**Food Delivery Drone**

* **Design Objective**

1. Drone can be recharged. (plug)
   1. Note: leave space on drone shell for charging
2. Drone can fly up to 20 min per charging
   1. Motor and battery combination
   2. How high the drone should fly
3. Food container (0.5m\*0.5m\*0.5m) (can lock/unlock)
   1. Open mechanism (manual/auto)
4. Drone can carry up to two pounds+its body weight ~0.91kg
5. Enclosure for motor and battery and fastening parts
6. Safe landing mechanism

Other objectives:

1. Days with slight wind
2. Light weight, material for clean
3. In case of rainy days, ensure the water doesn’t leak into the shell creating damage to inside components
4. Minimize noise
5. Extreme Weather condition (Optional)
6. Minimize building cost
7. Easy Assembly and disassembly

* **Consideration for food container box**
  + Easily cleaned
    - What is good material?
  + Food doesn’t slide
  + Safety landing
  + Can keep food warm during delivery
  + Lightweight, compactable
  + Ensure waterproofness
* Calculation etc
  + Thrust to weight ratio recommendation

<https://www.omnicalculator.com/other/drone-motor#:~:text=In%20most%20cases%2C%20you%20should,your%20drone%20in%20elaborate%20aerobatics.>

* Flight time
  + Battery combo calculation