- Frame with drink dispensers
- Belt driven motion on linear rails
- Cup lifting mechanism
- Basic software interfacing and routines





Spring Semester Product

- 2D Motion
- Website and Bluetooth Connection
- Solids Modules
- 7 Drink Routines