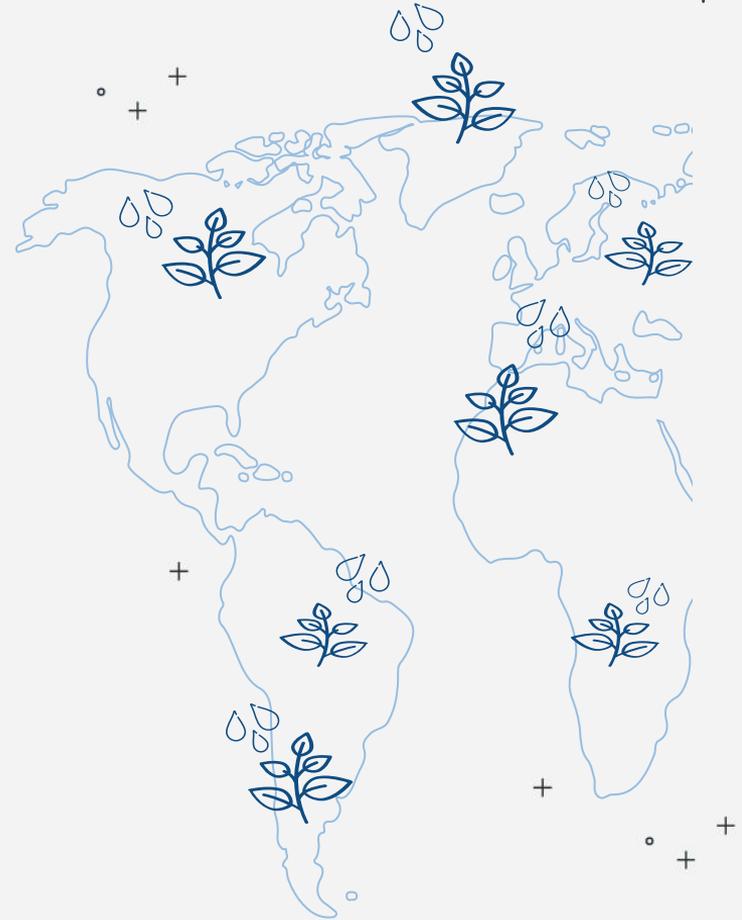


Hydroponics Raft Cleaner

Mechanical United





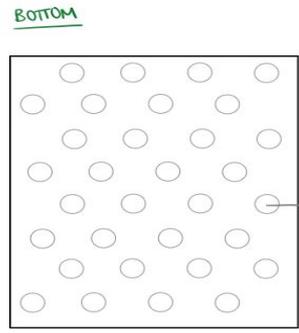
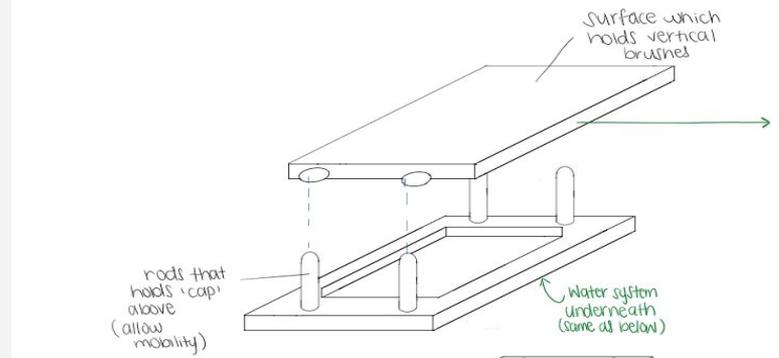
THE PROJECT

1. Hydronics raft cleaning system
 - a. Minimize labour time
 - b. Automated machine

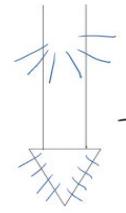
Design Requirements

1. Well-Cleaned Board is Necessary.
2. Comprehensible Functioning and Safe to Use.
3. Automated.
4. Reduced Labour Hours.
5. Size Meets Limitation.

