## Meeting #2 (January 31)

- Construction by Sea Perch method: PVC pipes
- Design proposals
  - Quadcopter design using tilt sensor
  - Torpedo shaped design
- Methods for making vehicle unmanned
  - o Sonar
  - Light sensors
    - Probably won't work in cloudy water
  - o GPS
    - We would need to create GPS signal
    - Might annoy local government agencies like the Naval Station or the FCC but we might still be able to work around this
- Where to test
  - o Pool?
  - o River?
- Programming: Arduino (most of us have experience using this from Electromechanical Systems class)
- Modeling software:
  - SOLIDWORKS
    - Justin has experience using SOLIDWORKS and thinks it will be better than Inventor for our project, may be difficult to access without paying \$100)
  - Autodesk Inventor
- Purpose of project: Improve on existing concepts
  - Improve size
  - Improve cost (our goal is to make something that's already been done but to do it cheaply (under \$1000))
- Existing vehicle to from which to get ideas:
  - EcoMapper Autonomous Underwater Vehicle
  - Boeing's Echoranger
  - US Navy Orcha
  - o Mark 18 Mod 2 "Kingfisher" UUV
  - NOAA's "Sentry"
  - o NOAA's "Sea Bed"
- Features of vehicle
  - o Unmanned
  - o Collision avoidance
  - Pathfinding
- Stages of project
  - MAE 434W: Remote control
  - MAE 435: Complete autonomy

- Main roles and responsibilities:
  - o Design
  - Analysis (validating work)
  - o Arduino
- General notes:
  - We might want to get certifications for using MLAB equipment.
  - We will meet with Dr. Kaipa at 11:00 AM on Thursday to get a more concrete idea of what we need to do to accomplish the project