Meeting Minutes

* Life Pro Tips
  + Drink on your own money
  + Max of $2000 spent on transportation
  + Coordinate rides
  + Division of Presentation Tasks
    - Emcee - Jonathan
* Agenda
  + Powerpoint / Game Plan for 1 hour Judge Q&A
    - Slide Outline (9 total)
      * Intro
      * Team Demographic
      * High Level Strategy
      * Modular Breakdown
        + Copter (12 Copter redundant, Gas-Electric)
        + Pod (IMU, Sonar, LoRa/Wifi, Buoyancy, Recovery)
        + Post-Processing - Map/SLAM
      * Testing
      * Budgeted
        + Key: If we go to next round, we will have a lot more leverage to get more money from Duke
      * Timeline
      * “Thank you”
      * Old Deck
        + **Get an animation of SAS - phase shift - get a GIF**
    - Tasks to be picked up (Friday at Midnight)
      * Each of your slides (Everyone)
      * Team demographic breakdown (Lucia)
        + Male/Female
        + Color/ethnicity
        + Grad/Undergrad?
      * Gantt Chart (Peter)
        + Summer
      * Pod Breakdown Picture (Kalee) (Henry to reCAD)
      * Extra Slides (Jonathan)
        + Testing
        + Budget
      * Reformatting all slides - 2 People (Peter, Sam)
* Questions to Ask
  + Drones **can’t be over 55 pounds,**
    - We’re under it
  + Drones **can’t be flown out of line of sight**
    - Brooke: get a boat; this technically breaks the rules, but this is to maintain legality
  + Does it fly?
    - **No**, but we’re working with the drone lbs and the robotics class
  + Generators and Vibration
    - Damping on generator mount - horizontally posed
  + How will SAS
    - Synthetic Aperature Sonar - ping repeatedly at different points in space to pretend you have a bunch of sonar transponders - same as SA-Radar
      * Create a beam by phase shifting the signals - this beam is swept
      * If we had a string going on full of these, you could get a whole map
  + Why not SAS?
    - How are accounting for position?
      * Need to know within a fraction of a wavelength where the transponder is
      * Two successive pings, use autocorrelation, finds position
      * Map will need to be stitched together
    - We hope to use an existing a signal processing toolbox to use for sonar
      * These algorithms are already out there, but we just need to find it
  + What conditions can we operate under?
    - No idea, need to consider
    - Pre-existing drone landing procedure - if we’re within 10 meters, we can get it to land on the flashing IR beacon; our landing deck “moves”