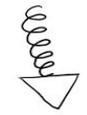




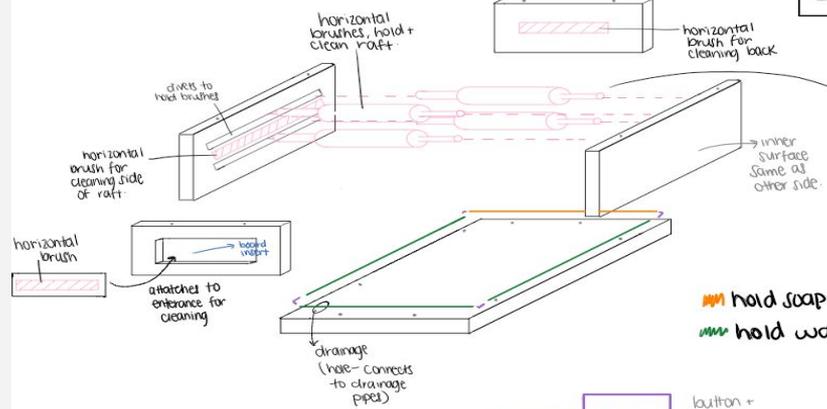
Vertical brushes



bristles



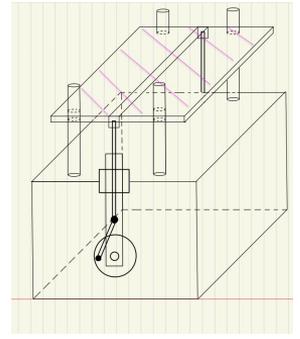
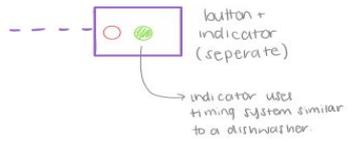
Screw integration for cleaning



