Fau-Set
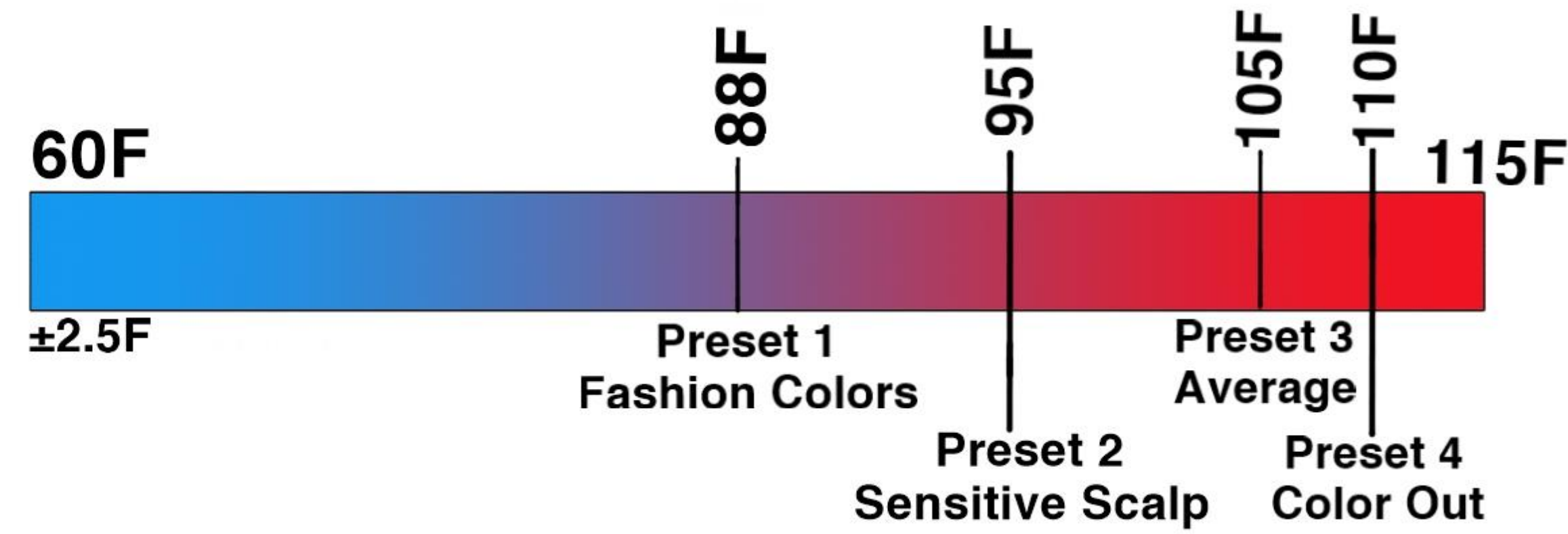## Capstone Senior Design Project • Spring 2022

DRP Engineering

Jennifer Ascher, Trevor Ladner, Chris Fadel,
Eugenio Frias-Miranda, Nitya Agrawal

Revolutionizing the Shampoo Bowl

- **Lack of Innovation since 1939**
- **Put Control in the Hands of the Client**
- **Automate a Tedious Process**
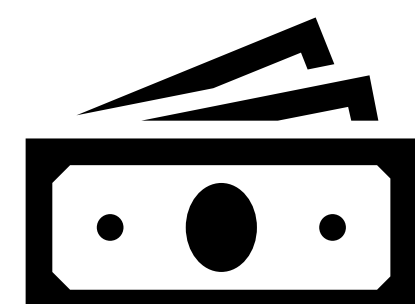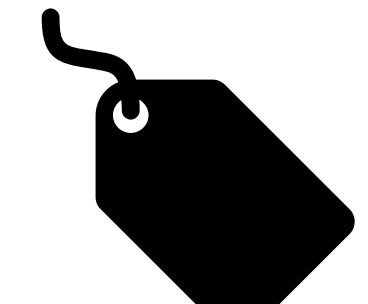- **Better Experience for All Involved**
- **Need from a Local Customer**

What are the Key Requirements?

