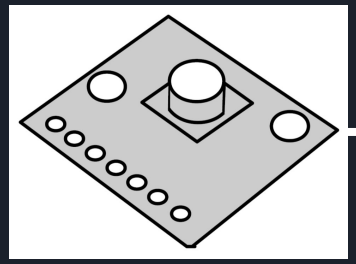
Team 01

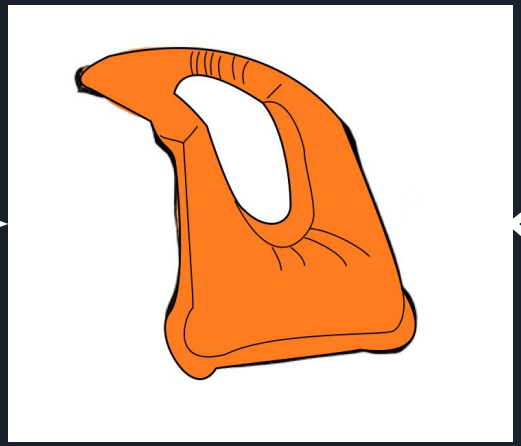
Leon Cheng & Daniel Hong

Midterm Presentation

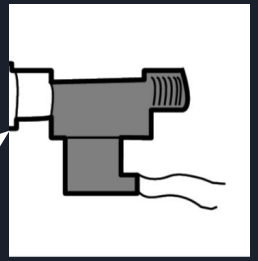
Final Selected Idea: Adapty Floaty



Water pressure sensor



Inflatable Life Vest



Solenoid Valve

Refillable Compressed Air Can

Here are some of the technical challenges

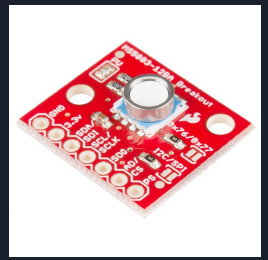
- Waterproofing electronics

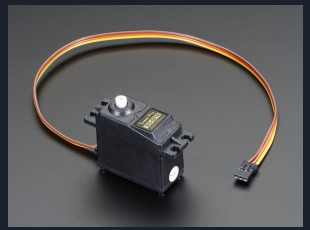
- Buoyancy of different elements

- Inflating/Deflating the floaty underwater

Here’s how we plan to build it

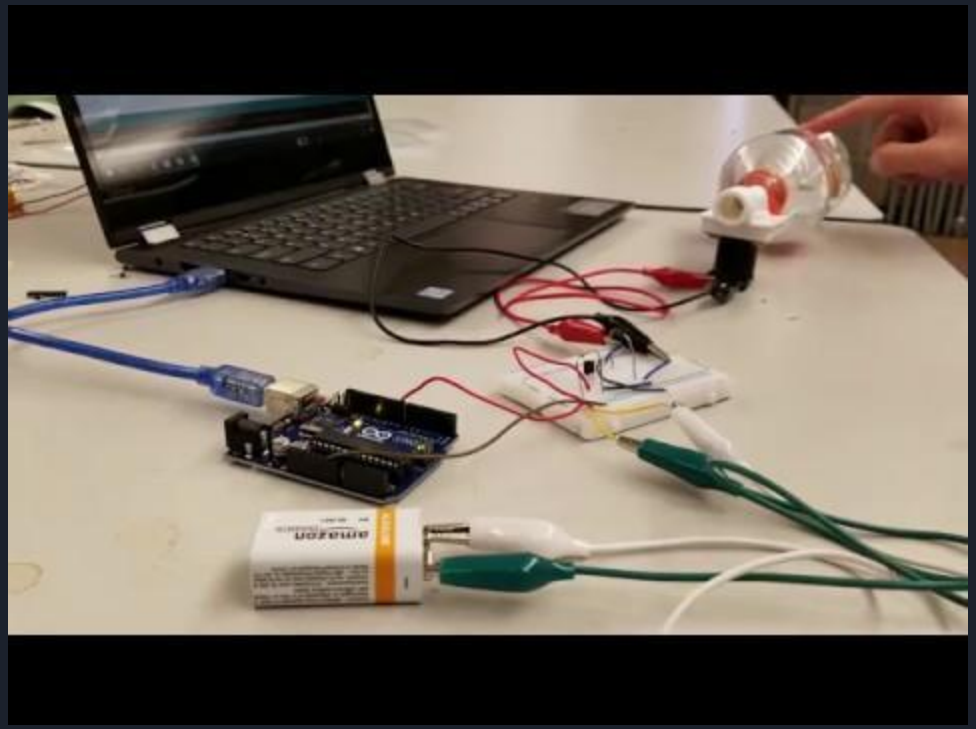
- Sensors:
  - Water pressure sensor for detecting depth
- Actuators:
  - Solenoid for deflating
  - Motor for inflating
- Other components:
  - Compressed air container
  - Floaty

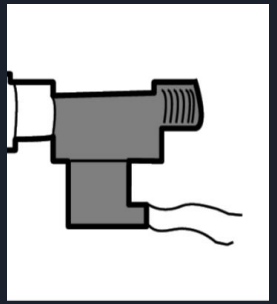




Milestone 1 Result

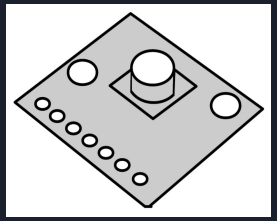
Solenoid Valve
Opens and Closes





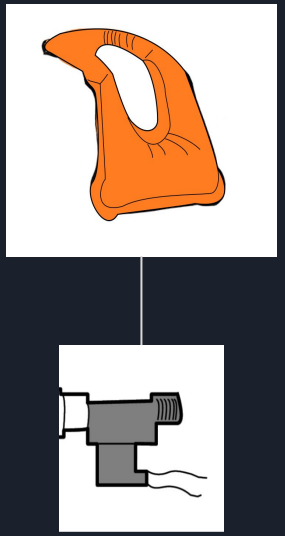
Milestone 2 Result

Water Depth Sensor Readings



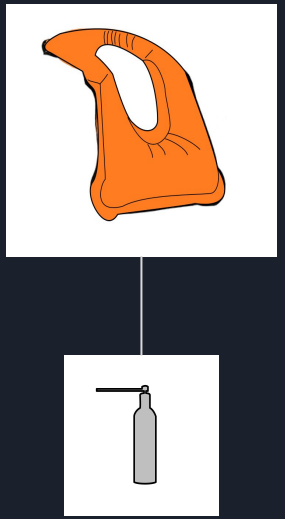
Milestone 3 Result

Solenoid Opens
Based on User Input



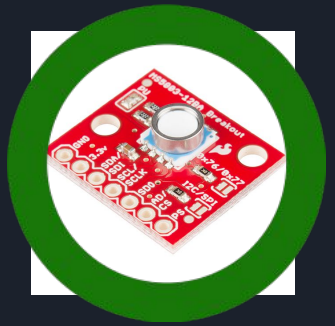
Milestone 4 Result

Floaty is Inflated by Arduino Control



Some things we learned

- Hot glue is great
- Built in breadboards are great
- Refillable air canisters are great
- Buying things early is great
- Water is not great



Next Steps

- Have the floaty automatically inflate or deflate, depending on readings from the water pressure sensor
- Waterproof the electronics
- Make the entire device wearable