- Current fishing equipment is incredibly outdated
- This project is similar but not identical to Andy and Anthony's project
    - They will share the google drive
- Design will need to be restarted
- The whale aspect is a tacked on environmental concern, they are shutting down fisheries over this issue
- Ropeless gear exists, you need to know where it is and be able to grab it, the buoy has a line down to multiple traps
    - Entanglement also harms dolphins
- You will not be able to do lobster fishing without the marker line,
- Ropeless works with 2 way communication, enough to get you on top of the trap, and enough to
    - Buoyancy bags, whole trap comes up
    - Burn wire that releases the trap
- We should being less to effect the whales such as deterring or killing the whales
    - Unfortunately, coastal areas are mating areas
- Sound carries significantly better underwater
    - Engines carry out and disturb ocean communities
- Radio dies in about 5 feet underwater
    - They used a buoy for LAURA
- We are not actually responsible for 95%
    - They want to start gathering data, semi real time
- 600 trap, 200 hauled a day
    - Trap soaks 2-3 days
    - We will only transmit when above
    - We do not have to be able to do ropeless
    - **We just need to design the body**
- Fisher men are semi price sensitive, $50 is about the aim
- Dissolved oxygen sensors will be very expensive
- No price range for the base station, this will be a raspberry pie
    - This does not need to be complex
- Andy was looking at a pressure housing that does a smaller range but we measure the deformation of the housing
- Biggest problem will be vias or ports for the sensors
- Fill it with polyethene, this will keep water,
- Sea water may impact the life of the sensors but they don't think it will really impact it
- **Two big challenges will be measuring pressure and dissolved oxygen** (60-70%) of the time
- Current acceleration and velocity and an accelerometer
- Dissolved oxygen indicates if there are lobsters there,
    - This is also tied to other variables, we can calculate many variables without specific sensors for this,
    - CTD is a super sought after sensor
    - NOAA data sets are very sparse, specific locations and specific times

- Fishermen are just starting to generate data, super valuable and super protective
    - This tells them about floor hardness, 3d mapping, etc
- Current software is called TimeZero
    - They will be willing to drop $10,000 if it will give us a leg up

<u>Questions</u>

- They had mentioned marine battery is basically a car battery sprayed with anti corrosive
    - Most boats will have bus bars, 11-14 volts dc, not the cleanest signal, no signal conditioner
    - Can't plug into the raspberry pi
- What will the unit lifetime be?
    - Would like to see 5 years, minimum 3 years,
    - Hardest issue will be the pressure, mitigated by filling with polyethylene
    - Stick to delrin enclosures, 3/16 stainless steel, aluminum,
        - They picture delrin plastic or poured epoxy into the mold,
- **Get the sensors done first, housing doesn't matter as much, the faster to testing in water**
- Anthony is in PHO 340
- Write all your projects in Latex
- CC pisano on emails about being able to do stuff like
- Don't mess with FDM, use the FormLab printers
- Make a bigger enclosures
- Get a pelican case