60F — 88F — 95F — 105F — 110F — 115F
±2.5F

Preset 1 Fashion Colors
Preset 2 Sensitive Scalp
Preset 3 Average
Preset 4 Color Out

30s Set Time

3 Tool Maximum

Easy To Use

Fau-Set's Market Potential

$402 Manufacturing Cost

$499 Sale Price

$40B Industry Revenue

983,000 Salon Locations in the US

x

2-3 Shampoo Bowls In Each Location

= 3,000,000 Fau-Sets
Market Opportunity

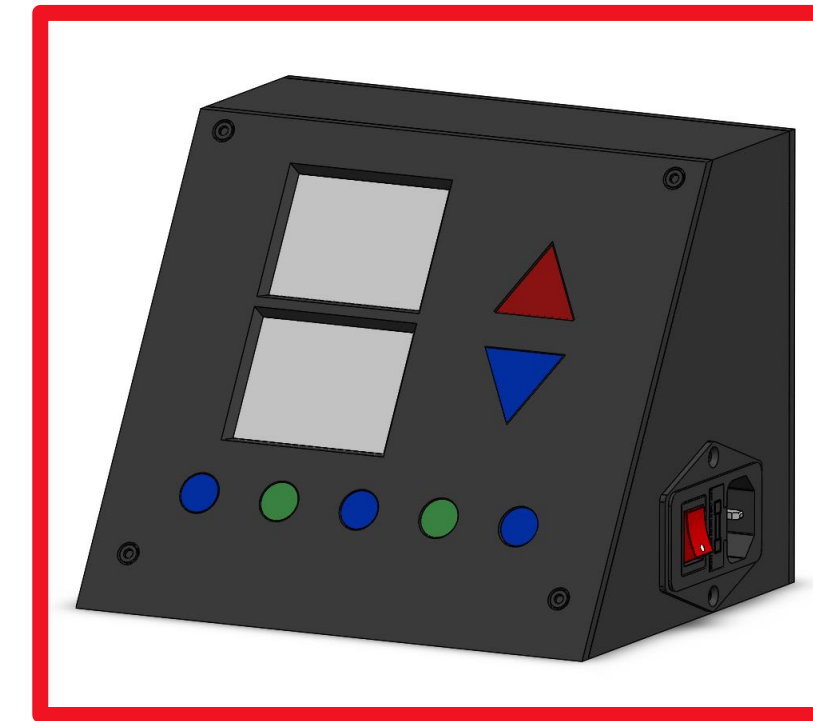## Who are the Competitors?

