

## SodaShop Project Description

Come one come all, to the soda shop y'all! Tired of being strapped down to just one flavor? So are we and we've got you covered! Choose any ratio of up to four flavors to create your preferred drink. Like it syrupy? Like seltzers? With the Soda Shop, you are in complete control. With independent control over all flavor and carbonated water pumps, you make the drink you wanted instead of just what's on the shelf at home. Through the use of a GUI, it's easy to setup the exact ratios you want in a drink, name it, and save it for future use. If you decide it's great, but it could be adjusted still, you can make a new drink, or you can copy it and adjust that keeping both! You can save virtually unlimited recipes using the power of a Raspberry Pi 4. From here, a custom designed microcontroller circuit based around a Raspberry Pi Pico controls the timing of all pumps to produce the perfect concoction. By using peristaltic pumps, both precise volume control and easy sanitation is attained allowing for simple changes in flavors as well as providing the ability to expand beyond just carbonated beverage flavoring. Tea and lemonades are welcome here!

Primary Contact: Liam O'Malley - Electrical Engineering - [lomalley5@huskers.unl.edu](mailto:lomalley5@huskers.unl.edu)

Justin Kleen - Electrical Engineering - [jkleen3@huskers.unl.edu](mailto:jkleen3@huskers.unl.edu)

Nic Witulski - Electrical / Computer Engineering - [nwitulski2@huskers.unl.edu](mailto:nwitulski2@huskers.unl.edu)

Paul Litherland - Electrical Engineering - [plitherland2@huskers.unl.edu](mailto:plitherland2@huskers.unl.edu)

Austin Koenigs - Electrical Engineering - [akoenigs2@huskers.unl.edu](mailto:akoenigs2@huskers.unl.edu)