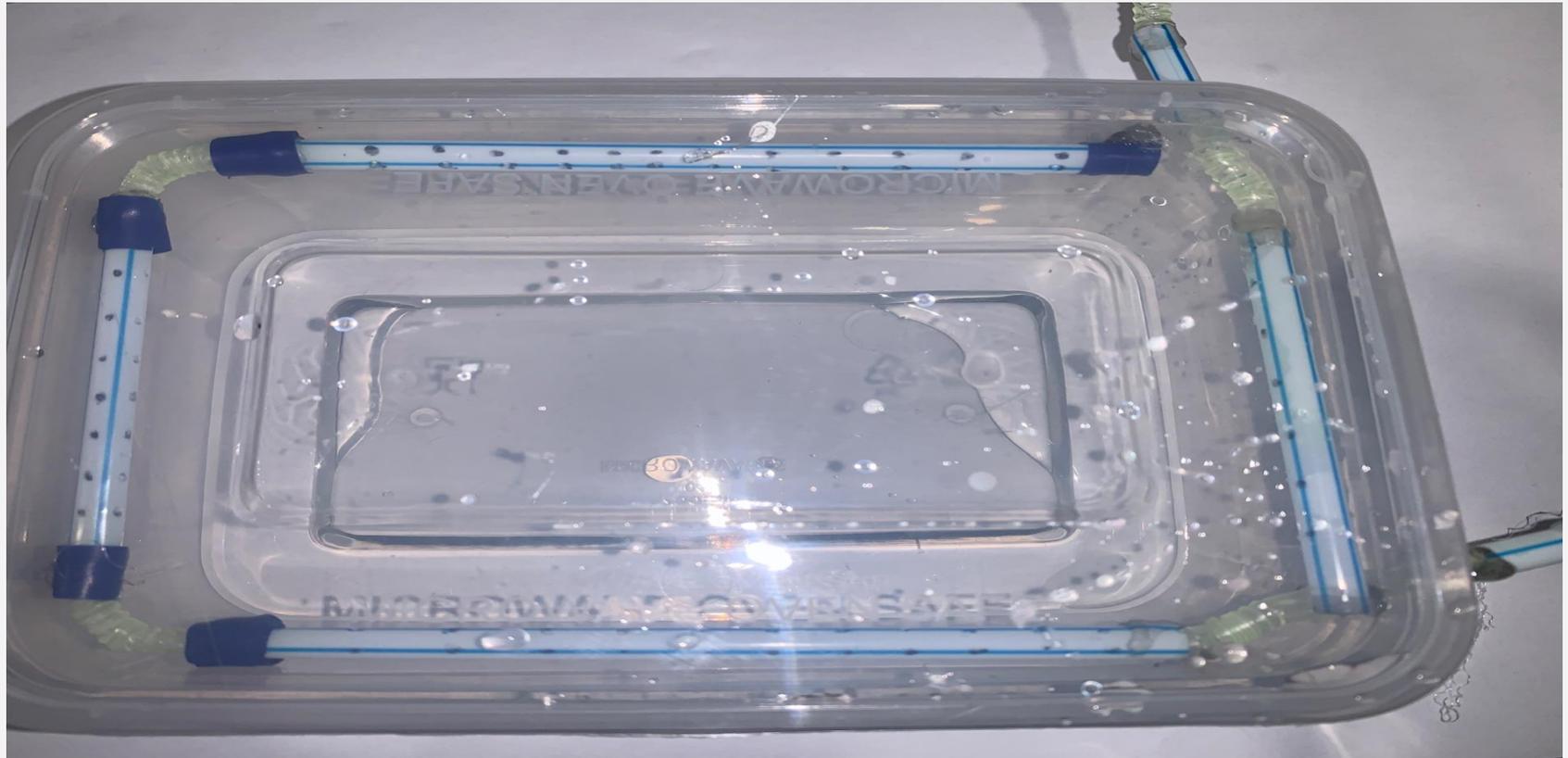
hold soap solution

hold water

pipes with angles + external pressure pump to spray all surfaces of rafts.



Water Circulation System Prototype



Water Usage Comparison

Water Usage of a Dishwasher

Water usage category	Water use per cycle in gallons	Water use per cycle in liters
Average	3.22 gallons	12.17 liters
Most common	3.5 gallons	13.25 liters
Highest	3.5 gallons	13.25 liters
Lowest	1.64 gallons	6.21 liters

From: Eco Cost Savings

Deciding on Pressure Nozzles



From: Amazon

Brushes Prototype - Metrics

AVG Cleanability: 71.64%



cluster	pixels	name	HEX	RGB	HSV	LCH	Lab	tags
	70.73%	 111,91,108 bloom $\Delta E=3.0$	#69566B	105 86 107	294 19 42	39 15 323	39 12 -9	bloom fedora
	29.27%	 205,201,201 snow $\Delta E=1.6$	#C8C6C9	200 198 201	277 2 79	80 2 313	80 1 -1	pale slate alto athens half rakaia snow spray surf triple grey
	68.10%	 111,91,108 bloom $\Delta E=3.8$	#66576D	102 87 109	282 20 43	39 15 316	39 11 -10	aurora bloom box covert dolphin fedora salt smoky
	31.90%	 191,189,193 french grey $\Delta E=1.2$	#C0BEC4	192 190 196	251 3 77	77 3 298	77 1 -3	pale slate chateau french ghost greywacke half spray surf grey
	76.08%	 90,77,96 aurora $\Delta E=3.0$	#635266	99 82 102	290 20 40	37 14 321	37 11 -9	and aurora bloom chapta fedora verse
	23.92%	 195,191,193 pale slate $\Delta E=0.6$	#C3BFC3	195 191 195	299 2 76	78 2 324	78 2 -1	pale slate french ghost silver spray surf grey

Calculated by Pixel Colour Counter: <http://mkweb.bcgsc.ca/color-summarizer/>

THANK YOU!
QUESTIONS?