Temperature Controlling Kitchen Faucets

Shampoo Bowl Alone

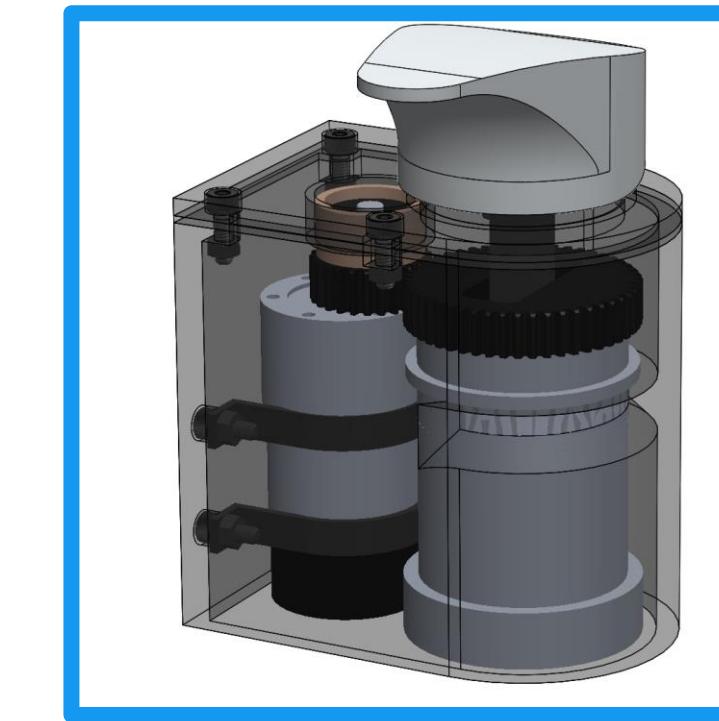Water Mixing Patents Built into Plumbing

Introducing the Fau-Set

User Interface

- 2 Screens to Display Current and Set Temperatures
- Temperature Adjustment Arrows with 1°F adjustments
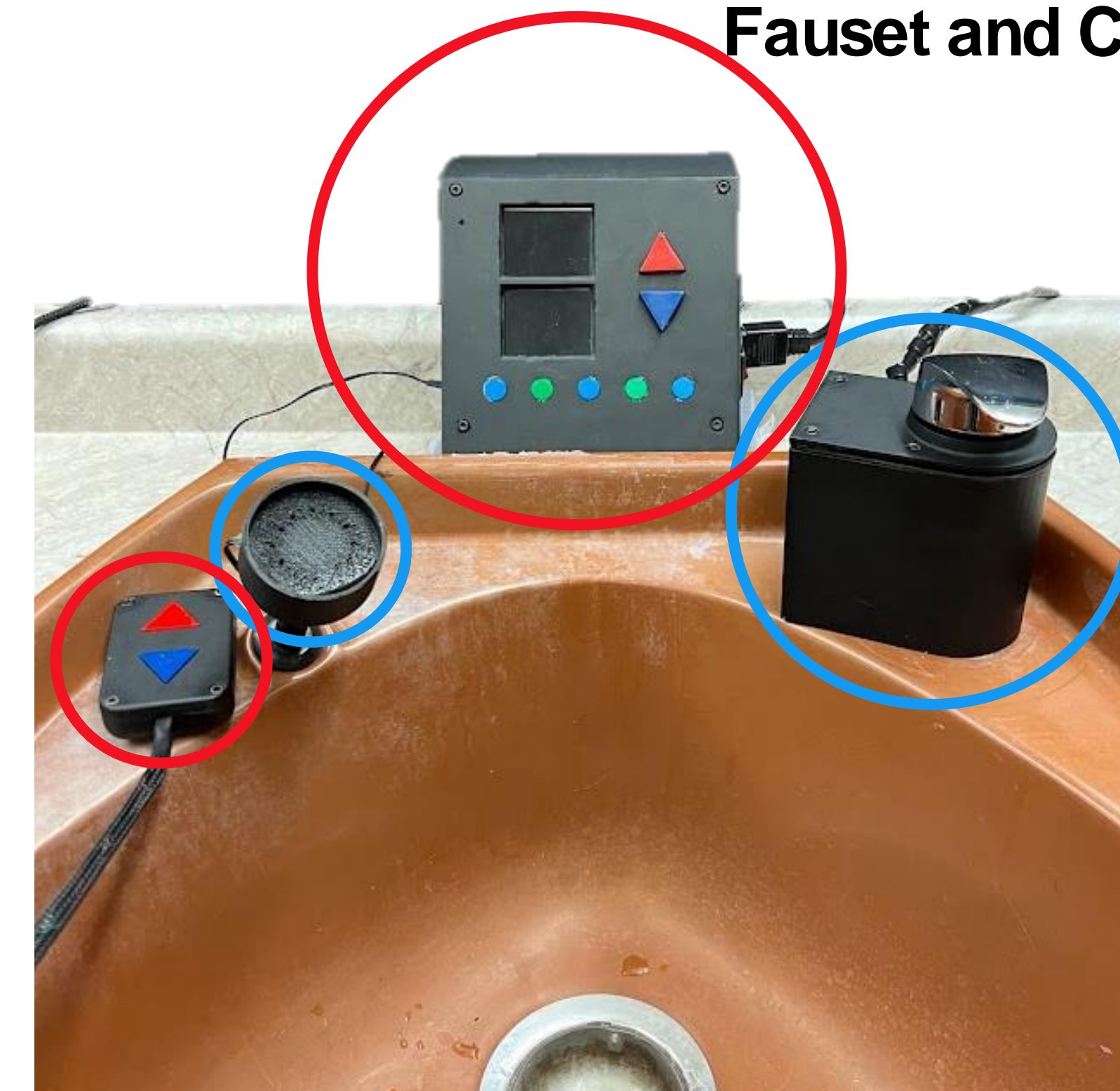- 4 Preset Value Buttons
- 1 Standby Button

Faucet Assembly

- Retains Original Handle
- 50:1 Gear Motor
- 1:2 Gear Train with Slotted Gear for Manual Flow Control
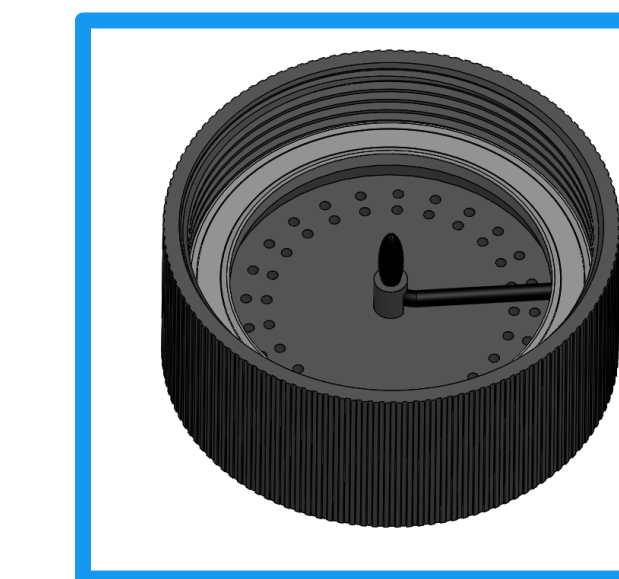- Custom Base Coupler to Match Preexisting Fauset and Clamp System Down

Client Remote
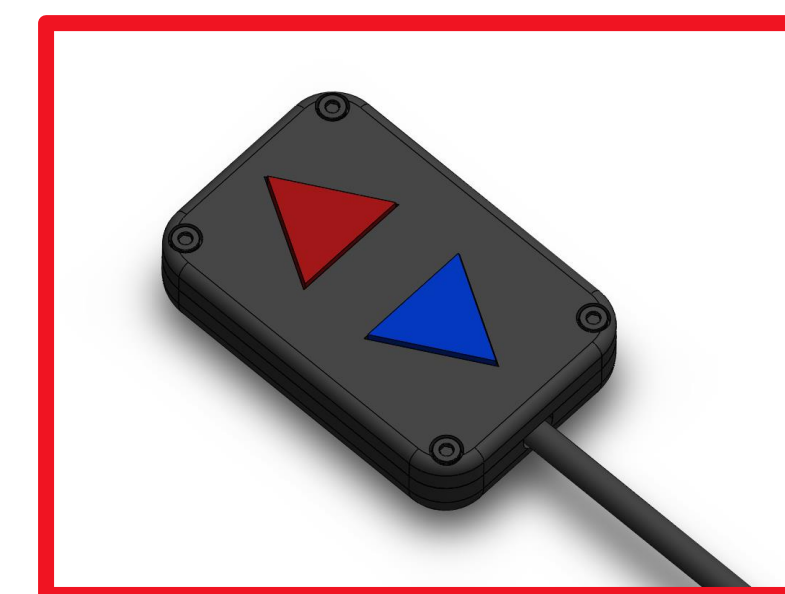
- Provides Control to Client
- Small 0.5°F Adjustments with Max Change Being 3°F

Modified Showerhead

- Embedded Thermistor
- Matches Preexisting Hose
- Retains Full Water Pressure

How the Fau-Set Compares

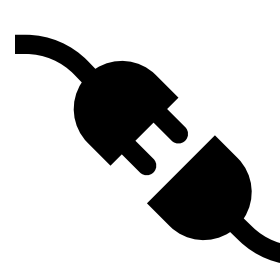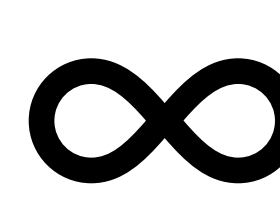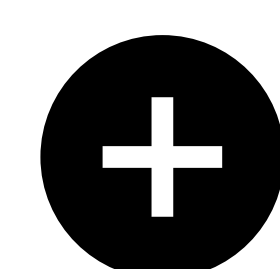| Requirement	Fau-Set	Kitchen Faucet Control	Mixing Patent	Shampoo Bowl Alone
30s Set Time	✔	✔	✔	✘
3 Tool Max	✔	✘	✘	✘
± 2.5°F Set	✔	✔	✔	✘
Presets	✔	✘	✘	✘
Easy to Use	✔	✔	✘	✔

DRP Engineering
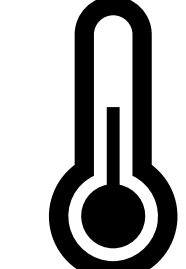
Validation

- ✔ Sets Water Temperature in **Less Time** than the Average Stylist
- ✔ Users Rated the Fau-Set as Easy to Use
- ✔ Saves an Average of **80 Gallons** of Water per Year per Shampoo Bowl
- ✔ Installation in less that **5 Minutes** with only **3 Tools**

Scan the QR Code to see detailed results from the various tests as well as videos of the functionality of the Fau-Set!

What can Improve?

- More Accurate and Responsive Temperature
- Implement Wireless Remote and Sensors
- Rectify Power to Use 1 Plug
- Universal Design to Fit All Shampoo Bowls
- Include Custom Preset Button Options

Acknowledgements